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RESEARCH ARTICLE

Beyond the Digital Public Sphere: Towards a Political Ontology of Algorithmic Technologies

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Abstract
The following paper offers a political and philosophical reading of ethically informed technological design practices to critically tackle the implicit regulative ideal in the design of social media as a means to digitally represent the liberal public sphere. The paper proposes that, when it comes to the case of social media platforms, understood along with the machine learning algorithms embedded in them as algorithmic technologies, ethically informed design has an implicit conception of democracy that parallels that of Jürgen Habermas' procedural democracy (Habermas, J. (1994). THREE NORMATIVE MODELS OF DEMOCRACY. *Jurgen Habermas*, *1*(1).). That is, that democratic practices are encodable as procedures that produce valid discussion forums. Opposed to this, this paper suggests a turn to philosopher Jacques Rancière's conception of politics as a guiding attitude towards technological design. This is done by, on the one side, using Rancière's notions of "disagreement" and "distribution of the sensible" as the political starting point for the practice of design of algorithmic technologies. And, on the other, inspired by Karen Barad's theories on agential realism (Barad, K. (2003). Posthumanist Performativity: Toward an Understanding of How Matter Comes to Matter. *Signs: Journal of Women in Culture and Society*, *28*(3), 801–831. https://doi.org/10.1086/345321), by putting forward a political ontology of algorithmic technologies that reconceptualizes them in terms of how they assemble open-ended practices between human bodies and technological devices.

Keywords Algorithmic technologies · Social media · Jacques rancière · Disagreement · Public sphere · New materialism · Value sensitive design

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1 Introduction

Politics on social media are often seen as the digital counterpart of "real-life" forums for political discussion or deliberation. While it is true that exchange of political ideas can happen on comment sections, online forums, videos and the reactions to them, the question of the political dimension of social media has in the past decade expanded to address the political, economic, and technological structures that enable the operation of these online platforms in the first place (see Couldry & Mejias, 2019; Srnicek, 2019; Zuboff, 2019). It is widely acknowledged today that corporate social media platforms have not lived up to the promise of creating a "global Athenian public sphere", as Al Gore and other internet enthusiasts claimed in the 90s and early 2000s (Gore, 1994). And, moreover, that that failure lies in the fact that social media platforms have chiefly operated as sites of data production, exchange, and extraction rather than as public spaces for democratic deliberation.

As romanticized and dated that the former interpretation of online social relations might seem, in this article I will argue that it is still regarded as an implicit ideal to strive for by value informed design and engineering (i.e. De Reuver et al., 2020; Van De Poel, 2020). I will show that this by making a comparison between the role the ethically oriented designer or engineer is expected to play in the confection of these digital deliberation spaces, and the role the political philosopher gives to himself when thinking about ideal procedures for democratic practices (i.e. Habermas, 1994). I argue that they both consider their object of action, whether a democratic deliberative process or an algorithmically curated feed on a social media platform, as closed-off procedures to be designed, coded, or borrowing Jacques Rancière's term *policed*. Consequently, they provide an account of agency within these processes that is limited to properly following them: saying the right things in the proper ways or making the right interactions to share proper, "democratic" content.

Opposed to this, I will offer a performative political ontology of social media. Following feminist new materialist philosophies (Dixon-Román, 2016; Gamble et al., 2019; Hird, 2009; Lupton, 2018), specifically Karen Barad's agential realism (Barad, 1998, 2003, 2007), a performative political ontology highlights the fundamental role of not only designers' but also users' actions, movements, gestures, relations –in one word, performances– in the ways in which social media exists. To put it bluntly, that algorithmic feed on your phone screen needs to scrolled by a very material finger in order to "come to matter" (Lupton, 2018). This characterization of social media and algorithmic technologies in general leaves us with a different picture of what social media are and do. Instead of being closed-off processes enabled by devices that preexist and codify human action, they are assemblages of practices between human bodies and technological devices open to indeterminacy.

