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Systemic Design for democratic engagement: Where the bottom-up and top-down process meet

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Systemic Design for democratic engagement

Where the bottom-up and top-down process meet

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Abstract

This paper presents an argument to open possibilities and discussions about the role of design in democratic participation based on the case studies and observations of several grassroots participatory design workshops ran with the intention of producing a tangible transformation of communities. We do not intent to validate the model, but to present it as a conversational object in the role of design in democratic policy making.

Introduction

It has been long established the deep connections between the General System Theory (Bertalanffy, 1968), the systemic approach and the design process (Simon, 1969; Banathy, 1996; Jones, 2002). A systemic essence is at the core of the knowledge that is basic and specific to design, defining it as a systemic discipline by nature (Sevaldson, 2017). Design practices like participatory design and codesign (Bødker & Grønbæck, 1991; Manzini & Rizzo, 2011) are born from this approach, as well as the use of prototypes to envision possible futures with the end-users, they all share the systemic perspective (Bødker, 1987).

These practices have been vital in the development of the discipline and have helped design to move from the production sphere to the problem-definition one, leading more and more designers to become significant actors of social transformations.

The work of Jungk & Müllert (1986) and Banathy (1996) has been instrumental in the definition of a new role of design inside complex social systems and set up the bases for social innovation as a space for design thinking and research (Jones, 2014). Design for policy making has open the space for design practices to be involved in the construction of policies as a last resort to set up an envisioned future (Ingram, & Schneider, 1993; Soss, 1999; Skelcher, Mathur, & Smith, 2005, Hendriks, 2009, Kimbell, 2015).

We can argue that in the last 30 years we have seen one of the most significant transformations of the

already young discipline of design, and of the role that we play as a discipline in the facilitation of social transformations. As never before, we see every single mechanism to be highly planned and designed, from transportation systems, to communication ones; companies have moved from the era of products to the era of services (Gallouj, 2002; Buera & Kaboski, 2012) and with that, they have reached to design to provide insight of every aspect of the customer engagement (Vivek, Beatty, & Morgan, 2012; Youssef et.al., 2018), innovation processes (Verganti, 2009; Bucolo & Mathews, 2011; Kumar, 2012; Norman & Verganti, 2014), organizational culture (Ringer & Robinson, 1996) and brand interaction (d'Astous & Gargouri, 2001). Social innovation has become the new trend for young entrepreneurs, thinking labs, rising startups as well as large corporations (Brown & Wyatt, 2010; Manzini, 2015).

And yet, there seem to be deeply systemic problems that are causing democratic systems to fail (), and design might be an actor of this process. According to the radiography of the system presented by Giridharadas (2018) and Mazzucato (2018), contemporary failures in the process of democracy might be based on a deep social inequity and resource hoarding that we are currently living on, as well as the ideology of 'social innovations', that led by design, have tried to ameliorate the condition of those who suffer, without challenging the overall structure of the socio-economic system. Iskander (2018) suggests that some of the tools that have been taken by other disciplines to create ideas of innovation and that designers have embraced to guarantee a recognition in the workspace by the hand of the 'design thinking' ideology, have led to the preservation of the status quo of power structures and therefore, of the inequity that they represent. This failure has led to questions from the media and the design community about the role of design in de redefinition of a democratic model (Binder, et.al., 2015; Manzini & Margolin, 2017; Evans, 2018).

In this paper, we argue that one of the main issues of the democratic system failure is the inability to determine common ideas of the future, or even more, common scenarios where the different ideas of the future can coexist. For this purpose, we have established a series of examples of contemporary experimental practices that are based in participatory, community-based actions, that seek to produce a better understanding of envisioned futures. Some of these practices use more traditional methods but are applied in uncommon environments, leading to the proposition of new policies, social practices, and experimental economies. Some are more experimental and use conversational objects (Galey & Ruecker, 2010) that are located in the periphery of the future cone (Voros, 2003), and serve as mechanisms of 'boundary framing' (Jones, 2014). These examples are actual design work done with communities in Latin America and Europe where the authors have participated, and the recollection and analysis has been used as the primary source for this paper.

The role of design

When discussing policy making there are several key players to the process, from foresight, planning, law, economy and lately design among others. But to start a conversation from a design perspective it seems necessary to define what might be the role of design in the discussion of policy making and the relationship of design and democracy.

