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XXVI.1 January - February 2019

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REIMAGINING PARTICIPATORY DESIGN

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We recently edited a special issue of the *ACM ToCHI* journal on “Reimagining Participatory Design” [1]. As a result of this process and the earlier work leading up to it, we have had many interesting discussions concerning participatory design (PD) and where it stands today. We refer the reader to the *ToCHI* special issue for details of the various contributions and present here some further discussion of the themes that emerged as we ourselves discussed this topic of reimagining PD.

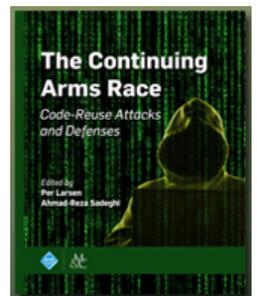


The history of the field, and the ongoing debates about the general concept of participation, have been discussed elsewhere [2,3, etc.]. We have also been inspired by material in the journal *CoDesign*'s special issue on “Unfolding Participation over Time in the Design of IT” [4] and the 2017 special issue of the *CSCW Journal* on “Infrastructuring and Collaborative Design” [5].

↑ Insights

- There is a pervasive sense in the community that participatory design has lost some of its clarity and identity.
- We recommend that PD look forward, not backward, and specifically that it focus on what democracy means today and integrate new methods into PD.

These projects and others collectively suggest a willingness in the PD community to step back, take stock, and reflect on PD as an approach to design and research. Why is there a need for this now? Is there something about PD today that has become somehow problematic, in that so many take this reflexive turn? Does PD no longer work? Has it lost its coherence? Has it been co-opted and corrupted? In this article, we seek to account for the questioning within PD of its purpose at the present moment and to make a



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Edited by
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ISBN: 9781970001808
doi: 10.1145/3129743



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constructive contribution to the debate by offering some thoughts on ways to move forward.

↑ **The Rise (and Fall?) of Participatory Design**

When the topic “participatory design of information technology in the workplace” emerged in the 1970s, it sought to rebalance power and agency in the professional realm. This was a time when, in many Western countries, social democratic parties held sway, a majority of workers belonged to trade unions, collective bargaining agreements were common, and social welfare provisions were sacrosanct. Hence, workers and their organizations were seeking to establish for a and methods to influence the development of information technology locally, nationally, and internationally, and this kind of engagement was seen as part of democratic agendas across the board.

The PD approach aroused considerable interest, as it provided both a theoretical rationale along with concrete methods for involving users. It appeared to get results, too, in the form of products that had high buy-in from diverse stakeholders. In the 1990s and 2000s, PD research developed further to include a strong interest in cases and methods from many fields, regardless of whether these had a specific focus on computer technology, coinciding with the emergence of a general interest in design in the larger HCI field. Common to the cases and methods: They involved and engaged people from many walks of life.

Today the political, social, economic, and technical environments within which discussions about participatory design take place have shifted significantly. The relations among labor unions, corporations, and governments have changed. Technology has facilitated the emergence of increasingly autonomous systems, which act and make decisions based on algorithms that few understand let alone shape, as well as global networks and datasets of such scale that they can be managed only by computational systems.

It would be unfortunate if the flagship Participatory Design Conference (PDC) became the PDLC: Participatory Design-Like Conference.

Meanwhile, we argue in [6] that the label *participatory design* seems to have become synonymous with a banal form of user-centered design, concentrating on more local issues of usability and user satisfaction. Such a view sees participation as simply the involvement of any stakeholders at any point in the process. This is a far cry from earlier work in the field, where participatory design sought not only to incorporate users in design, but also to intervene in situations of conflict through developing more democratic processes. Conflict and power were fundamental concepts in early participatory design, but these issues are often no longer addressed. Rather, we read about how technology “empowers” individuals, ignoring the fact that this often occurs at someone else’s expense.

