

A Claim about Participatory Design

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Abstract

Participatory Design (PD) is a human-centered method for technology design. Common claims about PD’s importance rest on the premise that the users of the technology have no reasonable choice in its adoption, such as in workplace contexts. This lack of choice obscures what PD *itself* is getting at, so for community contexts where users do have choice, I provide an alternative argument for PD’s importance. I draw on Fricker’s “hermeneutic injustice” and Laclau and Mouffe’s “antagonism,” and I argue that if (i) a community has a powerful interest in a future sociotechnical system and (ii) without PD they would have no influence on the design of technical infrastructure of that system, even though (iii) they have the choice to adopt the technology in question, then (iv) PD has the morally relevant quality of *easing antagonism* by, for example, (v) providing a setting for the community to articulate their own lived experiences, (vi) empowering and validating those articulations with affordances provided by the design, and (vii) vesting the community in the future technology that they have an interest in. After explaining the context and concepts for this argument, I describe examples and related contexts where the community and developers may nevertheless choose to forego PD.

1 Introduction

Participatory design (PD) is a research and development approach for new technologies. Although PD is as varied as its those who practice it,^{1 2 3} its salient feature is always that future end-users *co-design* the technology alongside developers, which allows the end-users to influence the technology's design during the initial development process.⁴ At its core, PD values early and often the existing knowledges and practices of future end-users and other stakeholders, and PD values rapid iterations of smaller designs as a way to respond to new and shifting concerns.⁵

PD is *good*, but often-cited arguments for its importance imagine that end-users will have no reasonable choice in its adoption. These arguments arose during a different time in PD's history where the default context being considered was that of the workplace: In the 1970s, there was "a general consensus [in Norway] that computer systems should not deskill workers, but enhance skill, protect crafts, and foster meaningful work"; this led to legal protections of workers' rights to co-determine new workplace technologies; which in turn led to PD as a methodological response to this new labor structure.⁶ But in a workplace context, even with meaningful influence on the design of a technology, one still may not have meaningful choice in whether to adopt the final design. And during the last fifty years PD has seen use

¹*cf* Nabatchi, Tina, et al. "The Future of Public Participation: Better Design, Better Laws, Better Systems." *Conflict Resolution Quarterly* 33. 2015. Nabatchi et al give a good pro/con comparison of "thick" and "thin" approaches to participation.

²*cf* Fishman, Barry, et al. "Design-Based Implementation Research: An Emerging Model for Transforming the Relationship of Research and Practice." *National Society for the Study of Education* 122(2). 2013. Fishman et al relate PD to similar methods Participatory Action Research and Design-Based Implementation Research.

³*cf* Le Dantec, Christopher and Carl DiSalvo. "Infrastructuring and the Formation of Publics in Participatory Design." *Social Studies of Science* 43(2). 2013. They discuss PD in its roles for creating "useful tools" and in "infrastructuring" publics around shared concerns.

⁴Friedman, Batya and Peter Kahn, Jr. "Human Values, Ethics, and Design." *The Computer-Human Interaction Handbook*. 2002.

⁵*id*

⁶*id*

in community-engaged contexts too.^{7 8 9}

In the case where end-users *do* have a choice, it’s unintuitive to say that “improved adoption” and “useful tools” are the only morally relevant qualities of PD: One’s gut says there *has* to be more to it than that. PD could fail to provide better adoption or usability than “non-PD” methods (where the community has no meaningful influence on the initial design of the technology). Even so, a community could still have reasons to push for PD. In contexts like this, what is it that PD *itself* is getting at?

To answer this, I provide an alternative argument for why PD is good. This account still works when community end-users have choice in whether to use the final design, and, I hope, gives a clear, moral outline of an otherwise hard to pin down quality of PD: that it *eases antagonism* for the community in question.

In section 2, I clarify PD and its limitations based on the literature. In section 3.1, I clarify the context for my analysis by walking through successive examples. In section 3.2, I attempt to give a clear account of important theory for my analysis. Given those, in section 3.3 I outline my argument about PD. In section 4, I continue to think about this claim in relation to nearby contexts. And finally in section 5 I conclude.

2 Literature

PD methods are one approach to value-sensitive R&D that promotes end-users’ values. However, participation can be prohibitively difficult to facilitate, and it is not clear that some of the values promoted by PD could not be more efficiently promoted by non-PD means. Still, PD’s salient feature over non-PD promotes an important value deserving of a clear moral account.

Conventional methods of participation, like public hearings and public comment periods,

⁷Nabatchi et al.