Design disciplines are based on the idea of transformation, the principle for design proposed by Simon (1969) of a desirable or preferred path also implies that there is a non-desirable path that we are following and that there is the need to propose a way to stir our direction to reach the preferred one. This transformation is an actionable plan, as Simon also points out design is an act of devising, which implies not only the planning process but the tangible mechanisms to achieve that preferred future. In a sense this idea of a transformative discipline has won design the attention of other disciplines, since it

goes beyond the description of the current reality and it proposes means for change through a tangible not-yet-existing reality (Bødker, 1998; Nelson & Stolterman, 2003). But this ability to create the world holds a significant responsibility, Verbeek (2011, 2013) proposes one of the best definitions of design in that sense when he argues that design is an act of making ethics tangible, and as Winner (1980) points out, these politics embedded into the artefacts we produce can have negative effects for certain communities. Friedman & Nissenbaum (1996) also reflect on this effect recognizing that the politics of the objects are based on human values that are being embedded in our process of reality constructions, they explain how these values can produce specific biases that can lead to a systematic discrimination.

As objects become mediators of our daily relationship with the world, we can argue then that part of the role of design is the facilitation of certain futures based on human values and politics. This premise sets design in the upfront of policy making, creating the mechanisms that facilitate the path to fulfill the intentions of policy implementation, or as Iskander (2018) frames it, maintaining the *status quo* of the word. This role is an important one when policies have been carefully crafted and considered and when the interest and values on them are based on an intention for collective wellbeing and intentions.

But when this policies are build with no concern or interest over the intentions of the people who are impacted by them, the question regarding the role of design changes to a more substantive one. Aguirre-Núñez, G. (2018) points out that participatory approaches of design used in certain cases of policy making are not intended to facilitate the agency of the stakeholders or to empower them in the construction of their environment, but rather as a mechanism of control and validation of intentions that have been already defined by policy makers that are seeking for participation as a way to validate their intentions.

If design seeks to produce new possibilities of the future, we need to inquire about the agency of individuals on the definition of that future. This question led to the definition of participatory practices in Scandinavian countries, where the political structure of social democracy, the ideal of participation and agency of the workers and the intention for a collectively defined future led researchers like Bødker (1987) and Nygaard & Bergo (1975) to propose an approach based on democratic validation of the intentions of the stakeholders.

If this is the case and the goal intended for design, then, how do we design for a better society by empowering communities to actively become decision-makers of their future? How do we move from the current models of opinion-based democracy that are so susceptible to be manipulated through demagogy and propaganda, to a carefully designed process of democracy that is founded on the distribution of agency and the co-created intention for a better future?

Banathy (1996) presents a model of the design process as it faces complex social systems and their transformation that has become the bases for newer models like the double diamond and design thinking model. In his model, Banathy introduces the idea of design cycles as an iteration between the images of the preferred future and the model or plan that makes it possible (figure 1). This model has been instrumental in our process to recognize how design can engage communities in the definition of their futures and the acknowledgement of their agency.

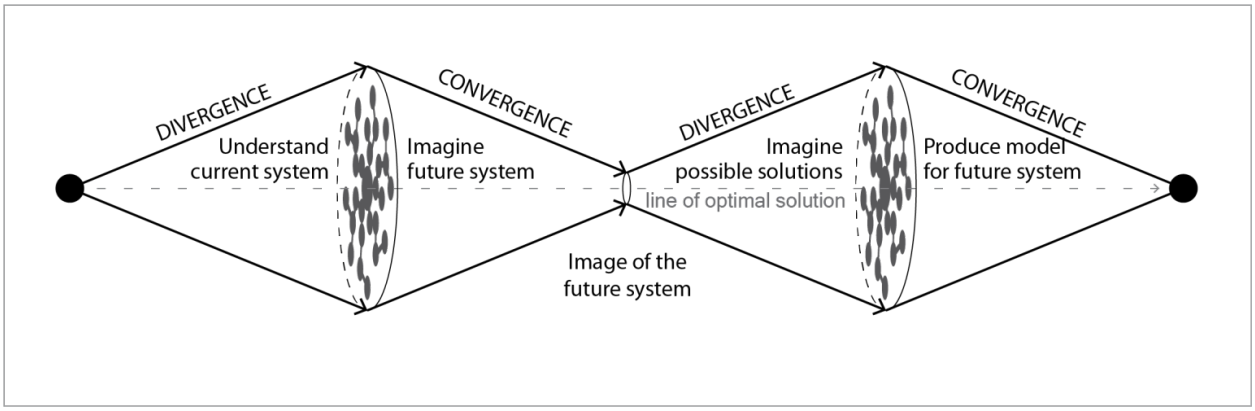

Figure 1. The basic divergence/convergence model for design in complex social systems; taken and modified from Banathy (1996).