Finally, this reimagining of what algorithmic technologies are and do is carried out to question the ways in which ethically oriented design is expected to operate. If social media and democracy aren't fully codifiable processes, what is the designer doing (and to whom) when they expect these to be enforced and policed? How is the ethically informed designer legitimized to set conditions of what democratic interactions should be practiced? Rather than answering these questions from existing ethically informed design frameworks (such as developing methods to increase

designer's and engineer's democratic legitimacy), I call for a turn from Habermas's proceduralist political philosophy of democracy to Jacques Rancière politics of disagreement as the underlying theory of democracy in ethical design practice. This entails a change of attitude towards what engineers or designers can and should do, as well as towards the ways user interaction and participation is imagined. Under this different approach, the task of the designer is no longer to design democratic practices, but to make technological design a democratic practice. The goal is, then, not to open design to produce a democratic outcome, but the political gesture of opening the design process itself to non-designers. A gesture that is not taken by a well-intended designer, but by external non-expert users claiming equality. Effectively changing their position as mere users subjected to designers' visions of democracy and transforming the unfolding of design processes into sites of political dissensus.

2 The Habermasian Designer

According to Colin Koopman, the idea of a technologically supported discussion forum or the "Global Athenian public sphere" is linked to Jürgen Habermas' procedural conception of politics as communicative action meeting a specific set of requirements (Koopman, 2019). This approach, which Habermas also names discourse theory, regards democratic practices as a formalizable procedure that borrows, while simultaneously distances itself, from liberal and republican models of democracy (Habermas, 1994). Prominently, democracy as a procedure switches the focus of political theory from the limiting of state activity through individual rights (liberalism) or the enabling of collective action through the political articulation of the common will (republicanism) to the formalization of processes of communication. According to Habermas, focusing on communicative procedures allows for the institutionalization of deliberation and, therefore, creating the conditions for the emergence of a citizens' will that does not assume a citizenry capable of collective action as communitarianist ideologies would presuppose (ibid.).

I argue that this proceduralist view seeks to delink the emergence of discursive practices from collective action by embedding its conditions of possibility in civil society and institutions. In a way, it aspires for a subject-less deliberation, one that can be carried out independently of who is performing it and therefore universalizable as a necessary requirement for democratic practices. Akin to a computer algorithm, this proceduralist view on democracy conflates democratic practices with its supposed formal requirements. That is, it takes the step-by-step instructions that will probably result in an event or phenomenon as the event or phenomenon themselves.

On the other hand, the common conception of social media as digital public sphere is as well a reduction of these complex arrangement of technologies, institutions, and individual actors to a means of communication between two or more well-defined subjects. As Koopman argues that "the work of Jürgen Habermas, are surprisingly resonant with midcentury theories of communication"(Koopman, 2019, p. 1328), epitomized by Claude E. Shannon's mathematical theory of communication. Both theories attempt to formalize a procedure in order to resolve emerging issues in the transmission of information. However, according Koopman, they also share

an inability to address the production of information itself as a political site (ibid.). By restraining democratic practices, and in our case social media, to the formalized unfolding of communication, they are blind to facets tangential to representation and communication, such as the ways in which information is formatted and organized before entering a communicative exchange. Or, in the case of social media, how interactions are formatted and organized as data to be circulated, sold, and analyzed to optimize future interactions for even more data production.

With its focus on formalization, Habermas acknowledges that a proceduralist model of democracy seeks to decrease the importance of a collective subject and action. He links these to a communitarian interpretation of republicanism that idealistically presupposes a convergence of ethical convictions prior to a regulated communicative process. For Habermas, this would entail an anti-democratic attitude, as this a priori convergence would preclude the emergence of dissenting opinions. Moreover, it assumes that this common ethical will antecedes the communicative processes that constitute it. In his opinion, these processes have to allow for democratic will formation, not through moral convergence, but from the rational consideration of the better arguments emerging in the right communicative conditions. Democratic practices are therefore not necessarily tied to the individual or collective subject carrying them out (such as collective subject of the proletariat for Marxism) nor to the role of the state in organizing the social (both in a negative liberal way or positive republican one), but to a formalized procedure that can afford the proper development of deliberation.