⁸Le Dantec and DiSalvo.

⁹Korpela, Mikko et al. “Community Participation in Health Informatics in Africa: An Experiment in Tripartite Partnership in Ile-Ife, Nigeria.” Computer Supported Cooperative Work 7. 1998.

can “erode trust in government.”¹⁰ In contrast, newer methods of participation, from surveys and polls to citizen’s juries and other deliberative methods, “confer more respect, recognition, and responsibility on citizens,” and PD efforts are more productive when focusing less on users’ demands and more on the values that underlie their demands.¹¹ Such value-sensitive methods of design promise to lead to more ethical technologies, since users’ concerns can be voiced early and often.¹²

For example, designs can be made “usable” in ways that promote or at the expense of important human values, such as online privacy settings that promote end-user agency vs. webcams hardwired into a device that makes it impossible for end-users to turn them off.¹³ Designs can promote more than privacy values: They can promote human welfare, freedom from bias, trust, autonomy, accountability, accessibility, and sustainability.¹⁴ However, designs can work correctly according to specification, yet still interfere with rights, such as property rights: “If the cookie belongs to the user, and the browser does not allow the average user to delete the cookie, then by virtue of a technical mechanism [the] designers have in effect deprived an average user of the capability to exercise one of his or her specific property rights.”¹⁵ More broadly, any categorization implicit in the design imposes, by similar technical mechanisms, the value assumptions of the designers upon the end-users.¹⁶ These imposed values can range from the mundane to, we designers should hope to avoid, the oppressive.¹⁷

While voicing concerns is promising for ethics, participation alone is not a *panacea* for ethics: Involving stakeholders and developers in conversation with each other does not ensure that the values that matter will influence the design.¹⁸ Design teams need pragmatic guide-

¹⁰Nabatchi et al.

¹¹*id*

¹²Friedman and Kahn.

¹³*id*

¹⁴*id*

¹⁵*id*

¹⁶*id*

¹⁷*id*

¹⁸Gerdes, Anne. “What and Whose Values in Design? The Challenge of Incorporating Ethics into Collaborative Prototyping.” *Journal of Information, Communication and Ethics in Society* 12(1). 2014.

lines for ordering values, or arriving at the right values, when stakeholders conflict or have bad intentions.¹⁹ Next, PD requires participation, and participation can be prohibitively difficult to setup.²⁰ And even when participation is possible, in some contexts it could be *unethical*: Consider Quesenbery’s dilemma of PD with nurses, where the schedules of the nurses are demanding and the managers are overbearing, so carrying through with PD might impose harm on the nurses.²¹ On one hand, the participation data could be invaluable, even given likely bias; On the other, “it is unethical to put nurses into such a stressful situation where they are studied in front of their obviously critical managers.”²² Lastly, even when participation is both possible and ethical, end-users might still prefer that the developers take the lead.²³

When participation works, but end-users have a choice about the design’s adoption, some of the values that PD promotes would not have been harmed by using a non-PD method. End-users could just choose not to use the technology, could choose to use a competitor’s design, or could provide feedback substantial enough to influence the *next* iteration. And if a non-PD method would deliver an equivalent design faster and cheaper, then non-PD would confer its design’s benefits with less burden. Under utilitarianism, non-PD wins over PD if PD has prohibitive limitations with no outweighing benefits. For PD’s other values, such as conferring respect, sure, PD may be better positioned to efficiently and effectively promote than non-PD alone. However, it might not be better positioned than non-PD *plus* some endeavor with no relation to the technology: for example, designing a technology through non-PD methods while conferring respect to the same end-users through public relations.

Still, PD’s differences from non-PD promote an important value, which I call *easing antagonism*. In the next section I develop this argument further.

¹⁹*id*

²⁰Te Kulve, Haico and Arie Rip. “Constructing Productive Engagement: Pre-engagement Tools for Emerging Technologies.” *Science Engineering Ethics*. 2011. Notably, “Preparation is a demanding task, particularly if the facilitating agent aims for timely engagement related to emerging technologies.”

²¹*id*

²²Friedman and Kahn.

²³Sabiescu, Amalia et al. “Emerging Spaces in Community-based Participatory Design: Reflections from Two Case Studies.” *Proceedings Participatory Design Conference*. Windhoek, Namibia. 2014.

3 Alternative Argument

3.1 Community Context

The context I concentrate on is a community context, defined around shared issues, where the community (i) has choice in using the technology in question, (ii) has a powerful interest in the technology, and (iii) has no influence on the design outside of what influence is provided them by the developers.