One of the issues that we have encounter with this model, is that the representation of the time/process is linear, what creates the false idea of a process that leads into a future with no struggle or need for a path transformation. When we use the model of Voros (2010) to understand the action of design as a bet for transformation of the current path into a desirable one, we can see that there is a stir of direction that implies an effort (figure 2).

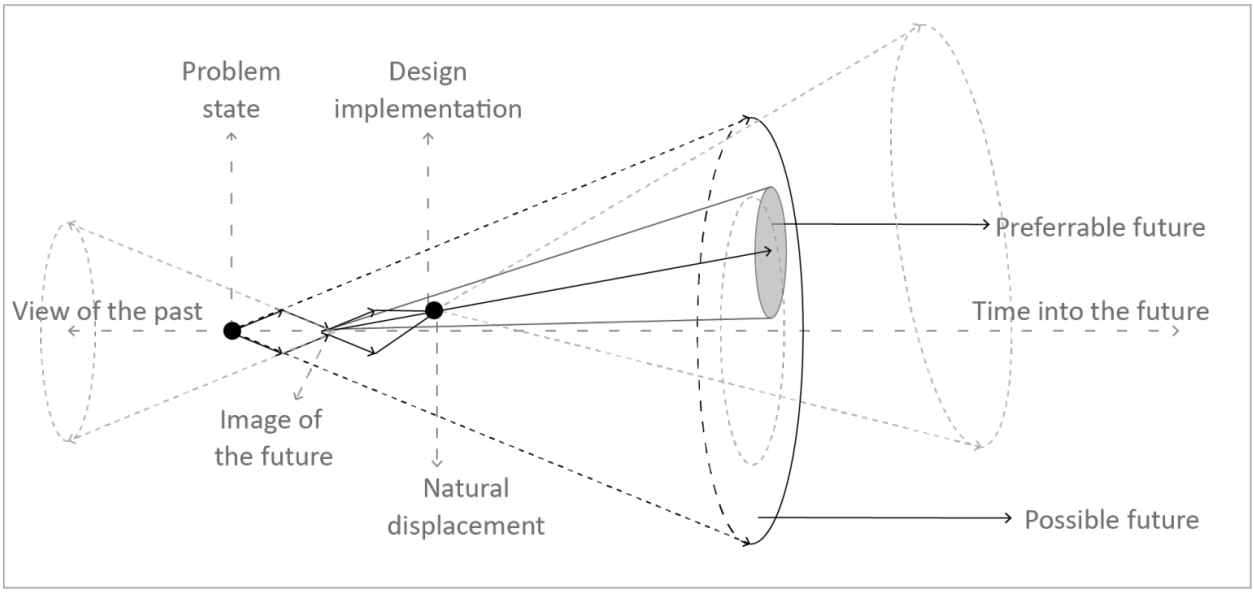

Figure 2. Combining the models of Voros (2003) and Banathy (1996) we can recognize the non-linearity of the design process and the intention for a preferred future.

We argue that as design nature is the produce a transformation on the path that we are following into a preferred one, it is the job of the designer to recognize the intentions of the people involved on the definition of that future, empower those without voice to redistribute the agency that everyone should have in the definition of the future, facilitate a real state of democracy and critically review how the intentions of transformation of the future could be producing unintended consequences for everyone. This task requires hybrid methods of research and a possible new approach.

Research methodology

Establishing the structure of that preferred future is a complex task, because it is not about a prediction based on trends or a probabilistic scenario. If there is something we can argue about the role of design is the intention to change the path, therefore, the intent to predict the future based on trends and possibilities fails to portrait the intentions of the people involved in the process. We have considered that the notion presented by Bødker (1987), in which the prototypes are tools to make a possible future become tangible to their stakeholders and therefore capture some of the reactions and impressions that this future could produce.

