

RESEARCH ARTICLE

Endings and ends of invited participation: Learning from the end-users of Furuset

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ABSTRACT

User participation has become a cornerstone of both technology development and sustainability policy, driven by democratic ideals and pragmatic hopes that inclusion will ease adoption. But in an age when users are constantly "activated" - invited to contribute, share, and engage across platforms and programs - are assumptions about participation being desired and embraced by citizens still valid? This article examines three encounters with residents of Furuset, a stigmatised neighbourhood in Oslo, during a failed attempt to co-design a sustainable technology intervention. Drug users responded with eager compliance; youth met the researchers with ironic sarcasm; elderly residents refused outright. Drawing on Sedgwick's concepts of paranoid and reparative reading alongside recent work on the 'new production of users', we treat these varied responses symmetrically – analysing refusal with the same tools as acceptance. We find that users inhabit a repertoire of affective positions shaped by prior experiences of being researched, activated, and sometimes exploited. For participatory sustainability research, this means that enthusiasm cannot be presumed: the conditions under which people will genuinely engage must themselves become objects of inquiry.

Keywords participation · sustainability · urban planning · climate change mitigation

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Introduction

To do research on technology use and to involve users in technology development are two different activities, but there is considerable overlap. After all, users have to be involved in the research - at least as informants - and the expertise gained in research will benefit the involvement and vice versa. Moreover, in many cases we see a normative commitment among both researchers and researched, where the assumption that users are involved is somehow better - for the users, for the technology, for society, etc - produces a need to actually do, not only to study user participation.

At the core of this article, there are three empirical encounters that forced us to abandon our implicit assumptions of at least seemingly being in a fundamental agreement with our informants about democracy in the context of sustainability. We encountered strong, negative affects in the field, which caught us off guard, and ultimately we had to abandon our plan to co-create a transformative experiment with the local citizens. The whole episode made us rethink our previous work studying and doing user involvement in sustainable technology, and this article is the outcome of this work.

To come to grips with our experiences, we mobilise both methodological and theoretical instruments. In terms of method, extending Chilvers & Kearnes's (2015) call to approach participation as emergent, we experiment with a symmetric position in which commitments to participation are explained with the same theoretical tools as its refusal. As such, what follows is an account of what can be learned after the symmetric position has been assumed. We will return to the question of symmetry, in the methods section. In terms of theory, we start with retracing the origins of normative commitments to democracy in user research with a focus on science and technology studies (STS). Following the trajectory of this research tradition, we encounter a growing interest in instances where the active participation of users is encouraged, expected, and exploited in technological systems (Hyysalo et al., 2016). Prompted by the strong negative affects encountered, in the next step we interrogate the literature Thrift (2004) whether affects related to users being activated in the 'new production of users' (Hyysalo et al., 2016) could be related to our experiences. This focus on affects, framed as affective positions of activated users, then, is our proposal of which mechanisms underlie both acceptance and resistance against the invitation to become a participant in sustainable technology development.

After an episode of failed fieldwork, the first reflex is to ask for technical fixes. Could we have prepared better, did make the citizens of Furuset angry through something and how could this be avoided? However, if the ultimate goal of user participation is to extend the users' agency, their refusal to become part of a user participation process is obviously not only perfectly legitimate but in certain situations it might even be a desirable outcome. Here we treat it as an event that provides insight into participation in the context of sustainable change.

Based on the empirical encounter and the theoretical tools mobilised, we ask the following two research questions:

- (1) What does a symmetrical analysis of user participation reveal about agency in the context of the "new production of users"?
- (2) What are the implications for participatory approaches to sustainable technology development?

The discovery of active users in STS

In the beginning, there was a concern about what science and technology do to society. An early and influential representative of this is Jacques Ellul's description of technology as more than just the machines but rather as part of a 'technique', defined as "the totality of methods rationally arrived at and having absolute efficiency (for a given stage of development) in every field of human activity" (Ellul, 1967: xxvi). The specific concerns described by Ellul are unemployment because of automation, unacceptable control, and change that is too radical (Ellul, 1967: 433) - concerns that seem very contemporary. Strongly influenced by Ellul, Winner (1978), a decade later, raised as well the alarm about technology becoming uncontrolled and autonomous. He argued that 'technological drift', i.e., uncertainty and unintended consequences, cannot be controlled by passive regulation of the worst problems. Instead, he called first for an analysis of the role of 'technics' in society which includes a critique of the technological imperative and the forms of technology, and then for democratic control opened "to those destined to experience the final products and full range of social consequences" (Winner, 1978: 326), with other words: the users should democratically control the technologies.

A second origin of user research in STS was rooted in concerns about what specific technologies do in a work context. Labor unions played an important role here, most prominently and already in the 1960s in the Scandinavian context. In the Norwegian Industry Democracy Programme, for instance, the workers were supposed to receive more control over their work environment, which included control over how the machines are influencing their work (Sørensen, 1998). The Dutch 'science shops' of the 1970s, another origin of STS user research, collaborated with trade unions as well (Leydesdorff & Besselaar, 1987: 141). With computers entering the factories and offices in the 1980s, this new wave of innovation became the major concern in relation to what technology does to (working) users and one of the origin of what today is known as participatory design (Bjerknes et al., 1987).