Le Dantec and DiSalvo draw their definition of a “public” from Dewey, and I wish to adopt the same here: “a public [is], not a single generic a priori mass of people, but... a particular configuration of individuals bound by a common cause in confronting a shared issue.”²⁴ In this view, a “community” is defined by concerns, not by where one lives. During this type of research and design, researchers are interested in understanding phenomena shared by a people, which allows the definition of their “case” to follow the phenomena.²⁵ This issues-based framing of a public is appropriate because the design of new technologies is intrinsically a social concern: “publics are increasingly formed around future things: those objects or events that we reasonably believe will appear or occur but have yet to do so.”²⁶ To support this claim, Le Dantec and DiSalvo give the example of GMOs, for which groups formed long before GMOs were a thing to debate their development. This framing is also valuable because it promotes imagining *future* end-users as present stakeholders. For developers, this can lead to “creating socio-technical resources that intentionally enable adoption and appropriation beyond the initial scope of the design.”²⁷ For us, this will better prepare us to relate PD to its downstream effects.

From this perspective of a “public,” let’s clarify our context by working through successive

²⁴Le Dantec and DiSalvo, paraphrasing Dewey’s *The Public and Its Problems*

²⁵Bartlett, Lesley and Frances Vavrus. *Rethinking Case Study Research: A Comparative Approach*. Routledge. 2014.

²⁶Le Dantec and DiSalvo.

²⁷*id*

examples, asking in each, is it *bad* if the developers (“ACME”) provide the community (“Townsville”) no meaningful influence on the design of the technology in question.

Case 1 (Stop Light): *ACME is developing Automated License Plate Readers to be installed at stop lights in Townsville.*²⁸

In Stop Lights, ACME is accountable to the local government, which is accountable to the residents of Townsville. These residents have no meaningful choice to use or not use the stop lights: One cannot be expected to take their daily commutes, grocery shopping, and emergency trips on foot just because they disagree with new designs of unavoidable technologies on the roadway. So, yes, here it would be bad for Townsville to have no input into the design of these devices. Otherwise, it is likely that this design will be at the unnecessary expense of their autonomy and privacy. But while these values are important, they have received many accounts elsewhere, and their salience here obscures the value that we are trying to drill down to: What is PD *itself* getting at? In Stop Lights, it is still conceivable that the salient values protected by PD could be just as well protected by non-PD means. If one’s intuition says that PD would still be valuable, then Stop Lights does us no good to drill down into why.

Case 2 (Public Transportation): *ACME is developing Aggression Detectors to be installed on subways and buses in Townsville.*²⁹

In Public Transportation, unlike Stop Lights, the new design is conceivably avoidable. However, one still might not have meaningful choice about the use of these technologies: Many living in Townsville could be beholden to using public transportation to get to work, to the grocery, or to doctor’s visits, so, *for them*, there is no choice. So, while it would be bad for Townsville to have no influence here, the issue is the same as before: It does us no good for drilling down into why PD matters.

Case 3 (Self-Driving Taxi): *ACME is developing Self-Driving Taxis which will operate on a limited set of major roads in*

²⁸*cf* Neal v. Fairfax County Police Department. 2019.

²⁹*cf* Gillum, Jack and Jeff Kao. “Aggression Detectors: The Unproven, Invasive Surveillance Technology Schools Are Using to Monitor Students.” *ProPublica*. June 25, 2019.

Townsville.^{30 31}

In Self-Driving Taxi, it is conceivable that for several years the technology will be gaining popular favor, and so during that initial period proportionately few residents of Townsville would opt into this new technology. However, no one in Townsville has a meaningful choice about being a pedestrian or being a driver on the new roadways—roadways now inhabited by autonomous vehicles. As in Stop Lights and Public Transportation, the conclusions are the same.

Case 4 (City Map): *ACME is developing an educational smart phone app telling users nearby history and facts about Townsville.*³²
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In City Map, all members of Townsville have choice in using the smart phone app to contribute to the local history project, to read from their local history, and/or to moderate that history. Townsville has no say in those *outside* Townsville using the app. It might not sit well with our intuitions to imagine outsiders using the app like voyeurs or gossip-spreaders. But it still might not be *bad* that ACME gives Townsville no influence on the app’s design: Townsville just might not *care* about community history. So, unlike Cases 1–3, in City Map it is *not* bad, until we learn more, that PD is not used.