Based on that we decided to use the tool presented by De la Rosa, Kohler and Ruecker (2017) of high resolution mapping of the preferred future using prototypes (figure 3). Using this model in participatory workshops, were communities get a more democratic engagement allows us to recognize intentions, values and consequences of possible futures, and engage into collaborative conversations and critiques about what the `referred future means. In this application of the design process, prototypes act as conversational objects (Galey & Ruecker, 2010), allowing open conversations about the preferable future of the community.

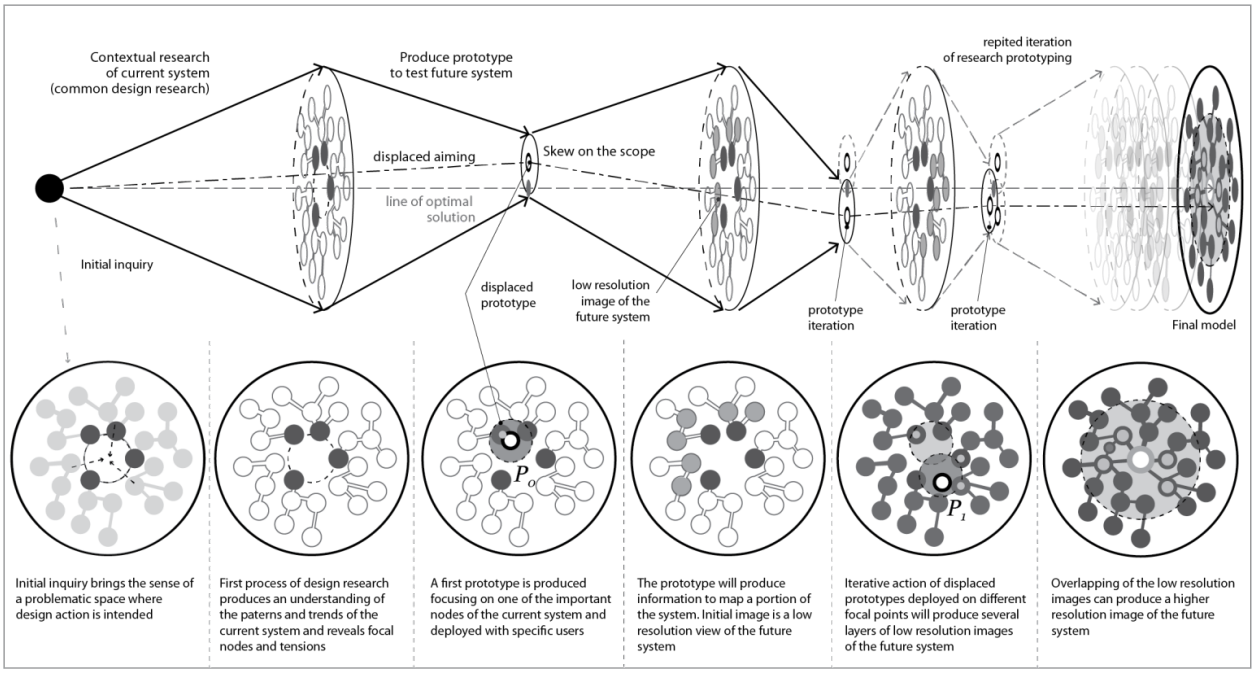

Figure 3. The model of displaced prototypes in multi-layered images. Taken from De la Rosa, Kohler & Ruecker (2017).

A significant advantage of the participatory settings like PAR (participatory action research) or PDR (participatory design research) is that they have already build a corpus of knowledge and a recognition inside the qualitative sphere of social sciences. And even though, some of the methods are still to be defined and discussed, to determine the real reach that they present in the production of knowledge, what it is clear, is that they all recognize that human reality cannot be defined form a completely objective perspective and that the views, perceptions and intentions of every actor of the process deeply modifies what is defined as real.

This principle is part of the heritage of systemic theories that both PAR and PDR have. Bødker (1987) proposes one of the first approaches to participatory or collective design, acknowledging that complex social systems cannot be defined, map or transform without the participation of those who are involved in the process.

Based on this, we applied the model mentioned before in three different settings were the intention was to map the intentions for a future change to observe how communities self-determined their desirable path. We have used those as case studies.

Case studies

For this paper, we have observed and analyzed the processes and results of a series of workshops held with communities in three different projects in Colombia. The authors (one or many) actively participated in all the workshops as designers or facilitators, and the methods that were implemented were modified versions of the method presented before.