At the same time, technologies and their accompanying methods and techniques are spreading across the globe, now reaching remote villages in developing countries, for example. In such settings, the original Scandinavian values and assumptions that shaped PD are often culturally at odds. This manifests in an apparent dilemma: Do design teams “compromise” PD by loosening its egalitarian politics? Or do they impose their own values onto these participants, as methodological and ideological colonialists? However this dilemma is navigated, participatory design must change in such contexts. The concerns raised about the PD field have been many and varied, including:

- A sense that participatory design has lost some of its clarity and/or identity
- A concern that participatory design has been depoliticized, dropping its original commitments to democracy and dialogue in favor of more consumer-oriented methods
- Questions about how well the original so-called Scandinavian model applies to the rest of the world, or even to Scandinavia today
- Concerns that computer users worldwide have lost ground in terms of their rights and grievance procedures
- Questions about how well participatory design can scale, from the interventions with small teams of the past to more global concerns
- Concern about the future of the participatory design community, given that many of the founding thinkers are retiring and a new cadre of activist researchers is required.

All of these lead us to ask: Has participatory design fallen into a state of decadence? And how can we attempt to revitalize it? The *ToCHI* journal Call for Papers on Reimagining PD was our response, one of many that we hope will emerge in the near future.

↑ **The Community Responds**

As we initiated our plans for the special issue of *ToCHI*, we solicited research contributions that would reimagine PD—that would take the present into full account and seek to envision a future that is true to PD’s past while also reshaping or molding it to fit changing circumstances.

The large number of responses we received to our initial call was gratifying, showing that the topic engaged the larger research and practice community. Some of the responses are outlined below.

One of the most conspicuous trends across our submissions: attempts to offer histories of participatory design, including new interpretations of 1980s PD projects. In many cases

these historical contributions suggested a return to more profound or more “pure” forms of participatory design. We read this trend as a response to the apparent dilution of the field: The trend seems to suggest that if we just remind ourselves of what classic participatory design was really about, we would be better able to get it right today. However, we worry that researchers run the risk of romanticizing earlier participatory design, encouraging a return to a past way of thinking that no longer applies.

A related trend involves the policing of participatory design’s boundaries. This reveals itself in critiques of participatory design projects that point out the ways in which it fails to achieve democratic ideals. Such work explicitly or implicitly suggests that the object of its critique falls short of “real” participation. But there is a risk: We might move participatory design into an ideal realm that no one can achieve anymore. Indeed, there are signs that this is happening. Some researchers have begun to refer to their own work as “participatory design—like.” If “real participatory design” fades into a mythical past or exists only as a Platonic ideal, then all *anyone* can do today is participatory design—like. It would be unfortunate if the flagship Participatory Design Conference (PDC) became the PDLC: Participatory Design—Like Conference.

Another trend that emerged in diverse ways across many of the submissions related to the question of scale. In 1980s participatory design projects, project scale was relatively manageable: workers and managers within a single profession in a particular region, for example, nursing staff within a single hospital. The participatory design workshops were born in and functioned at this scale, and some participatory design researchers still seem to prefer it.

Yet today, participatory design increasingly is being used to address sociological and structural problems, including new forms of marginalization, the rising power of global multinationals (such as Google and Facebook), as well as geopolitical crises such as climate change, migration, and rising authoritarian governments. Technology is contributing to new opportunities at scale—the possibility, for example, of citizen science to crowdsource scientific data collection, analysis, and even learning. We agree with the community response that scale is a major issue for participatory design, and it is far from clear how to proceed. Yet the importance of this issue also underscores why a return to classic participatory design is impractical.

A particular way of addressing scale can be found in several contributions to the *ToCHI* issue that discuss the relevance of public-sector projects to innovative PD. The papers make the argument that public-sector projects are particularly in need of PD because they are owned by our democratic society at large, and because funding for the projects comes from taxpayer money. Hence, society as such has an interest in ensuring transparency in public-sector organizations.

Beyond this are also debates about the need for public ownership and control over the funding of development projects in the public sector: Why should public money be spent on projects that mostly benefit large international IT providers? The new multinationals are not only Facebook and Google but also IT providers for the health and government sectors, which can be seen as contributing to an international mainstreaming of how public agencies and institutions are operated. This runs counter to our desire for citizens and societies to make their own choices regarding these matters—locally.