Case 5 (Tribal Lands Map): *ACME is developing an educational smart phone app telling users nearby history and facts about Townsville, an indigenous sovereignty.*³⁴

In Tribal Lands Map, like City Map, Townsville has choice in their own use of the app. However, unlike City Map, tribal governments have protected human and political rights recognized by the US and the UN, and the indigenous data sovereignty advocacy movement claims “tribal governments have a *powerful interest* in the participatory design”

³⁰ *cf* Awad, Edmond, et al. “The Moral Machine Experiment.” *Nature* 563. 2018.

³¹ *cf* BBC News. “Uber self-driving cars allowed back on California roads.” February 5, 2020.

³² *cf* the New York Public Library’s Community Oral History Project; University of Washington’s Tacoma Community History Project; UW-Madison’s LGBTQ Archive; and the University of New Orleans’s partnered Neighborhood Story Project.

³³ *cf* Le Dantec and DiSalvo.

³⁴ *cf* Tsosie, Rebecca. “Tribal Data Governance and Informational Privacy: Constructing ‘Indigenous Data Sovereignty.’” *Mont. L. Rev.* 80. 2019.

of technologies related to “the collection and use of data about the community and its members.”³⁵ So although Townsville still might not care about the app in question, we cannot make this assumption like we did in City Map without risking burden to Townsville’s political rights. But, it is also now feasible that Townsville could have political influence on this use of protected tribal information outside of PD. So, like City Map, in Tribal Lands Map it is not bad that ACME *provides* Townsville with no influence; The difference is why: Here, Townsville *already has* relevant influence outside of PD.

Case 6 (Allied Map): *ACME is developing an educational smart phone app telling users nearby history and facts about Townsville, a poor and underrepresented community.*³⁶

In Allied Map, our final case, Townsville *has choice* to use the app, just as in Cases 4–5. Townsville, like in Tribal Lands Map, might have a *powerful interest* in the app, since through the telling of their local histories Townsville could garner strong, outside political support for issues of local concern. But unlike Tribal Lands Map, Townsville now *has no influence outside of PD*, since local communities, even if comprised of ethnic or religious groups, have no political rights, even if they have recognized human rights.³⁷ So, because Townsville (i) has choice, (ii) has a powerful interest, and (iii) has no influence outside of PD I argue that, like Cases 1–3, in Allied Map it would be *bad* for ACME to provide Townsville with no influence, but, unlike Cases 1–3, the features of this case do not obscure the values that PD *itself* is promoting.

Therefore, the context I continue from in section 3.3 has these qualities:

1. It is a community context, not a workplace context. Unlike the workplace context, developers have no obligation towards PD, even if PD confers a moral good.^{38 39}
2. A community in question is defined by shared issues, not by physical space. This allows

³⁵*id.*, my emphasis

³⁶*cf* Le Dantec and DiSalvo.

³⁷Tsosie.

³⁸Light, Ann and Yoko Akama. “Structuring Future Social Relations: The Politics of Care in Participatory Practice.” *Proceedings Participatory Design Conference*. Windhoek, Namibia. 2014.

³⁹Friedman.

us to imagine community groups in formation around future technologies.⁴⁰

3. A community in question should have meaningful choice in the use of the technology in question. Otherwise, while PD would promote well-recognized values, non-PD means could promote those same values, and cases lacking choice obscure what PD *itself* would be adding.
4. A community in question should have a powerful interest in the future sociotechnical system around that technology. Otherwise, PD's benefits might not outweigh its costs in favor of PD over a non-PD alternative.
5. A community in question should have no meaningful influence on the design of technical infrastructure of that sociotechnical system, outside of the influence provided them by the developers. Otherwise, PD itself would be redundant or moot, and a cheaper or faster non-PD method might be preferred.

3.2 Antagonism

“Antagonism,” a non-lay use of the term, is a felt phenomenon of language.⁴¹ Language allows us to articulate our experiences, but language is shared and can preclude and presume experiences. When we encounter these limits, and we crave to overcome them, we experience “antagonism.” After giving a longer account of these concepts, I walk through an example.

The PD literature, considering contexts similar to mine above, has recognized the importance of co-articulation of issues between developers and end-users,⁴² meaningful construction of one's own identity,⁴³ and collective knowledges as the way forward for effective, situated technologies.⁴⁴ But in none of these accounts is the *moral work* made clear that's being done by “co-articulation” or similar terms. On the one hand, articulation is given as

⁴⁰Le Dantec and DiSalvo.