This position mirrors that of the ethically oriented designer or engineer. In a similar way to, for example, literature on value sensitive engineering or design recognizes the moral status of technical artifacts or objects designed to have a function (Kroes & Meijers, 2002; Kroes, 2010), a procedural theory of democracy grants a moral and political dimension to processes. They both conceive their respective objects as embodying or enabling values insomuch the designers' intended values correspond with the realized ones when the artefact is used accordingly or the process followed properly (Van De Poel, 2020). In this sense, designed artifacts do not radically differ from communicative processes. Or, to put it differently, since designed artifacts are always involved with the set of practices around it for them to realize their function and intended values, they can be thought as sociotechnical processes. Connecting value sensitive design to Habermasian proceduralist politics, allows us to consider technical artifacts and communicative actions both as designed processes. That is, as a performed set of instructions similar to a computer algorithm.

Furthermore, these two stances share key assumptions. According to de Reuver et al., value sensitive design is based upon the assumption that values can be embedded in technological artifacts during the design process and that relevant values can be fully identified before it (De Reuver et al., 2020). This entails that the way in which ethical action with technology is carried out is that of realizing pre-existing values[1]. In short, doing the 'right' set of things, communicating the 'right' set of messages, that realize the designers' intended values. The main ethical and political agent is

[1] It should be noted that the idea of pre-existing values has been criticized within value-sensitive design also by linking them to lived experiences and practices (see Boenink & Kudina, 2020; Le Dantec et al., 2009).

therefore not the user or citizen, but what I call the Habermasian designer working, most probably, for a large technological corporation[2].

Regardless of this one-sided picture, the Habermasian designer would not claim that they design out of their own personal values or desires. On the contrary, for or an ethically designed technological process, device or system to embody a value, its proper way of use should be based upon normative reasons. The design and use of processes is not solely based upon what the designers or the users value, but on universalizable normative reasons that explain why an interaction nudges the user to act in a certain way instead of another. The task of the ethical designer as a legitimate representative of democratic interest is then analogous to that of the lawmaker (see Lessig, 1999): they produce norms (technological standards, code, or interfaces) based on debatable reasons. So, rather than opinion or discourse making within the public sphere, the role of the Habermasian designer is confecting a political and technological process that sets up and enforces the boundaries of the public sphere through universally accepted, or at least rationally arguable, values.

Viewed form a political lens, as in the Habermasian proceduralist model, the role of the user (now a good citizen) of ethical design is reduced to using the device or system as the designer intended. The users are, thus, at best a sort of Kantian subject who freely chooses to comply with the intended use, since they are too rationally invested in the engineers' assumed democratic values. At worst, they are an alienated machine operator that cannot act otherwise; uncritically perpetuating with their actions a system that actively undermines their ability for self-determination.

Realizing values through technology is thus attached to determining what proper user behavior is. Focusing on the role of the designer and the design process as the main ethical agent and context, expects from the ethics of technology to provide an ideal normative theory to argue in favor controlling behavior with technology in one way or another. An example of this position within the industry is that held by the Center for Humane Technology, an organization founded by former Google design ethicist Tristan Harris. This organization's "ethical concerns have primarily cashed out in the form of advocating for more conscientious consumption of technology and greater emphasis on the design of applications that allow users to better monitor their digital activity." (Hu, 2021). This push resulted in the 'time well spent' function added onto Android and iOS, that gave users the option to block and application after a self-imposed time limit. Even if this feature expands the ways in which users interact with a platform, the decision of making them responsible for their own attention spans, previously hijacked and instrumentalized by those very platforms, and more importantly, that of not relevantly changing the ways in which their attention is disposed on the platform, that is, the ways in which they interact and overall experience the platform, was one that the designers unilaterally allocated in them. A decision