At the same time, governments in various parts of the world seem to be weighed down by corruption or authoritarian practices such as surveillance, censorship, and control. How does one work on democratization in the face of a corrupt or authoritarian state? It is indeed not trivial to reimagine PD methods that will truly embrace and support local development under such conditions.

We also observed a potential exoticization of participatory design: research accounts of young immigrants, non-Western cultures, and so on. We are excited to see participatory design asserting democratic values in situations where the need for democracy and justice is so urgent; at the same time, we fear that more mundane contexts—for example, the provision of medical, educational, manufacturing, and tax services—are experiencing declines in democratic participation because so much of computing and information processing is black-boxed from its own stakeholders. We thus stress PD’s role in asserting democratic values in systems and infrastructural development in *all* computing situations, including situations currently unfashionable in research circles, because we have seen that what were once hard-won democratic outcomes can, and often do, degrade over time.

Finally, we note a continuing tension between research rigor and the quality of intervention, a problem not limited to participatory design but also manifest in many action research projects. In our view, part of the challenge here is that we need more pluralistic conceptions of what counts as research, especially as design research and participatory design attempt to address more political matters. We also look back at the argument from, for example, the original Utopia PD project, that the challenges of PD projects open up new research challenges, even in more conventional understandings of research.

↑ **Participatory Design Reimagined**

Television cooking shows often require chefs to prepare a dish from an unorthodox set of ingredients—say, Chilean sea bass, avocado, seaweed, and popcorn balls. As perplexed audiences look on, the chefs generally succeed in producing appetizing dishes. They do so by mentally decomposing each ingredient into elements: a color, texture, taste, and so

on. The problematic popcorn balls are reimagined as a crust for the sea bass, which is rolled in the crushed popcorn and deep fried.

We wonder if an approach akin to this needs to happen in participatory design. Currently problematic wholes need to be analytically broken into their constituent elements, and those elements reassigned to new methodological tasks. For example, the classic method of hosting a series of in-person participatory workshops with diverse stakeholders might not pair well with global-scale networks, yet direct engagement with different stakeholders via the sharing of breakdowns and aspirations can be achieved using new methods.

Another way to think of this is to decouple organizational scale/granularity from issues of power. We do not believe, for example, that the larger the organization is, the more power it necessarily has. At a time of rising authoritarianism throughout the world, we are seeing vast institutions weakened, even as we see certain micro-interactions having disproportionate effects.

For example, the labor unions are still massive in scale, yet politically ineffective, while the president of the U.S. makes new policy on Twitter and the *#MeToo* hashtag helped to remove abusive men, previously untouchable, from power. How can PD shift its dependencies from weakened institutions and make better use of micro-services and other small-scale yet high-impact phenomena? These are all open questions, but we briefly outline two high-level strategies that might assist in the process.

Focus on what democracy means today. The first strategy we suggest focuses on what pursuing democracy might mean in a global 2019 and beyond, rather than a Scandinavia 1979 model. It appears that democracy is under strain all over the world, but also that the idea of democracy has shifted since the 1970s. We will not delve into the political science elements of this here (see, e.g., [Z]) but we wish to discuss the implications for PD and technology. Contemporary technologies have throughout the past century played a role in democratic thinking and in models (even utopias) for future societies, yet the results have not been clear-cut.

In the 1970s, the labor unions were, for several reasons, strong partners for PD in Scandinavia. However, the fading role of unions is indeed not new, and even in the 1990s they would probably not have been the right partners for radical change. PD, however, depended on such an actor and it is not clear what this actor or actors is or could be today, neither in Scandinavia nor globally.

One of the international challenges today is the existence of multinationals such as Google and Facebook. As with the notorious “seven sisters” (the multinational petrol companies) in the 1970–80s, local and national counter-strategies are not sufficient to control them. Hence the question remains: Who influences the multinationals? The EU seems to have stepped up in responding to this, but it seems to us that there is a big step from creating legislative restrictions such as “the right to be forgotten” and the GDPR, and what they can offer in terms of meaningful technological alternatives.

Nowadays, when people around the world have seen that free technology does not come for free, what role could PD play in offering alternatives and solutions?