⁴¹Leclau, Ernesto and Chantal Mouffe. *Hegemony and Socialist Strategy: Towards a Radical Democratic Politics*. 2nd ed. Verso. 2014.

⁴²Light and Akama.

⁴³Friedman.

⁴⁴Suchman, Lucy. “Located Accountabilities in Technology Production.” 2003. <https://www.lancaster.ac.uk/fass/resources/sociology-online-papers/papers/suchman-located-accountabilities.pdf>

the morally relevant quality of participation; On the other, participation is hedged as not a panacea.⁴⁵ So then why should we care about articulation at all? To be clear, I agree with these accounts; But their conclusions regarding articulation leave us no clear advice about why PD *itself* is the right way to promote it. To get at this, let's begin from an account of language and experience.

Life is messy. Language enables us to express our experiences, to validate our experiences with others, and to find new, right words for those feelings.⁴⁶ Language makes expressing some sets of experiences easy and others difficult, since the words don't exist for it yet, and when they do, language is only approximate to reality.⁴⁷ So we do our best with what we have, communicating vaguely or with metaphors.⁴⁸ Language gives us agency to “get at” something outside of language. And some metaphors are so effective at getting at the right things that we appropriate them from each other, putting them consciously or accidentally into new contexts. As a result, language—words, phrases, rhetorical forms, symbolic gestures, folk stories, the lot of it—“builds up” messy meanings over time, turning, we might imagine, into hills pointing upward towards grander human motives.⁴⁹ Morrison proclaims, of those who have successfully articulated an experience outside the literary imagination, “How stunning is the achievement [that they] have searched for and mined a shareable language for the words to say it.”⁵⁰ “Mining” seems like the right metaphor for articulation: cutting at the hills of meaning already built up, then building upon them again, to get at some experience, an experience that wasn't missing from the shared consciousness, but was missing the ready words to say it.

But shared language comes from others with no confident insight or patience into your

⁴⁵Gerdes.

⁴⁶Beeby, Laura. “A Critique of Hermeneutical Injustice.” *Proceedings of the Aristotelian Society* 111. 2011. Beeby gives the example of Carmita Wood validating her experiences with her female co-workers, leading to the creation of the term “sexual harassment,” as opposed to the earlier “lacking a sense of humor.”

⁴⁷Laclau and Mouffe. *cf* their sections on hegemony.

⁴⁸*cf* generally Wittgenstein.

⁴⁹Burke, Kenneth. *A Rhetoric of Motives*. University of California Press. 1969.

⁵⁰Morrison, Toni. *Playing in the Dark: Whiteness and the Literary Imagination*. Vintage. 1993.

particular experiences.⁵¹ Language, “sometimes sinister, frequently lazy,”⁵² *pre-figures* our experiences.⁵³ Ready words—in political rhetoric, in the literary imagination, and so on—can *presume* shared experiences of peoples it groups together.⁵⁴ Equally, they can *preclude* experiences, the messy hills of one’s own lived experience cut into clean lines until it tells a different story.⁵⁵ Language empowers us to act, and we can deploy ready words that, consciously or accidentally or just following our professional training, pre-figure “the world in such a way as to make [ourselves] indispensable to it and then discuss [our sense of] obligation to intervene.”⁵⁶ All the while, others may be unable to effectively challenge the way we pre-figure important issues:⁵⁷ We are in a position to say what counts and embed those assumptions into policies or technical designs or so on, and those affected by such assumptions are not. And so, shared languages over time begin to favor pre-figurations that give those with articulatory influence continued agency to ask for more articulatory influence,⁵⁸ even if the actual lived experiences of all parties are made harder to articulate as a result, where victims and abusers alike go on to lack the proper language to articulate their abuses.⁵⁹

Articulation and pre-figuring are theoretical phenomena of language no matter the critical framework we choose to name them. But Laclau and Mouffe’s conception has an important turn: that pre-figuring can be experienced, that this experience both feels frustrating and is politically motivating, and the name they give this experience is *antagonism*. A pre-figuration—by presuming that I do experience *x* and precluding that I have experienced

⁵¹Be it others from other walks of life or others from other periods of time whose language we’re still using.

⁵²*id*

⁵³Laclau and Mouffe.

⁵⁴*id*. This presumption/preclusion is Laclau and Mouffe’s “dual void” concept. The idea of clean lines telling a different story is their concept of hegemony as, in part, a “particular” articulation that presumes itself a “totality” of experience.