In the 1980s and 90s we see an extension of user research to cover broader slices of everyday life. To the extent that households in affluent societies started to own a broader set of technologies, the question arose what specific technologies, e.g., TVs, do to their users also outside of the work place. Where the early critiques of ‘technics’ and its alleged autonomy were about the technological systems in an abstract way, now specific technology-user interactions could be interrogated. In STS, this led to an empirical turn towards the user, strongly aided by theoretical developments that theorised further what Winner had discussed as uncertainty and unintended consequences. The most influential of these approaches that directed attention towards what people do with technology - turning around the fear regarding what technology does to people - was SCOT’s ‘relevant social groups’ (Bijker et al., 1989), which according to the theory due to technology’s ‘interpretative flexibility’ could profoundly influence technological trajectories.

What the empirical studies of technology both in work and in other domains of daily life found was indeed interpretative flexibility in configurations of humans and machines (Suchman, 1987), invisible work done to keep infrastructures running (Star & Strauss, 1999), and user agency in everyday life (Lie & Sørensen, 1996). What these studies showed was that users mattered because they were able to negotiate not only what the technology did to them, but also more broadly what the technology did.

User participation in innovation

The discovery of agency among users fitted well together with older calls for their active inclusion in technology development that we have met in the beginning of the previous section. If users mattered and could influence or even interrupt technological trajectories, their inclusion could be said to not only be normative in the sense of democratic control over technological autonomy: it became a reasonable move if one wanted that technologies worked as intended by their developers. This pragmatic argument was spearheaded and presented in its purest form in the then nascent discipline of design research where the hope was that a ‘design logic’ could be aligned with a ‘user logic’, which mattered for the eventual adoption of the design (Norman, 1983). Around the same time and in the same way largely without references to normative commitments, based on empirical studies of various innovation processes Hippel (1988) found that users were a valuable source of innovation.

In STS, the pragmatic arguments put forward by design and innovation researchers were in most cases combined with the older democratic commitments to protect users from being forced into user roles that are implicated by technological design (Oudshoorn & Pinch, 2003: 6-7), which is how the pragmatic and the normative motivation came together. In a reversal of concerns voiced today that user participation might slow down the adaptation of sustainable technology (Skjølsvold & Coenen, 2021), early STS end-user studies assumed that the inclusion of users’ perspectives and priorities would accelerate its uptake (Rohracher & Ornetzeder, 2002; e.g., Wilk & Wilhite, 1985).

Both normative and pragmatic reasons for involving users in technology development rest on the assumption that there is such a thing as ‘the user’, i.e., that users as a group exist and do matter. Rohracher (2003), in the introduction to a collection about ‘user participation in innovation processes’, interrogated these assumptions: he asked to which degree users actually do have an influence on innovation, reminding the reader that this influence will be performed in social negotiations with other groups. Moreover, he discussed critically the question of whether users are one group, which raised the question of who should and could represent users (Rohracher, 2003: 75). In light of these caveats, the idea that user participation would dissolve active or passive resistance and at the same time perform inclusive and democratic technology development, appears not only as over-optimistic but also as expression of a specific version of how democratic participation is conceived in the sense of Chilvers & Kearnes (2015). In the very moment when users are potential opponents of sustainable change or are seen as heterogeneous, the participation of users in sustainable change becomes highly contentious.

In the words of Chilvers & Kearnes (2015) the optimistic references to users in early user studies were a form of ‘residualist realism’, where ‘use’ was essentialised as performance of participation. In the next section we will present a perspective on use as something which emerges from specific encounters between user and used technology, which are situated in a broader context of how society and technology relate to each other.

A new production of users

As everyone, who has reached a certain age can confirm, the technological landscape has changed considerably since the early 1990s. That virtually everyone now carries a device with them, which is always connected, and which would have been qualified as a supercomputer in the 1990s, is only the most visible example of the profound changes in technology use. With digitalisation came accelerating product cycles, and a quantitative increase of technology use, in terms of hours spent or the number of screens owned, and with completely new product categories entering everyday life. But has this quantitative change also been accompanied by qualitatively new, emergent effects of technology use as participation? The short answer is: ‘yes’.

The advent of activated and advocated users

The long answer: In 2016, approximately one decade after Facebook and YouTube became publicly available, an influential edited collection of articles discussed what it called a new production of users. Explicitly referring to the kind of user research, which was introduced in the previous section, in their introduction the editors start with the historical birth of the user as distinct group in the early 20th Century. With production and consumption being temporally and spatially more and more separated, the connection between became a problem which was solved through the new discipline of consumer research (Hyysalo et al., 2016: 5). In light of this problem, the development described in the previous section, appears as another step towards a solution, where the users and what they do are asked to reveal their needs and wishes for the benefit of increasing the chances for successful innovation. However, as it ripples through society, a focus on ‘activating and advocating users’ (Hyysalo et al., 2016: 9), has produced new relations between users and technology, which go beyond just closing the knowledge gap between production and consumption. Hyysalo and his colleagues (2016) call this the new production of users, where ‘active users and strategizing managers operate and produce in a landscape where the methods and resources for engagement are widely available’ (Hyysalo et al., 2016: 4).