[2] This same criticism has been widely stated by proponents of participatory or cooperative design. It is relevant to underline how this tendency in design was born in Scandinavia in the 1970s from the political will to democratically organize labor relationships brought about by computer applications (Bjerknes & Bratteteig, 1995). The ambitions of this paper broadly align with those of participatory design as well as with its view on social organizations as fundamentally unharmonious. It could be said, then, that this article sets out to translate the position held by participatory design in the workplace to the technologically disposed society.

that was arguably made as a result of designing for the values of mental well-being or time efficiency. This line of thought gives place to self-aggrandizing savior narratives in which designers (and the companies they work for) are responsible and necessary for giving users the technology (and the practices) they need for self-determination and, implicitly, to become 'good' citizens (ibid.).

When considered as a form proceduralism, value sensitive design makes the designer into a sort of practically oriented political theorist and the main holder of ethical and political agency: the act of designing becomes the necessary condition for ethical user (inter)action on the user-generated web, while the designers, are conveyed as the guardians and implementors of these 'right' practices. And, above all, it understands democracy as a procedure to be designed and policed by experts over a set of not-necessarily-codified practices performed by the citizenry. Moreover, if thought as a democratic agent, the Habermasian designer lacks legitimacy. This problem is deflected by the assumption that the designer gains democratic legitimacy, not by means of a public election or any other democratic process, but by their alleged commitment to embed democratic values in the practices they design and provide normative reasons for their decisions. This position actually conflicts with Habermas' argument for proceduralism over republicanism: the existence of universally accepted democratic values entail at least a minimal previous convergence of ethical convictions; a pre-established moral community whose legitimizing force does not emerge from the procedure itself (Habermas, 1994).

As de Reuver et al. have noted, digital platforms challenge the assumptions of value sensitive design since the "ways users [and other third parties] interact through a platform, and for what purposes, is often beyond the control of the designer of the platform" (ibid.). According to them this results in an ontological uncertainty regarding what values will be implicated in their use (ibid.). But even when acknowledging that users have flexibility in their engagement with social media platforms or that the designed setups do not always work as intended, the ethically oriented designers' goal remains for their designs to realize their intended use and values (or the values and uses the designer considers the users hold or should hold) as much as possible and overcoming this uncertainty. Lacking control over the platform is seen as a problem to be solved. Thus, the design question remains one of implementation and compliance: how can a device, artifact, or process –technical, political or both– embody intended values by engaging with users only (or mostly) in the specific ways that enact them? How to go from an ideal value to its actual realization through the control of human practices with technology? A problem to be addressed, once again, by the Habermasian designer.

The expression 'Habermasian designer' is meant to make explicit this implicit hierarchical relation between designer and user. The Habermasian designer imagines the user not necessarily as somebody who operates technology, but somebody on whom technology is operated on (Azoulay, 2015; Panagia, 2019). User agency on social media, understood as having the ability to express, distribute, and interpret the already existing opinions of clearly defined subjects using already designed tools, does not fundamentally address how social media platforms, its designers, and users act on each other. In other words, it doesn't explain how these technologies assemble practices not reducible to individual users communicating through representation.

This is especially relevant in a time where social media platforms have ceased to be just sites of communication and become key components for the production of collectively trained algorithmic technologies exemplified by machine learning systems (see Pasquinelli, 2018; McQuillan, 2018). Now that this imagined relation between designer and user has been highlighted, I will proceed to show how a political ontology of algorithmic technologies as open-ended performed assemblages contradicts the implicit ideals of certainty and consensus that the Habermasian designer strives for.