The first workshop was requested by a community project in the city of Bogotá, where governmental and communal organizations are working towards the ecological restauration of the habitat of a 'humedal'. While their main concern was the physical definition of a space, in this case a library/research space for the community, we decided to start the PD process by identifying possible views of the future. Before our involvement with this project, the design team had already started to do some exercises of participation with the stakeholders that were very helpful in the definition of goals and in the construction of an environment of collaboration and trust. We find this to be one of the most positives effects of any participatory process, since it sets the participants in a collaborative mindset.

In our initial observation from the first visits to the project, we noticed a series of factors that were present on the PD process, that we believe are very common to the practice and that were defined as part of our research's interest. First, is the notion of *stakeholder* to the project, in this case the list of actors was limited to those with some apparent power in the decision-making process (DMP), either by position or by knowledge, and the other possible participant from the communities were perceived as either inactive or obstacles to the development of the process. We have observed something similar in some of the workshops, where the stakeholders map was limited to the participants and their interest, or confined to the current state of the problem. This is the first stage where the conversation about agency and democracy appears, and the role of design to make these silent voices visible to the participants.

The second element, was the group's intention to reduce the uncertainty of the process and find a viable solution. This is also common to every design problem, since the main objective of a design project for most of the people involved on it, is the definition of a single solution to the problem that has been determined. Therefore, once a possible solution is proposed, there is a tendency to hold to that solution as the final goal of the design process, and the responsibility of the group to find ways to reframe. This common issue to the design process leads to the definition of prototypes as beta versions of that solution, limiting their ability to be discursive or conversational objects that can facilitate the analysis of the actual goal of the process.

Even though there is literature and practice that separates methods like *prototypes*, *narratives* or *scenarios*, we see those as very related mechanisms of envisioning of the future and use them

interchangeably through the process as objects of a possible future. In this case, and due to the setting in which the workshop was being held, we decided to use *future narratives* as the object of the future. We believe that these narratives of the future have the same function of prototypes, since they become tangible ways to inhabit future scenarios for a moment. And even though they do not convey the same tangible properties of physical prototypes, they carry their main purpose of envisioning.

Every participant was asked to produce a short narrative of a preferred future state of the *humedal* and the possible relationships with the community. Once shared, these narratives permitted us to see new possible actors or stakeholders that needed to be included in the conversation and map the underlying values of the project as a fundamental part of our view of the future (image 1).

Image 1. Map of the values and stakeholders that was produce using narratives of the future as conversational objects.

The map produced helped us define a series of values of the project, and with each one of the values, a different perspective of the future. The main three values that were defined are: *Building networks*, *The growth of nature* and *Hope as a perspective*.

The concept of changing the perspective of the community of the *humedal* was defined as a main value for the project and included an educational aspect of recognizing the value of nature in our urban environments, this element helped us recognize that there were many educational actors in the sector that were not being included in the definition of the project, like a nearby school that shares some of the hydric resources of the *humedal*, and a series of informal project of education inside the community that were considered but not represented. It also reinforced the idea of any infrastructure to be built as a focal point of education.

The second aspect of change of perspective and a connection with the construction of networks was the actual visual perspective in the landscape of the *humedal* and the value that it provided to various the neighborhood. To be able to recognize the positive influence of the project in the landscape a new prototype was proposed. Using scaffolds the participants proposed the idea of building a small gazer from where to obtain a new perspective of the physical place (image 2).

Image 3. Community and designers built a prototype of the future perspective.

The participants reported a change on the experience of the place and a reinforced idea of the magnitude of the space and the possibilities that it represents for the community. They also decided to include some other actors into the process, like a neighbor conglomerate of fresh markets that is physically facing the other direction and that is currently just seen as a positive partner of the project but that has not seen a value on changing its point of view and face the green space.

We argue that the process of value-mapping as an exercise for the future can help in a reframe process, to extend the view of the design project and the notion of the designed object as a step leading into the preferred future.

The second case is a workshop that was held with a project for the development of the fishery industry in the Department of Caqueta in Colombia among socially at risk communities.

As with the first project there was already a proposal for the construction of a facility to process the raw fish into a ready to distribute product and facilitate the commercialization of the product. This was a major advance of the project previous to our involvement on it, and moved the project from the arena of socially oriented capacitation on a craft to a discussion of the viability of these projects on real life. Our involvement was initially as facilitators on a PD workshop that could help the leaders of the project plan for the proper set of requirements to be met by the infrastructure that was being planned. As mention in the introduction of this paper, we decided for a critical approach to the workshop.