In the new relation between what Hyysalo et al. (2016) called managers and users, the cognitive, symbolic, and practical efforts (Sørensen et al., 2000) of users still remain committed to the kind of moralising reflexivity that was described in classic user studies (Silverstone, 2006). However, there is a qualitative shift from performing the active user role on the basis of one own’s critical reflection to being activated. The litmus test here is how easily the users can refuse to perform their role. Is non-use seen as a legitimate result of the users’ negotiations (Wyatt et al., 2002)? In the new production whole classes of technology cannot be used any longer without the users’ active contribution. In this context, it does not matter whether the contribution is extracted willingly or through all kinds of ‘strategizing’ on the side of the ‘managers’ (Hyysalo et al., 2016: 4), including the data harvesting of surveillance capitalism (Zuboff, 2019). In these new dependencies we are not looking at active appropriation of devices any longer, where technologies are domesticated (Lie & Sørensen, 1996), and which can result in users choosing to exit, but rather at infrastructural dependencies, which are defined through their relative invisibility in use (Star & Ruhleder, 1996) and where refusal is connected to sanctions that comprise societal exclusion (Plantin et al., 2018).

New production everywhere

The strategic exploitation of the new production of users, whose contours became just visible in the mid 2010s, is the result of a confluence of many developments. Above all, innovation strategies enabled by and prefigured on digital platforms address and nurture the active user as a resource to be exploited. Today, a decade later, the

economic, social, and cultural effects of the new production of users are much more visible, be it in the so-called Gig work (e.g., Uber), sharing economies (e.g., Airbnb), platform economies (e.g., YouTube, TikTok), and so-called ‘user generated content’ in general. In the course of an ever-expanding digitalisation, these sectors have inspired the introduction of interactive elements into all kinds of services, encouraging the user of consumer goods to register and subscribe, give feedback and to consent to the harvesting of detailed usage data.

With the ongoing evolution of the new production of users, a new round of concerns for what technologies do to users commences. Indeed, Bakardjieva (2023), earlier a proponent of user studies of the kind that was introduced above, asks now where the active users went, concluding that ‘the resistances driven by the moral economy of the household are no match to the Big Other’ (Bakardjieva, 2023: 262). With this she refers to Zuboff’s term for the subject of surveillance capitalism, which among others relies on ‘personalisation and customisation’ as instrument of control (Zuboff, 2015).

Whether surveillance-capitalism in fact degrades the user to a passive dupe - now even worse because the passivity is hidden behind frenetic activity - is ultimately an empirical question. Here, in the remainder of the article, the question is addressed, whether and how the new production of users changes the conditions for user participation.

Affective positions of activated users

A basic assumption motivating activation and advocacy also within STS is that people want to gain control over their environment and become more content individuals overall if this control is given. An activated individual within this view is likely to take more responsibility which creates a virtuous circle between activation and the activity of the user. In historical terms, this expectation relates back to emphatic support for freedom as universal goods which has its root in European philosophy at least since Spinoza’s definition of joy (*laetitia*) as result of an increase in the ability of act (Youpa, 2019). However, as enlightenment thinkers like Kant have stressed, freedom is to be able to follow the rules that were imposed by yourself, not by someone else. Opposed to this, the activation in the new production of users sets the rules of engagement both explicitly - for example through terms of use - and implicitly through controlling the technological infrastructure. In the context of the latter, Nigel Thrift (2004) reminds us that the influence of the ‘new production’ reaches further than just the individual use act. He argues that both politics and the performance of affects are more and more happening within technological frames, for example they are enacted through screens that are in front of or around citizens at any time. According to Thrift, this has two consequences: first, the performance of politics ‘conforms increasingly to norms of media presentation which emphasize the performance of emotion as being an index of credibility’ (Thrift 2004: 66). And second, the users that are surrounded by technologically mediated affective performances are routinely performing their own emotions through the same channels themselves, accepting the provided technological tools and their affordances.

Performed authenticity

Taylor (2022) has described performative authenticism as referring to the stylistic conventions ascribed to the authentic, which is ‘an aesthetic rooted in calibrated amateurism’ (Abidin, 2017). The degrees to which advocated and activated users’ amateur status is contrived will vary from case to case. We can, however, assume that being activated and advocated often enough, the practices become reflexive in a way that makes authenticity more than just an immediate reaction to new encounters. Thus, in a world where use has become the same as active use, naive amateurism can be expected to morph into performative authenticism. When activated users, then, ‘calibrate’ how far they want to become identical with their activation, the boundary between joining and refusing blurs. Consider for example the authentic presentation of joy in social media and how it morphs in something else: networking, job application, content, space for advertisement, etc. The users know about this and calibrate their performance accordingly. Indeed, the active users described in the new produc-

tion are supposed to bring their authentic selves to the table. This is built into the definition of ‘user’, which does not assume other contributory expertise than being yourself. Part of the interactional expertise (for the distinction between contributory and interactional expertise, see Collins & Evans 2002) needed to be part of the exchange, however, is that users understand the rules of their engagement and present themselves as authentic in the right way.