So today, technological innovations seem to happen outside democratic control. Crowdsourcing, outsourcing, and data collection occur without the checks and balances one would expect in a properly functioning democratic society. In many of these new contexts, it is difficult to bring sociotechnical conflicts into the open, whereby stakeholders are empowered to participate. As a result, power and agency have gravitated away from end users and other stakeholders toward larger institutional players—large corporations, government, and multinational agencies.

This is also true of bottom-up interactions, including those of the so-called sharing economy, which are often understood as commercial disruptions and which often obfuscate conflicts among stakeholders. Nowadays, when people around the world have seen that free technology does not come for free, what role could PD play in offering alternatives and solutions? Is there a place for PD in breaking down and reconstructing the technological components?

As Susanne Bødker [8] pointed out, it seems that in our technology-infused lives we have few rights and little influence on the technologies available to us. We can vote with our feet and stay away from Facebook and smartphones, but we cannot influence how they are shaped. This is in ironic contrast to the Scandinavian workplace where, while almost forgotten, the first generation of PD projects has left traces of the possibilities of influencing how technologies are introduced and used in the workplace. Pursuing democracy in this day and age hence also demands shifts in the laws that safeguard our rights (such as with Facebook or Google) as well as changes to the incomprehensible, but necessary, terms of service agreements.

Morten Kyng, one of the founders of PD, points to micro-services as a way of breaking away from large monolithic systems while also seeding possibilities for future users to influence how these are developed and used. Development through micro-services has local anchoring and the potential to perform on a larger scale than anyone expects or intends. Micro-services also hold the possibility of decomposing and reconstructing certain known technologies, for example, replacing some of what Facebook currently provides.

With this in mind, we propose that open source communities and movements for democracy could eventually also be seeded from within workplace projects. End-user development, which also has an early connection to PD through the work of Kristen Nygaard, could possibly play a prominent role. All of these elements seem to support an educational agenda, where people in as many places as possible learn to understand and take control over technology locally. This may be a way to break away from the current focus on innovation and disruption as the key new business models, instead studying how open and shared innovation happens, possibly with other forms of ownership—embedded in different forms of local communities suited to fit local democracies in various parts of the world.

Integrate new design methods into PD. PD emerged in the context of computer-based systems development. Indeed, Kristen Nygaard, a key figure in PD, is also credited with co-inventing object-oriented programming. Systems development has changed considerably in the intervening years, opening out from the engineering and computing mainstream to include a variety of disciplinary traditions, such as sociology, cultural anthropology, literary theory, and design studies. The result has been an explosion in theories and methods in areas such as HCI and systems development: ethnomethodology, ethnography, contextual inquiry, feminist interviews, design fictions, and somaesthetics.

The introduction of these methods has often taken place so swiftly that careful, systematic reflection on how they might relate to each other falls to the wayside. Their differing epistemologies, underlying values, and concrete applications bring a richness, but overlaps, gaps, and discrepancies are as yet not well understood. To be clear: This is not a problem that needs solving. It is not our position that HCI should stop, work it all out, and only then get back to business. Rather, this opens up research opportunities to explore and clarify synergies and productive tensions.

There is, for example, an exciting strand of interaction design research in which design methods are used as research methods. That is, instead of using design methods to create a functional, commercial product, researchers instead use design methods for other purposes, such as to develop responses to research hypotheses and questions, to explore alternatives, and to reconfigure assemblies. What is the nature of virtual possessions? How might we envision the concept of slow computing? How can interaction designers create products intended to be redesigned through use? How might interaction design contribute to new relations between ourselves and our bodies? The practice has many variations: research through design, constructive design, speculative design.

Yet we note that many of the published papers that use such methods are designer-driven, feature minimal meaningful participation, and in many cases deemphasize political conflict (though there are exceptions). Again, we do not suggest that this is a problem crying out for a solution. But we do see opportunities for researchers and designers to ask difficult questions and attempt to work out what the answers might be. Is it possible, for example, to integrate critical design with participatory design, when the former seems elitist and targeted at high-brow design aficionados, while the latter is more democratic in both its design processes and sense-making?