3 A Political Ontology of Social Media

How does a designer set out to create the conditions for democratic agency online without falling onto the implicitly hierarchical relations imagined by the Habermasian designer? To start doing this, the designer should first consider their own position in regard to the object they are designing. And, moreover, doing this entails reimagining that object itself. In this section I will offer a reformulation of what social media, and more broadly algorithmic technologies, are by offering a political ontology inspired by new materialist theories of agency and performativity (Barad, 2007; Lupton, 2018).

Social media can be a lot of things. If we look at the recent past corporate social media used to be 'networks' before they became 'media, later 'platforms'[3], and, more recently, getting linked to algorithms and artificial intelligence. As Anne Helmond argues, platformization is the process of the "extension of social media platforms into the rest of the web and their drive to make external web data "platform ready."" (Helmond, 2015, p.1). Moreover, as social media has become the main gateway to the internet, it is not only that the rest of the web is molded by the data-driven demands of platforms but that the internet is getting enclosed in platforms. Platformization is also the necessary process to standardize user interaction on the internet into machine-readable data, therefore emerging as a vital component in the production line of data extractive algorithmic technologies such as machine learning. Understood as platforms, social media stopped being specific sites on the internet, but an infrastructural and economic model to organize the user-generated web.

The terms 'network', 'media' and 'platform' already partially reveal social media's tricky ontological status: they are all in different ways connected to action rather than substance. More than referring to objects, these terms highlight dispositions or potentially performed relations between different actors. They are not terms for describing the world as it is, but to signal assemblages to be acted upon. A network is a way to organize a set of points or actors without an a priori order of relations (Galloway, 2006); media implies an act of substitution from an intermediary standing in place of

[3] See (Gillespie, 2010) and Culture Machine Vol. 14 ("Vol. 14 Platform Politics," 2013) for a further discussion of the politics of the term platform. For a historical account of the transformation of Facebook from a social network site to a platform and its overreaching implications for the rest of the web see (Helmond, 2015). For a review of the different metaphors used to describe social media platforms see (Cristofari et al., 2023).

something else to convey meaning (Mitchell, 2017); platform is a surface to stand on, a term circling back to the conditions of the enunciating subject.

The goal of this section is not to provide yet another metaphor to better name and represent social media, but to explore what was already implicit in these prior metaphors by highlighting the performative and relational nature of social media. This is carried out with the larger goal of outlining a different politics of algorithmic technologies concerned with imagining them as frameworks for coming and acting together. Looking at social media platforms as performances allow us to see them in a different light: instead of dealing with abstracted artifacts, software, hardware, data, code, algorithms, or infrastructures preexisting and determining their users, they are performed assemblages, arrangements, or dispositions. A softer outlook that opposes a monolithic and ossified view of digital infrastructures that leaves little space for reimagining what user agency, individual or collective, can be. This shift towards performances is broadly speaking, a tactical transformation of the ontological question into a practical one to dissolve what is perceived to exist abstractly and unchallengeable and, hopefully, open the possibility for doing things differently. So instead of asking what social media is, this first section sets the stage for the question of what social media –understood as a performed arrangement between humans and digital infrastructures– is doing by articulating a political ontology of social media.

By offering a political ontology of social media I do not aspire to reveal its essence and assume that its nature is not evident until philosophy comes along to make it explicit. Yet, even if I am not strictly concerned with what social media is, I still intend to tackle how it exists: what it does. Social media coordinates users, it transforms their movements into interface interactions into data, and into electric energy. Or, following Mario Blaser, I am concerned with how it makes reality (Blaser, 2013), opening up the space for alternative conceptions of how we, the users, exist collectively with one another.

Ontology puts forward a description of that which exists to understand how it exists (Hofweber, 2023). It is concerned with existence and, in as much as it seeks to define it, with essence. Ontology strives to find the right words to define and represent things. To set them apart from what they are not in order to know their key elements; that which makes them what they are. The terms in the parade of metaphors for social media all imply a specific ontology: they are takes on what social media are in essence, what their main function and purpose is: either to connect nodes in a network, serve as a medium to communicate a message, or offer a privileged locus for enunciation. Therefore, these metaphors also imply a normative framework of how social media platforms should be used, who should use them, and what role these have in the world.