Playing the game

A second aspect of authenticity as performance described by Taylor (2022: 25f) is what he calls neoliberal authentic, which ‘equates productivity to self-actualisation’. In line with Bakardjieva (2023) who describes how surveillance-capitalism degrades the user to a passive roles, the notion of neoliberal authentic implies that exploitation is purposefully hidden behind a veil of activation and advocacy (Taylor 2022: 26).

However, from the perspective of the new production of users, it is difficult to imagine many situations in which the sustained work of activated and advocated users is made invisible without them noticing, reflecting on, and silently accepting. What is more, understanding how the medium of engagement actually works, is a precondition for succeeding on it. Thus, activated users cannot afford too many illusions about what it means to be a content producer or a gig worker and if they decide to ‘play the game’. With reaching a certain maturity, social media sites have in fact turned reflections on how they work made part of their content, for example by trying to explain success and what it does to those who are successful (Eaket, 2020), by meticulously analysing how the algorithms work (Munger, 2024), or by explicitly refusing to follow the alleged norms by projecting a less polished image of themselves as it became fashionable on Instagram in recent years.

Choosing how to ‘read’ the activation

For activated and advocated users, from the need to skillfully perform authenticity and the knowledge about how the apparatus works and insights in its exploitative logic, two possible courses of action are available: First, they can agree more or less with the inescapable logic of the apparatus (Munger, 2024). This would go beyond Taylor’s (2022) and Bakardjieva’s (2023) diagnosis of users being tricked into delivering their contributions as they in fact know what is going on, and embrace or ignore it actively. This enables them to be selective in their engagements and to calibrate the degree to which they let authenticity and engagement occur. Second, they can refuse and move on, and accept the penalty that is imposed on non-use in the new production of users.

When confronted with new offers of activation, be it new forms of self-expression in an invitation to a social network, the opportunity to give ‘important’ feedback to a service received, or the participation in technology development research, the user has to ‘read’ the situation for its potential benefits and costs to decide whether to engage and if so, how much. Main objective of such a ‘reading’ will be to avoid surprises later - e.g., that the promised benefit does not materialise. This is the main characteristic of what Eve Kosofsky Sedgwick (2003) has called ‘paranoid reading’. According to her, such a reading tends to be based on a ‘strong theory’ in the sense of being able to explain ‘everything’. In the case of the activated user, this would mean that all instances of activation are approached as well-known based on a ‘strong theory’ of activation which demands cautious distance. This kind of reading a situation corresponds, according to Sedgwick (2003), to a paranoid position in the sense of Melanie Klein’s psychoanalytical approach.

Method and background

The ‘advocated and activated’ user has been an integral part of hopes for sustainable innovation for many years, both within and outside the digital sphere. In line with the optimism of earlier user studies, giving users a voice was expected to reduce resistance against sustainable change. But we find also more specific examples of user activity in the the rise of online user groups that have significantly sped up the diffusion of sustainable

technologies (Hyysalo et al., 2018), in efforts to transform energy consumers into market participants as ‘prosumers’ of renewable energy (Korsnes & Throndsen, 2021), and in the potential relocation of infrastructural work into households in the ‘consumption work’ of the circular economy (Berker et al., 2025; Hobson et al., 2021). The empirical encounters that are presented in the next section were very much motivated by the hope that user participation would benefit both the users and contribute to sustainable development. However, we quickly had to realise that these hopes were not shared by our informants, which forced us to take a step back and to rethink our assumptions.

Symmetry regarding sustainable participation hopes

When actor-network theory following the argumentative structure of the strong programme proposed to treat human and non-human actors symmetrical, this enabled the study of how agency is distributed between these actors. A similar move is conducted here, where the rejection of participation in sustainable innovation is analysed with the same analytical tools as their acceptance or embrace. This approach is in contrast to studies that explicitly or implicitly are based on the assumption that when studying participation or sustainability, the opposites - e.g., authoritarianism and non-sustainability - are not on the table because they are produced by different mechanisms. However, if we treat eager participants in sustainable change as the desired outcome and resistant citizens as noise, method artifacts, obstacles, or deficits to be overcome, we are unable to understand how both positions can be produced in the same processes.

Above we have identified the mechanisms that produce the active user as ambivalent in which affective positions they produce: they may produce joy in the sense of an augmentation of what the user can do, but more often they demand more or less contrived authenticity and expose exploitative traits. Activated users, then, can either (partly) refuse or accept activation, and to be able to decide what to do to which degree and when, they read offers for activation in a paranoid way, i.e., with the assumption that they may very well be exploitative and have to be refused.