⁵⁵*id*

⁵⁶Suchman, discussing “design from nowhere” and “detached intimacy.” Her very next sentence is that “[a]t the same time, the creation of this world is not fully under designers’ control,” which aligns with the last point in my paragraph here, from Beeby.

⁵⁷*id*

⁵⁸Laclau and Mouffe.

⁵⁹Beeby.

y—creates an “Other” in the imagination brought about by our shared language, the closest fictional version of myself that is communicable by being less strange than reality.⁶⁰ And as I engage with others, or as I try to understand myself, my Other may do a very good job: it “gets at” what it needs to get at.⁶¹ It is the ready words that I and others may use to talk about me and my messy life. But at some point, I experience its limits: There is *something*, something bugging me in the back of my mind, something my gut says is missing, a longing, a something that exists in the shared consciousness but that my ready words can’t draw out quite right, leaving me with the only immediate option to give up politically on my sadly amorphous concerns.⁶² It’s like the evidence is not in front of my eyes; It’s stuck on the tip of my tongue. Antagonism does not mean that I can’t find the right word—that’s aphasia—, but that (i) *I lack the relevant articulatory power, ie*, I am unable to make clear political asks on my concerns; and (ii) *I crave it*.⁶³ Coming at the same idea, Fricker defines “hermeneutic injustice” as when those who have been abused are unable to contribute to the shared stock of meanings around their abuse.⁶⁴ However, Beeby, in her critique of Fricker, argues instead that what “hermeneutic injustice” should be getting at is separate from systems of abuse: a right to “epistemic goods and skills,” which systems of abuse, *among other things*, might burden. And so, yes, “[h]ow stunning is the achievement,”⁶⁵ not just to mine for the right words, but to mine for the right words while under the burden of the *wrong* words—embedded in the imaginations of policies, technical designs, and so on—, which keep making themselves easy to say but never get you closer to communicating what is right.

To illustrate this account on language and experience, I have annotated the following literary example in which an interviewer asks an interviewee to say her story again, but with

⁶⁰*id.*

⁶¹*id.* They refer to the imagination necessary to engage with others and to understand my own experiences as “the social.”

⁶²*id.*

⁶³*cf* Jones, Nasir et al. “Wrote My Way Out.” *The Hamilton Mixtape*. Atlantic Records. 2016. In particular, “No political power, just lyrical power.”

⁶⁴Beeby.

⁶⁵Morrison.

different words:

[T]his new *Tales* dwells on the evolution of what it means to be queer (and queer friendly) in the 21st century. Perhaps the most telling exchange happens between Claire. . . and an unnamed minor character, a butch woman who, [(a)] during her filmed interview, describes growing up in the kind of small town that’s “known for two things: peanuts and evangelists.” What saved her life, she maintains, was the “little gay bar” her “dyke PE teacher” told her about. “You know the gays have always made spaces for the freaks and weirdos,” she goes on. [(b)] Claire stops the camera and asks the woman to repeat the speech, replacing “freaks” and “weirdos”—unacceptably “judgy words”—with “marginalized outsiders.” [(c)] “How about I say ‘Go fuck yourself?’” is the woman’s reply before she stalks away.⁶⁶

Here, (a) Butch gives a very personal account of her experiences with the gay bar. To do this, she uses the terms “dyke,” “gays,” “freaks,” and “weirdos.” These terms are *extremely* negative out of context, but the way she tells her story they are terms of endearment. These dykes, gays, freaks, and weirdos are her closest friends and characters that we the audience have come to love. For us and Butch, these terms have been built up around by new, positive experiences, “getting at” a queer kind of love that may have been hard to get at otherwise. But then, (b) Claire re-articulates Butch’s story with the term “marginalized outsiders.” While this term gets at the same group of people, it presumes a uniformity that doesn’t exist in Butch’s story, and it precludes all the positive experiences that Butch has had with those terms here at the gay bar. Because (c) Claire is the one behind the camera, she is the one with final articulatory power. Claire can make editorial decisions in her own interest, such as choosing what content to cut from her film and what juxtapositions to make between all the clips she has recorded. The term that Claire has chosen, “marginalized outsiders,” also carries with it the weight of Academia. It has an *ethos* and apparent “correctness” that Butch’s terms do not. Butch has articulatory power, but only in her local context. She does not have the same articulatory power that Claire does to reach a wider audience. Butch takes it as an insult that Claire is inserting different terms into the story, as opposed to using the

⁶⁶Miller, Laura. “My Tales of the City.” *Slate*. 2019.

camera to elevate Butch’s own articulation. But it is not clear, to us or Butch, that Claire is *wrong*. Perhaps Butch’s terms *are* overly judgy for a wider audience. Perhaps Claire’s edits, as insulting as they are now, might confer greater political benefits to the community later. And this is Butch’s antagonism: that she cannot (without tremendous labor) have a wide audience and also get at the same positive, queer experiences that her every being says is important to value.