For the purposes of this paper, ontology, as it is regularly understood, seems insufficient to approach social media. Yet, ontology is still a pertinent term to describe this article's ambitions since a political ontology also sets out to talk about what exists, if not in terms of things, it does so in the terms of political relations. As social media platforms resists "thingness", rather than representing social media with a single met-

aphor, I will propose to approach it as a collection of material practices articulated with digital interfaces[4].

Karen Barad has proposed a feminist-materialist relational ontology which stands opposed to what she calls representationalism. Representationalism is the inherited ontological model for which the world is separated between things and concepts, words and world, substance and essence, representations (either mental or material) and represented (Barad, 2003). This view creates an ontological divide, an impossible to overcome dualism. And yet, the task of creating accurate representations and surpass this divide is appointed to knowledge. Representationalism stems from a distrust of materiality: the uniquely western and modern problem of not being able to access the world as its, and yet, for some reason, being able to do so through representations.

Barad argues for a feminist, materialist, and post-humanist approach, which she names agential realism, that does away with this separation. Concepts are not distinct from what they describe, they are not abstract entities onto which the world is inscribed and to which the viewer has a privileged access. The tasks of description, conceptualization and representation are not done in a different realm (epistemological or transcendental), instead they are material practices arranging the world in particular ways. This is because agential realism does not regard the world as a collection of entities with a set of defined properties that are later related to each other through the mediation of concepts. Agential realism instead grants ontological primacy to performed relations, which are congealed into entities through boundary-defining 'intra-actions' (as opposed to interactions) such as conceptualization (ibid.). Furthermore, words and any apparatus for measuring, modeling, or representing the world do not possess a determinate meaning preexisting the act of utterance, measurement, or modeling. Words do not mediate the world through meaning; if agential realism does away with the separation between knower and known, subject and object, there is also no role for mediation and the question of what words, as well as media in general, do is reopened.

Representation and represented are entangled with each other, undetermined until a relation is enacted (such as representation). For this reason, expanding the feminist tradition of gender theories of performativity (e.g. Butler, 1999), Barad proposes a performative metaphysics focused not on independent objects with inherent boundaries, but on the enactment of those boundaries. Apparatuses play a key role in this enactment. Barad develops a theory of the apparatus not as an inscription device existing prior to action, nor as a mediator, but as an assemblage of open-ended practices: "apparatuses are dynamic (re)configurings of the world, specific agential practices/intra-actions/performances through which specific exclusionary boundaries are enacted" (ibid.). In this sense, an apparatus is a dynamic assemblage between humans, words, devices, and overall, of matter, to be enacted or performed.

[4] This approach centered on organicism, movement, and process rather than non-contradiction and substance places my research in line with a loose tradition of process ontology preeminent in XIXth and XXth century western philosophy. Notable examples are G.W.F. Hegel's speculative idealism, Henri Bergson's phenomenology of duration, John Dewey's pragmatist philosophy, John Austin's philosophy of language and theory of speech acts, and Norbert Whitehead's philosophy of mathematics and logic.

Assemblage or *agencement* in French (literally embedding the word 'agency' in it) is a term popularized by Gilles Deleuze and Félix Guattari to refer to an arrangement of heterogeneous parts with no a priori structured relations and which may cohere and participate in larger assemblages (Deleuze & Guattari, 1987)[5]: a textbook is part of the assemblage of a classroom; an algorithmically curated user interface is part of the assemblage of a social media; a machine learning algorithm is part of the assemblage of an algorithmically curated user interface; a social media platform is part of the assemblage of citizen participatory spaces. But also, social media platforms are part of the assemblage of machine learning systems and, vice versa, a machine learning system is part of the assemblage of the platformized web spurred by social media. Assemblages are characterized by performativity (Nichols & LeBlanc, 2021). They are always in motion, disposing new relations at different scales: i.e. a social media interface needs to be put in motion by a user who, by doing this, is simultaneously put in relation to the interface, to other users, to the material infrastructure of the internet, to the technological corporation running the platform, and to the cultural landscape that makes social media usage meaningful and desirable in the first place.