The case and its context

When Henrich et al. (2010) warned psychologists against the tendency to generalise the traits of WEIRD people (Western, Educated, Industrialised, Rich, Democratic), this abbreviation included the D for democratic. They do not really elaborate what they mean by this, but we can assume it includes some deeply-held expectations towards the political system one lives in and its institutions that indeed may introduce biases in research. A complementary critique regarding biases resulting from the one-sided focus on specific populations is contained in Eve Tuck’s letter to communities where she warns of a problematic theory of change implicit in much of what she calls damage-oriented research: ‘pain and loss are documented in order to obtain particular political or material gains’ (Tuck, 2009: 413) with the assumption that these gains engender positive change. This concern for what research on vulnerable groups does to their research objects, e.g., extracting data which can be used for control (Smith, 1999), echoes the call to study ‘up’ to avoid the abundant fieldwork on the poor where it is implausible that ‘the entirety of fieldwork does not depend upon a certain power relationship in favor of the anthropologist’ (Nader, 1972: 5).

The study, which produced the observations presented here, was affected by and had to deal with both traps: first, its context, a predominantly technical research centre which had as goal to implement zero-emission neighbourhoods in Norway, operated with an assumption that it would provide a solution to a big societal problem - climate change - and that everyone would be happy to be involved in the research. The centre operated some ten pilot sites, where the solutions would be tested and demonstrated. At these pilots, the authors of this article were tasked to establish living labs mainly in the service of the technology development, but also to engage and involve users in the centre’s work. In this work, from the beginning, a conspicuous lack of interest and willingness to participate in the activities among the citizens living at or using the pilot sites was registered by us [reference removed for peer review]. According to our analyses, this was due to the in-

frastructural and technological character of the research with the actual changes often being inconsequential for the citizens [ref. removed] and in at least one case it was related to the citizens actively opposing the research centre's proposals [ref. removed]. We dealt with this by extending the research agenda to include local concerns [ref. removed]. The second trap, which is related to studying “down” applies particularly to the specific pilot reported from here, where we necessarily became part of the ‘damage-oriented’ logic that Tuck (2009) has written about. Furuset, a neighbourhood, which is part of Oslo's Alna quarter, has risen to national notoriety because of a series of knife murders. Demographically it is diverse with a significant international population and the average income and house prices are far below the Norwegian average. In response, the municipality of Oslo has devoted special attention to this neighbourhood, which among others resulted in investments in a new library and a community centre. As part of this general push to improve the neighbourhood, the research centre funding our work implemented a pilot at the neighbourhood. The pilot was energy oriented and was among others building a seasonal heat storage underground, which would only be connected to some newer, energy efficient buildings. Thus, there would not be immediate benefits from the centres' work promising to deal with ‘damage’ of this being a poor and multicultural neighbourhood. However, as we knew when we began our fieldwork this was a site which had frequently been visited by concerned social scientists promising among others participation before.

After having received the approval of the Norwegian Norwegian Agency for Shared Services in Education and Research (SIKT), which safeguards privacy and ethics for social research in Norway, we implemented a range of activities at this site with the intention to co-create with the local residents an experimental sustainability intervention (Marres, 2009) which would be more or less loosely connected to the research centre's activities. After eight preparatory interviews conducted in 2021 and 22 with various stakeholders, we visited the site repeatedly in 2022 and conducted 41 exploratory interviews about their energy use and the neighbourhood in collaboration with three students from the University of Oslo. The three meetings described in detail below took also place in 2022. They were followed up by a fourth group discussion, which is not covered here.

The goal to co-design an experiment with the residents was abandoned after the fieldwork was concluded, the co-design had failed. This was not the case in the other living labs conducted before by the same researchers at other pilot sites. These other cases and how they differed were analysed elsewhere [ref. deleted], in what follows here, we focus on the failure and in which way it can shed light on the new production of users and what it means for a symmetrical analysis of democratic engagement and sustainability.

Three stories of non-compliance

The three episodes presented here happened during one visit in Furuset in 2022. We were three researchers, Thomas Berker, Hanne Marit Henriksen, and Ruth Woods, but the following is based on the extensive field notes taken by Thomas Berker:

I had been in the neighbourhood before, taking the subway to a very first mini-fieldwork visit, taking an afternoon “free” to do fieldwork during a visit in Oslo. Then I spent four hours walking around and then settling down in a cafe at the local shopping centre observing the crowds on a Saturday afternoon. I also visited a theater play for small children at the local library, which according to my notes seemed strangely out of place discussing core Norwegian themes of living in a small, isolated farm in Norwegian nature in front of an audience where the majority of parents seemed to not have been born in Norway. Or was it not out of place at all, instead representing the moral imperative to integrate into Norwegian culture, which is strong in Norway? Or did the whole interpretation just reflect my own prejudices towards what counts as Norwegian or not (Friberg, 2021)?

This time it would be different, as we would have a chance to talk with the residents directly. For this field visit, I had short-time rented a flat in one of the typical buildings, which was unspectacular for a researcher who has grown up in a very similar flat, except for the 20+ sofa seats in the living room, which indicated either a large family living there or at least a large group using the room regularly. On my way to Furuset I

stopped by at a shop in the central shopping street in Oslo: there thirty gift cards were waiting for me, each worth 200 NOK (ca 20 Euro). This was supposed our token of gratitude for our first group of users, whereas we planned to buy pizzas for the youth, which were supposed to be halal, as we had been told before. We wanted to give something back, and hoped these gifts would be well received by the locals.