3.3 PD Eases Antagonism

Having defined my context and my theory, I argue:

1. A community has a powerful interest in a future sociotechnical system
2. They have no influence on the design of technical infrastructure of that system
3. Technological designs embed the pre-figured assumptions of the designers
4. In virtue of (1) and (3), the community will encounter the limits of those pre-figured assumptions, *ie*, where due to those assumptions the sociotechnical system affords them some limited or inaccurate ability to fulfill some important quality, in the shared consciousness but lacking the ready words to define, that they nonetheless have a powerful interest in
5. In virtue of (2), the community lacks articulatory power to rectify (4)
6. Alienation from articulatory power leads to alienation from political power
7. In virtue of (4), (5), and (6), the sociotechnical system will cause morally relevant distress to members of the community, in that they will experience antagonism
8. Antagonism is a phenomenon of language, *ie*, everyone experiences antagonism in their life
9. PD would provide the community “epistemic goods and skills”⁶⁷ meaningful in light of (1)
10. Even given (8), in virtue of (9), PD eases (2), which eases (5), which eases (7), *ie*, PD

⁶⁷Beeby.

eases antagonism

In a community context, PD allows community members and developers to co-articulate issues important for the design of ethical technologies.^{68 69 70} But just letting end-users voice concerns does not guarantee a design that is sensitive to the right values: Designers who make the last articulation of issues to embed in the technology still need workable guidelines for how to balance values when groups within the end-users conflict.⁷¹ And facilitating good participation can be too costly:⁷² A non-participatory alternative to the design might arrive at the same benefits sooner or with less burden. However, balancing values and end results are not all that matters: *We should not be alienated from articulatory power.* And so this is what PD gets at: More than giving end-users influence on the design, PD gives them influence on the design *within* a shared end-user/developer context. This context provides the community a setting in which they can articulate their own lived experiences. It empowers and validates those articulations with affordances actually embedded in the design. And it vests the community in the future technology that they have an interest in.

4 Related Contexts

Communities and developers may nonetheless choose to forego PD when the community is already able to “get at” the qualities important to their powerful interests, or when PD itself might bring further harm to the community. Finally, this account of PD is similar to “value alignment” in AI ethics literature,⁷³ except for the difference that this account is grounded on articulatory power that can be burdened by, among other things, systems of abuse.

⁶⁸Light and Akama.

⁶⁹Friedman.

⁷⁰Suchman.

⁷¹Gerdes.

⁷²Te Kulve, Haico and Arie Rip. “Constructing Productive Engagement: Pre-engagement Tools for Emerging Technologies.” *Science Engineering Ethics*. 2011.

⁷³Soares, Nate and Benya Fallenstein. “Agent Foundations for Aligning Machine Intelligence with Human Interests: A Technical Research Agenda.” *The Technological Singularity: Managing the Journey*. Springer. 2017

Case 7 (Allied Map with Ethicist): *ACME is developing an educational smart phone app telling users nearby history and facts about Townsville, a poor and underrepresented community. ACME has an ethicist on their team.*^{74 75}

In Allied Map with Ethicist, the features are similar to Allied Map: Townsville has choice in using the app, they might have a powerful interest in the app, and they have no influence outside of PD on the app. However, here it is conceivable that a well-equipped and uninhibited ethicist on ACME's team could limit the app from harming or burdening the community's rights. With PD, ACME might help rectify, to some extent, Townsville's alienation from articulatory power; Without PD, ACME would just responsibly deliver, sooner or for less, an app that Townsville has a powerful interest in. So ACME's ethicist, who knows no more than we do, might order these two options based on how their ethical framework treats duties to help others and how it frames autonomy. If we have a duty to help others and if autonomy includes being able to meaningfully articulate our concerns, then ACME's ethicist would not choose to forego PD.