The first step was to diagnose possible missing voices in the conversation, therefore, we started by leading an analysis of possible repercussions inside the community, and defining who was benefiting from the process but also who was being harm or damage, or had to deal with possible future negative effects. The idea of observing negative unintended repercussions of what seems as a good idea helps the participants recognize that there are more barriers that the viability or feasibility of the project, and that there are unrecognized stakeholders to every project that should be considered as part of the process.

We applied the idea of layers by using transparent acetate sheets, where new information could be added to the system that was defined, like actions, intentions and values. This technique helped us to provide complex maps of the system that could be reduced or modified depending on the conversation that was being done (image 4).

From this exercise, we moved to three different stages that were introduced in the model of multilayered displaced prototypes (de la Rosa, Kohler & Ruecker) introducing future capabilities, future requirements and prototypes of the future system as diffuse conversational objects. The definition of these categories helped the participants recognize the project from a systemic perspective, also to extended the perception of time for the project, from a tangible goal oriented project with a defined schedule, to a systemic transformation goal that seeks to reach a different state trough the current designed object.

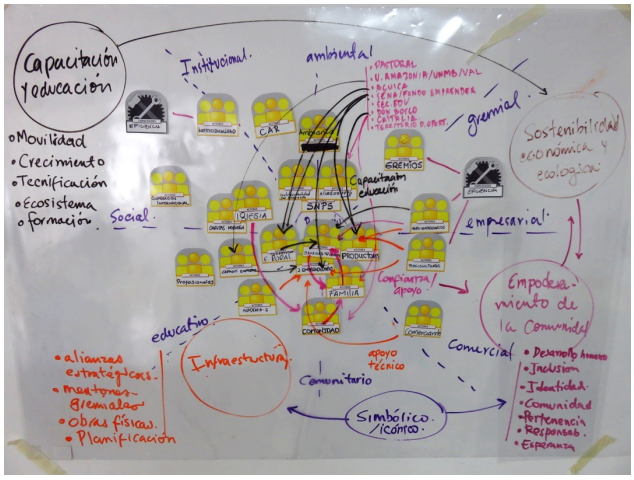

Image 4. Layered map of stakeholders, sectors and relations.

Through the mapping process we established four areas of value: Education, Sustainability, Infrastructure and Social Empowerment. From that point on, those areas became the objective of the project, therefore we defined a series of prototypes of possible future portions of the project that were based on each one of the areas.

This process led to the redefinition of the project, first, with the acknowledgement that the processing plant was not the final goal of the process, but a modular action intended to open the possibilities for other actions and eventually for a social transformation.

We argue that there is a necessary hype to the process of design, especially when working with participants, a need to induce a solution-based euphoria that leads to agreements and actions inside the community, but it comes with a price, since it might be blocking our ability to observe the consequences that those ideas of the future are carrying for some or everyone involved. The use of these methods has allowed us to extend the perception of time and define collaborative ideas of the future or a bigger picture of that joint future.

We have also seen that participations promotes an idea of common wellbeing and a resonance of ideas inside the community that amplifies their desire for a transformed future, while mapping the values shapes this future on a more conscious definition of the future.

Discussion: The future of this method for democratic engagement

By working with governmental organizations we have recognized some systemic problems of democratic action and policy making: First, that participation as a democratic value is reduced to an opinion among

few paths that are determined by those who are already holding the power and control, and democratic intentions for a different future are reduced to demagogic discussions and superficial politics. The policies in this are connected to governments and their intentions and might not reflect the real intentions and needs of the communities.

We have also seen, that when policies are produced top-down, they tend to be global and do not represent the socio-cultural complexity of the local spaces, this occurrence not only misses the public target, but it also makes policies reactive to the problematics rather than adaptive, eliminating the flexibility that communities need to face a constant change and limiting their actions to a short-term vision of the government in turn.

So, how do we move from a top-down model of democracy, where the governmental level holds the power in the decision-making process and the public sphere is just entitled to an opinion or a vote between polarized views with their own agendas? There is no simple answer to this question, but based on our observations we propose a series of ideas that might open this conversation into a future where we redesign democracy.

We argue that the use of a model like the one we used that uses Systemic and Participatory methods that uses mapping through action as a tool to envision systems of values and consequences, and define ideas and intentions for that future based on those values defined by the community, can provide decision-makers with the granularity and complexity, that can help define flexible, evolving policy making. When we envision these futures together, we project the values of the community into the policy-making spheres, giving those with that responsibility a clear message of what future should policies be facilitating (figure 4).