The drug users

Our first appointment was at an institution which provides a safe space, heat and food for people that need such an offer, mainly drug users, we were told. We were somewhat anxious before this meeting, after all there were security measures in place, and we were led into the building through a side entrance by our contact because they did not want to open the main door, which was locked for some reason.

After some commotion in which the gift cards were mentioned frequently by the locals ('Come! You will get a gift card if you sit here!'), a circle of 10 persons, eight men and two women, surrounded us. The social worker, a young woman had a little button around her neck, which could be used to call help, and she seemed a little concerned about the situation with us disturbing the routines, but this might also have been my own nervousness that I projected on her. Surprisingly for me, from the beginning, the transactional character of this encounter was front and centre: The informants expressed their gratitude stressing that 'this is a lot of money for us', and it seemed as though the informants were genuinely eager to give us good information in return.

Two or three of the informants did almost all of the talking, while the others sat quiet in the circle. When one of the more talkative informants in the very beginning described 'the foreigners' as main problem of the neighbourhood, because they disposed of their waste at the wrong places and would not follow the rules, I got slightly nervous. After all we were not here to study racism. But the discussion shifted quickly away from this topic to accounts of youth vandalism in general. We were told that any publicly accessible installation accompanying the heat storage would have to account for this. High energy prices, which at this time were a fresh memory from an extraordinary period, had clearly made many of our informants knowledgeable about how to save energy in domestic spaces (very much in line with what [ref. deleted for peer review] have reported) and about where the energy comes from that is provided to Furuset's households.

When we explained what the planned zero emission technology investments would be, the group received this information with polite interest calling the basic idea 'smart not to waste energy!'. Also after we had clarified that the technology would not have immediate consequences for their energy use and above all the energy prices in the area, the group remained friendly and seemed eager to provide useful information. However, the participant who talked most overall, expressed reservations against sustainability measures that make things worse, referring to his experiences from working with plants where new, sustainable substrates were abandoned in favor of the traditional ones, 'because they were just not as good'.

The youth

We moved on to the library where we had established contact with a young woman who was looking after the youth that spent their afternoons there. The beginning was chaotic, the promise of pizza had spread and young men, who stormed into the room where the group discussion was supposed to happen. With our contact we had agreed on an recruiting an age group younger than the ones now monopolizing the room, and slightly intimidated by the aggressive presence of the youth we were grateful that the young woman threw them out clearly having some authority over them. While the room now filled with 14 youth aged 14-15 we were still somewhat overwhelmed and allowed a larger group than originally planned. But we were eager to start and maybe also to get this over with.

The first question from our side which was a general invitation to talk about what sustainability meant for the group. It prompted a statement by one of our informants: 'Sustainability is veeery important, isn't it! It is soooo important! Isn't it true! We all know this!' This set the tone for the next interactions. I understood right

away that this and the following statements about sustainability were ironic but I was completely caught off guard and did not know how to deal with it. We were then desperately trying to make clear that we were really interested in their opinions and their visions for a good neighbourhood, while struggling to initiate a real discussion that would not be constantly disrupted by hecklers. One strategy that we improvised was that I started to use my ‘professor voice’ (as my colleague called it), asserting space and authority. At least I was heard after this, but I doubt that I gained much authority. This was not helped by the fact that I apparently resemble the popular football trainer Jürgen Klopp – and his share his German accent – as one youth shared excited with me and the group. When we then started to talk about the sustainable technologies planned for the neighbourhood, the youth started to cheerfully reject sustainability measures that according to them so far only had made their life worse. They complained about the use of a new type of a natural granulate at football pitches, which is according to them is not as good as the rubbery plastic used before. And the paper straws at McDonalds ‘get soaked quickly, which sucks, haha!’. When we told them that there were plans of implementing a so-called bat hotel – a little eco-system niche for the bats native to the area – at the top of the seasonal heat storage, they showed that they were completely unaware of local wildlife. Instead they talked of vampires and exclaimed: “Are you crazy, bats gave us COVID!” Asked for positive visions as residents for their neighbourhood they talked about a better shopping centre with better shops, eg., for sneakers.

The whole interaction, both the ironic embrace of sustainability in the beginning and its rejection later was characterised by the joy of standing up to a weak authority, by confronting us at their home turf where they felt at ease and we did not.

The elderly

The day after, I took the subway two stations to a municipally owned former farm where we knew a group of elderly would have their regular meeting to drink coffee together and to chat. Our contact, a municipal worker, was first difficult to find, but in the end we were allowed to join a group of five elderly women to ask them some questions. When we asked them, however, if they would sign the consent forms, first two and then one of them refused. We quickly found out that not only they, but also the others were concerned about us trying to sell them something. Our efforts to explain that we were researchers and as such without commercial interests were received skeptically, this they ‘had heard before’. This discussion set the scene for what follows, where we agreed that the person not willing to sign could decide to participate in the discussion or not.