Case 8 (Allied Map with Newsletter): *ACME is developing an educational smart phone app telling users nearby history and facts about Townsville, a poor and underrepresented community. Townsville has an popular newsletter.*

In Allied Map with Newsletter, the salient difference from Cases 7 and 8 is Townsville relationship to the sociotechnical system and powerful interest in question. As in Cases 7 and 8, Townsville has choice in using the app. Here, they *do* have a powerful interest in the sociotechnical system, as evident from their current investment in their newsletter. And they have no influence on the new sociotechnical system that the app would create. However, here, Townsville is not lacking articulatory power. Their current sociotechnical system *already* gives them access to their powerful interest. Yes, it may be that ACME's app would provide them *better* access to that interest. But the affordances given by PD *itself*

⁷⁴*cf* Feng, Patrick. "Rethinking Technology, Revitalizing Ethics: Overcoming Barriers to Ethical Design." *Science and Engineering Ethics* 6(2). 2000.

⁷⁵*cf* Shilton, Katie. "Values Levers: Building Ethics into Design." *Science, Technology, and Human Values* 38(3). 2012.

in this case would not help Townsville towards that interest. It's the *app* that does that. So, ACME could forego PD, and it would still be conceivable that their app, if responsibly done and iterated for improvements, would help Townsville towards their interests, just as well as PD would have, and it would do so quicker and with less burden.

Case 9 (Overbearing Map): *ACME is developing an educational smart phone app telling users nearby history and facts about Townsville, an orphanage with overbearing caretakers.*

In Overbearing Map, as in Allied Map, Townsville would have choice in using the app, they would have powerful interest, and they would have no influence outside of PD. And unlike Allied Map with Newsletter, PD itself *would* help the community towards that goal. However, here, like in the Quesenbery nurse example,⁷⁶ it is conceivable that PD itself would *harm* the community by subjecting the participants (the orphans) to stress from participating with ACME under the overbearing criticism of their caretakers. How one weighs between these values, like in Allied Map with Ethicist, depends on one's ethical framework.

Related to Case 9, there are cases where PD would just be symbolic. Symbolic uses of PD would remove any benefits to Townsville that PD *itself* would bring. Not only would it be conceivable that a non-PD alternative would confer the technology's benefits sooner or with less burden, but ACME could use this symbolic PD to obscure their own responsibilities in the app design.⁷⁷ Further, ACME could use this symbolic PD to, inadvertently or purposefully, influence the community's decisions about using the technology, or other products and services, in ACME's own best interest.⁷⁸

Finally, my account on PD's importance is similar to discussions of "value alignment" in AI literature.⁷⁹ In both accounts, the goal is for the technology to align with real human interests. In PD, the worry is that the technology would be at the expense of the end-

⁷⁶Friedman.

⁷⁷Rubel, Alan et al. "Agency Laundering and Information Technologies." *Ethical Theory and Moral Practice*. 2019.

⁷⁸Romero-Masters, Philip. Personal Correspondence. 2020. In particular, we were discussing operating system vendors using "fear appeals" to coerce end-users to take certain security-related actions. These could be in the end-users' best interest, but it can still be paternalistic and in the vendors' best interest.

⁷⁹Soares and Fallenstein.

user’s best interest, in favor of the developer’s best interest, or in the workplace context, the management’s best interest. In AI, the worry is that the technology would be at the expense of communities of humans’ best interest, whether or not they are end-users or have been directly affected by the technology, in favor of the AI’s creator, the AI’s owner, or, in the existential case, no one. However, the difference between the antagonism account and the value alignment account is (4) in section 3.3. The antagonism account is grounded in who has and does not have power to put into ready words what is already in the shared consciousness, and then to make political asks from that articulation. In the *Tales of the City* example at the end of section 3.2, Butch and Claire *may* be aligned in the values that matter. They are in the same local queer community, they have many of the same friends, and they are both in a project of putting into words what is important about the gay bar. The antagonism account draws out the moral relevance of the insulted feeling at the end of the example: Claire has political power, Butch does not, and Claire’s interaction with Butch, even if they share the same values, insults what power Butch does have, instead of bolstering it.

5 Conclusion

More often than not, we develop technologies for groups of end-users who will have a choice to adopt our designs. If our design fails to “catch on,” then the only ones harmed are ourselves for having invested time and money into the enterprise. Involving end-users in the design process can improve the usefulness and adoption of our technology. However, we still might choose to forego PD, since non-PD, done well, might reach the same results, such as through gathering end-user feedback on iterated designs; And non-PD might impose lower burdens to get there, since facilitating good participation can be prohibitively difficult. Still, beyond usefulness and adoption rates, PD’s participation promotes co-articulation of concerns, and it does it in a way that increases the group of end-users’ articulatory power to “get at” their

powerful interests.