At a more granular level, we have seen an extension of the toolset available to designers, in terms of the methods used to stimulate various aspects of the design process and enhance design practices: Design card decks, toolkits, probes, role-playing exercises, games, mood boards, and other inventive methods have all been extended and explored in novel terrains. Their potential applications in participatory processes are straightforward: Most can be easily deployed in participatory design workshops, for example. But these methods should also be changed by their use in PD: Design researchers can work out, for example, what it might mean to democratize mood boards or to meaningfully represent social conflicts in probes.

Another opportunity is for PD to engage the more overtly political approaches to design that have emerged in HCI in recent years: Feminist HCI, postcolonial computing, and participatory action research all come to mind. Each of these foregrounds social conflict as a condition of computing, and each features sophisticated theories of power, participation, and intervention. Yet none of them have as yet been developed specifically as design methodologies.

In the special issue, Shaowen Bardzell [9] proposes that political approaches to HCI and PD can support each other: Political theory can strengthen PD's commitments to engaging social conflict, while PD offers mature design methods, often lacking in feminist and postcolonial theory. In this way, political approaches to systems development would gain tactics of intervention that are both accepted in industry and also well suited to sociotechnical infrastructures and processes of development, while PD would be enriched by new developments in critical and political theory, helping it adapt to new situations.

The focus on politics and critical/political theory is a good fit, because early PD projects sought to think bigger than interfaces, systems, and apps; and bigger than practices, teams, and sites/situations. In particular there was a strong interest in and concern for technological alternatives, both arising from within the projects and on the general horizon of the technological landscape. In the wake of the many new analytic methods, we invite researchers to be more daring when it comes to proposing and scrutinizing technological alternatives, from the point of view of their usefulness to people, not merely as new business cases.

More subtly political is the global interest in teaching children skills and practices of computer use. On the one hand, such education empowers children to participate in the ways that computing shapes present and future societies, including their own, as they grow up. On the other hand, it leaves large parts of the adult population behind.

For example, manufacturers are struggling to find qualified workers to work in computationally mediated factories. We see a white-collar bias in how computer use is understood and taught—focusing on entrepreneurship and certain forms of innovation, with less emphasis on how computing is changing machines and their uses in manufacturing.

This is ironic, considering that first-generation PD projects developed training courses for union representatives that emphasized ways in which blue-collar workers might be trained not just to use existing tools, but also to understand and influence the development of computing itself. Today, these courses have largely been forgotten, but an updated rethinking of such initiatives offers the potential for a wider curriculum for adult courses as a supplement to school curricula, empowering people at large regarding computing technology in their work and life.

↑ Reimagining PD as a Continually Evolving Discourse

While work in the field of PD has evolved over the years, in many cases the changes have been incremental, and many of the basic tenets of the field have not changed substantively, with some exceptions. Indeed, we noted earlier how the political dimension of PD, present in the early days of PD, has tended to be minimized in more recent work. Perhaps coincidentally, we have also observed the decline of many of PD's gains given the rise of global multinationals and their use of our data.

We saw throughout the submissions a tension between expanding versus contracting PD. The expanding impulse is evident in the application of participatory design in ever widening contexts and situations. The contracting impulse is seen in the many attempts to return to participatory design's origins as well as to gatekeep.

While we support research that investigates and excavates the foundations of PD in the hope of carrying them forward, we do not support a return to classic PD. Instead, in an era of globalization and political extremism, with its accompanying technological platforms and forms of corporate governance, we call on researchers to leverage design for a more equitable world. That pursuit can be shaped by the core emphases of PD—public participation, sensitivity to social conflict, shared trust, mutual learning, security and fairness—updated to reflect today's world as well as contemporary sociopolitical theory and activist methods.

This pursuit cannot happen through any single piece of work or contribution, but rather as an ongoing, iterative process of dialogue involving multiple stakeholders and interests. The *ToCHI* special issue was only a start. We view this article as a contribution to the debate among related research and action communities, which is the goal for our Reimagining Participatory Design project. We envision the future as an evolving set of directions and encourage a multiplicity of voices and opinions to contribute to this ongoing debate about the future of PD.

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