Starting the discussion, we next found out that the individuals gathered here made a big difference between where most of them lived and the Furuset neighbourhood, which they did not want to have anything to do with. Our respondents took great care to make clear that they were not living even close to Furuset, which was objectively wrong. Their tone suggested that they wanted to avoid the social stigma connected to Furuset. This left us slightly confused as we did not have a clear idea about their living conditions and the persisting distrust made it difficult to inquire about details that could be seen as our effort to gather information about them. Moreover, one of them told us that she would very rarely go outside and participate in the life at her neighbourhood. She was just shuttled by a municipal taxi to this coffee meeting. Despite these barriers, we managed to get a discussion of sustainability in their neighbourhood and their everyday life going, where they talked about their own priorities for safety and accessibility, which were for example connected to streets without barriers and having a good municipal winter service, which would get rid of ice and snow. One elderly woman told us that she felt “bad” for young people who would have to live in a world with rapidly shifting technology and many more environmental problems. The specific technologies of the pilot were of no relevance for them, both because they distanced themselves from this part of town, but also because ‘it sounds very technical’.

After we had switched off the microphone, the reluctant elderly woman in fact added her viewpoints and admitted that we did not seem like we would try to sell her something. In turn and moved by gratitude we agreed that she was right to be cautious.

Coda

After the first meeting we got the news that the drug users were not able to use their gift cards because they were not confirmed by our university's procurement department. We felt terrible about this, breaking the deal that we had promised - we get the info, they get the money - and worked feverishly to get the cards to be unlocked. But we received news that some had already thrown away the cards and until today we do not know how many of our informants in fact got their reward. After the discussion with the youth, we served our halal pizza where our contact made sure that the young men who had left the room also got their share. And after the discussion with the elderly, due to the unintended neighbourhood mismatch, one of us decided to go back and to interview the real elderly of Furuset.

Discussion

The three stories collected here could be read as documents of mistakes made by the researchers that could have been avoided through better preparation. Moreover, the planned technology, which was the topic of the group discussion, the heat storage, appeared mostly irrelevant for the local citizens, which obviously did not help to engage them. No doubt, mistakes were made, e.g., two of the meetings would have been more productive with fewer participants, and we should not have taken for granted that two neighbourhoods in the same quarter are similar. However, it is difficult to see how the eagerness of the drug users, the ironic sarcasm of the youth, and the suspicion of the elderly, which we will focus on in the discussion, could have been prevented. Moreover, combined the three researchers have experience from many decades of fieldwork both in the context of sustainable technology and beyond. Obviously, recruitment is never easy, but those that let themselves recruit so far always had played the role of the participating citizen, not too eager to say what is expected and not keeping critical perspectives to themselves either.

Common element in the three stories is that the users did not cooperate with the researchers. They did not behave like proper citizens that participate in three very different ways: The drug users were obviously eager to give us 'good' information and both the youth and the elderly refused to take the role of the participant, through ironic distance or outright refusal. When we then encouraged them to express their preferences freely, the three groups again performed the role of the user differently: The drug users remained within a frame of the Norwegian welfare state where one behaves well, complies with public services (cf., waste disposal rules not followed by foreigners) and makes do with the means that are at their disposal. The youth performed 'use' as skilled consumers (e.g., of fast food and sneakers) and the elderly, finally, presented themselves as yesterday's consumers who would not participate in society as much as today's generations because they lacked the needed skills (e.g., to distinguish fraud from honest offer).

Referring more directly to the theoretical framework laid out above, it is relevant that the non-compliance of the three groups directly relates to their experiences as being a participant outside the research. The drug users reproduced a specific kind of citizenship as welfare recipients who would not really have a say but still hope to be treated well as long as they complied. As such they are outside the framework of the new production of users, which makes sense given that they clearly do not have the skills or material means to be addressed as 'content producer', relevant consumer or any other type of activated user. The youth sidestepped the researchers' intentions to treat them as citizens with ironic sarcasm, only to then move quickly to complaints about the quality of shopping venues and products. Their feedback as consumers of sustainable products seemed in fact heartfelt - while certainly meant to provoke - whereas they aggressively refused to appear as being more than a consumer. The elderly's hesitation and in one case persistent refusal to participate was motivated by experiences with not being able to be a competent activated user any longer, be it on a market - where they would be taken advantage of - or in their neighbourhood. In the new production of users complete refusal is indeed a reasonable stance when the users are not understanding what they are doing.

Above we have introduced the notion that activated and advocated users that think that they know about the exploitative character of their engagement have two options: continue while keeping more or less distance or exiting. Especially the youth made clear from the very beginning that they thought they knew what was going on, which is in line with how Sedgwick (2003) describes the paranoid reading of a situation. Due to the short-term character of our engagement with them and the promise of a pizza, they would stay until the end, but they remained in control of their contribution, keeping ironic distance, oscillating between participation and refusal. For the elderly, their paranoid reading became weaker after they had gotten to know us and after they saw that we in fact had no intention to take advantage of them. The drug users - at least those who actually interacted with us - read the situation very differently, in what is called by Sedgwick (2003) a reparative way. They tried actively to find out what we wanted and were eager to contribute even after they had understood that the infrastructural changes would not make a big difference for them.