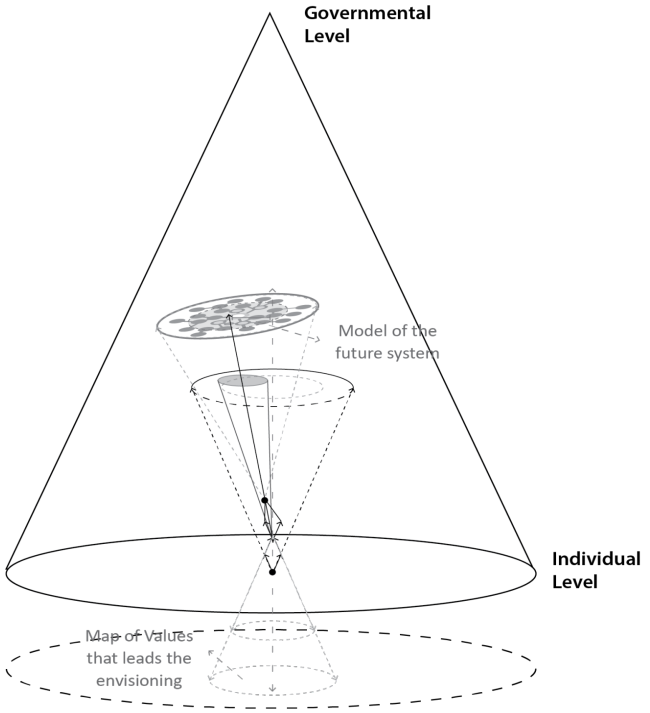

Figure 4. Applying community-based participatory process can project real community intentions into a policy-making level.

Scaling this process by a constant work with communities could potentially create rich information and the emergence of macro trends in the perception that the community has regarding their future (figure 5). We believe that this process can integrate the bottom-up and top-down model through layered flux of information and decision making, enabling experimental models of community-based governance (figure 6).

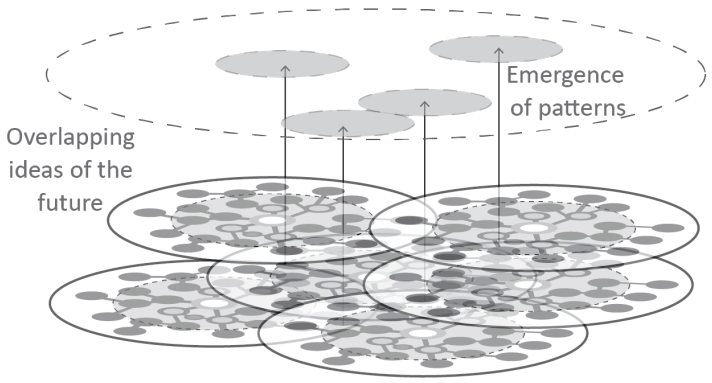

Figure 5. Possible emergence of macro trends in the repetition of design lead community workshops.