By withholding our judgement as to whether participation in sustainable change is a valuable goal in itself, in this discussion we were able to reveal specific tacit assumptions that are, we would argue, common in user participation research both in the context of sustainable innovation and beyond. As long as the participants cooperate, the research will be seen as successful as it can rightfully claim that it has involved users. How the role of the user was performed, however, is rarely discussed. It may indeed have been driven by genuine joy, but It may also have been performed as a user, who calibrates the expression of authentic needs to deliver something that the researchers can use. In the case of the drug users we saw their eagerness to repair the situation by doing exactly this.

Table 1. Summary of the differences between the three groups

	Drug users	Youth	Elderly
Refusal of citizen role	Eager to please, focus on exchange (gift cards)	Irony, sarcasm	Too old to participate, 'I am not signing anything'
Performance of user role	Be a good receiver of welfare goods	Expert consumer	Not really a user any longer
Affective position	Joyful, reparative reading	Oscillating, paranoid	Moving from paranoid to reparative reading

Conclusion

That 'the user' is configured by all kinds of experts is a key insight in STS, be it in user testing (Woolgar, 1991), through various user representation methods (Akrich, 1995), or through the material arrangements of participation processes (Marres, 2012), to mention only a few key references. While all of this is true, at the same time, users have agency, this was the hopeful message of original user studies of the 1980s and 90s. In the 2000s this optimism has given way to the observation of a new production of users, into which activation and advocacy is built in from the start. While STS scholars initially described the new production as ambivalent with regards to its impacts on the agency of users, with increasingly powerful systems of activation and monitoring that have a clear exploitative character, a renewed worry about what they do to users has emerged. Instead of succumbing to this worry, based on a case of failed co-production of a transformative experiment with users in the context of sustainability, and on a symmetric approach to participation, in this article we asked (1) what a symmetrical analysis of user participation reveals about agency in the context of the 'new production of users and (2) what this means for participatory approaches to sustainable technology development.

Starting with the first question, this inquiry has produced a nuanced image of user agency in an age of the wide-spread encouragement and exploitation of users' activities. The main observation gathered from studies of activated users was that the old assumption of agency being unequivocally being related to positive affects (*laetitia*) is not tenable any longer. To put it simply: to be an active citizen is fun, but being told to be an active citizen all the time and then realise that someone else benefits more from it than you, is not. We have identified a preliminary list of affective positions that include the two extremes of joyful acceptance of the offer to participate and its total refusal (e.g., because one is over-researched, see Clark 2008), but also positions that are situated between both, which are characterised by careful cultivation of authenticity or ironic distance. In our three empirical encounters we found all three positions.

The list of affective positions is preliminary and other symmetric engagements with user participation may describe other affective engagements. In the context of this article, the exact list is less important than that we have demonstrated that there exists a repertoire of options for users in the new production of users, which we argue are the specific sources of their agency in the new production of users.

Our second research question was about the implications for participatory approaches to sustainable technology development.

Retrospectively, in light of our findings, being aware of how far the new production of users has captured the specific groups that are to be engaged, would have made our efforts to include the residents of Furuset easier. Above, we have mentioned and largely dismissed technical fixes for our problems because they would not have addressed the underlying problem of previous experiences with being activated and advocated in mostly exploitative settings. Where a user group can be assumed to be immersed in the new production of users, as in the case of our youth, it cannot be taken for granted at all that the participants have learned to connect positive affects to being an active participant. Here it has to be made clear to the users at the very start in which ways this particular instance of activation will be different. This could happen by providing a realistic and clear path to immediate implementation of some changes that are desired by the participants. But if this is not possible - as in our case - ambitions should be radically scaled down. As Sedgwick states, a paranoid reading is a strong theory in the sense of being able to explain many phenomena, which in turn also means that it is difficult to convince the paranoid theoretician of the possibility of alternative readings. This means for the youth that as long as they do not experience very strong evidence which shows them that their activation is not part of an exploitative scheme but rather benefiting them (beyond getting a free pizza), they will keep their distance.

Much of what was said about participation and democracy also applies to sustainability. A thorough development of this point would go far beyond the limitations of this article. Here, a parallel study would have to interrogate symmetrically how negative affects related to sustainability are produced by the same mechanisms as positive ones. And also here, as the case of Furuset shows, a tacit consensus that environmental sustainability is a good thing cannot be assumed any longer. When the youth made fun of us adults trying to teach them sustainability this clearly was based on many previous encounters with the same kind of well-meaning authority. In this context, the task at hand is to contribute to a better understanding of how participation in sustainable change is changed by how citizens encounter sustainability elsewhere.

To conclude the article, we use on ourselves one of the theoretical perspectives that we have employed to describe the residents' reactions to our interventions. We hope that this article has at least some traits of reparative reading done by us. Agency, 'the slight surprise of action' (Latour 1999: 267), cannot be experienced from a paranoid position as it is defined by Sedgwick (2003). The paranoid has powerful theories which help to predict what will happen in the terms of this theory. Searching actively for agency in the new production of users in this sense required a readiness to be surprised. The residents, by not complying where many others had complied before, have made this switch to a reparative reading easier. This is why we have devoted a whole article on the failure, and we hope that we have used this unique opportunity with as little paranoia as possible.

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