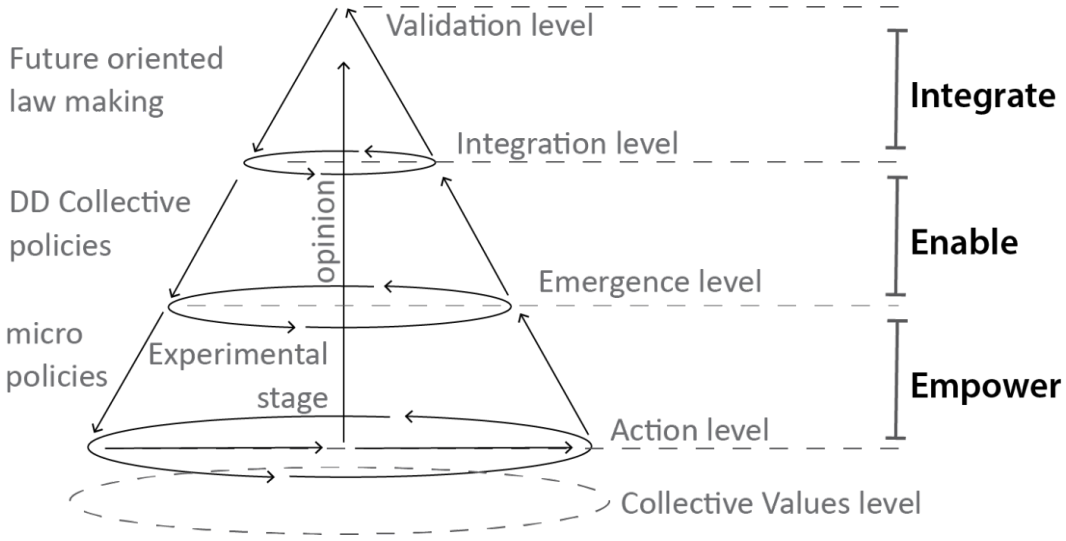

Figure 6. A possible model of layered information for policy-making.

Conclusions

This paper does not seek to produce conclusions about the discussed models, but rather open the opportunity to a reflection on the role that designers could have in the redistribution of democratic powers and the definition of more flexible policies that can really adapt to a changing reality. We argue that it is necessary to seek a different systemic models for the design process, some that could provide tools for the definition of complex views of the future that include the side effects and unintended consequences of the plans we device (Jones, 2002; Nelson & Stolterman, 2003), not only for the group

in control but for other communities and silent stakeholders. We also believe that the construction of more systemic views of the future can lead to a better process of scaling up into central policy makers and to the top-down implementation of holistic policies that include bottom-up definitions.

Collective discursive prototypes could present an alternative for the design of future scenarios and the redefinition of democratic participation as they can be implemented as a common community-based practice that constantly collects bottom-up views, but also that challenges assumptions and manipulated views to prevent them from becoming massified by the groups in control. Finally, a design led democratic process, could flatten the pyramid of power, leaving communities as decision makers and those who can lead into the future as the politicians of the future (figure 7).

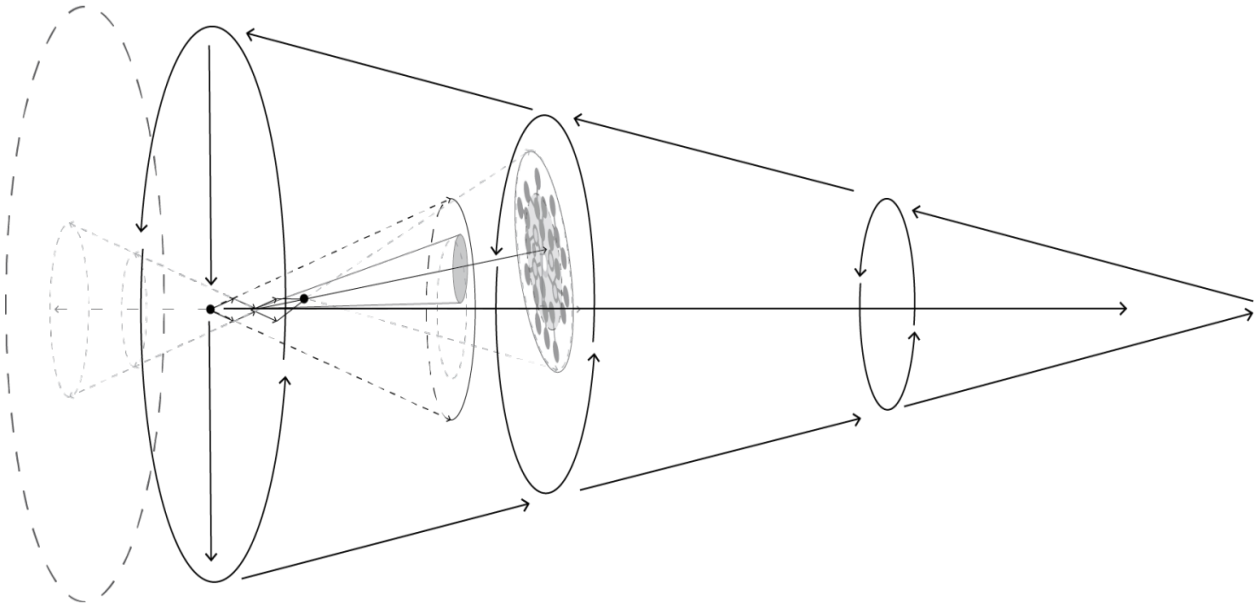

Figure 7. A possible horizontal model that moves from values to policy making

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