Representationalist approaches would understand social media as political only insomuch social media mediates preexisting political relations instead of enacting novel ones. In this sense, representationalism requires a neutral, unintrusive, and transparent medium as an unattainable yet aspirational regulative ideal. A process that should be deprived of any material agency other than spatio-temporal translation. For this reason, it also fails to understand representation itself as an always opaque relation with its own political dimensions. This is where the 'political' in 'political ontology' comes in. If existence is co-constituted by its formulation through measuring apparatuses, the conditions of what counts as meaningful existence are not transcendental and universally applicable concepts, but material distributions and entanglements between always already discursive and dynamic matter and always already materialized discourses (Barad uses the term material-discursive to refer to this entanglement between matter and concept).

[5] The ideas and preoccupations behind the post-structuralist notion of assemblage were later restructured and combined with insights from studies on sociotechnical systems within science and technology studies as actor-network theory (ANT) by Madeleine Akrich, Bruno Latour, Michel Callon (Latour, 2015; Callon, 1989). Like agential realism, ANT emphasizes material-semiotic relations and attempts to dissolve human-machine distinctions when describing knowledge production and technological use at large scales (Latour, 2007). In this sense, both try to bridge forms of constructivism with realism or, in other words, to grant some level of agency to non-human actors while still underlining the fundamental role of history, culture, and human agency in general, in the production of the real. Like agential realism, ANT furthermore argues that agency is not a property of humans but of an association of actors relating to one another, in this case, within a network (Callon, 1989). Barad's agential realism, along with the work of other feminist theorist such as Rosi Briadotti, Donna Haraway, Vicky Kirby, and Luciana Parisi, are often categorized as a form of new materialism (Hird, 2009). Due to their similarities and shared indebtedness to post-structuralist thought, ANT has also been retrospectively categorized as such by some authors (see Çetiner, 2020; Gamble et al., 2019). For the purposes of this paper, ANT could have served a similar function of theoretically grounding my argument. However, Barad's account of representationalism and agential realism's focus on performativity and, therefore, its ambition to reject a conception of human agency as a second order symbolic ability that witnesses and represents the world, agential realism better suits my argument of reframing political engagement with technology as a not necessarily communicative practice.

To give a concrete example from the user's end and going back to social media, engagement with corporate social media's algorithmically curated feeds can be thought as entanglements in which encountering agencies shape each other. On social media's interactive interfaces, users are encouraged to make decisions: to click on a link, to write a comment, to upload a picture, to tag another user, and first and foremost, to keep on scrolling. By doing so, the user restricts the agency of the algorithmically curated feed by interacting with it (by not stopping on certain posts, liking only certain posts, or interacting with other users on other parts of the platform) while the feed restricts the user's agency by selecting what content to show. The output of the feed shapes the user's next move: stopping and interacting with the next post, scrolling over it, flagging it, or stop using the platform altogether. This interaction is often fast, reactive, and unconscious, an aspect that has been largely studied through the design notion of 'dark pattern' (Dieter, 2015). Yet, users do at least possess a sense of agency as this interaction is fueled by the goal of feed curation as a practice of self-confection (Bhandari & Bimo, 2022; Bucher, 2017). This goal is achieved by testing the boundaries of the feed–steering it until it reflects and expands the user's tastes and identity. The algorithmic feed is experienced as an open invitation figure out its rules (how it wants us to act and how it acts), yet under the pretense of identity curation attained through the interactive exploration of an algorithmic context.

In the case of the TikTok For You Page –or Facebook's and Twitter's Newsfeed–, users are thrown immediately into an interface of not explicitly solicited content. TikTok is furthermore not focused on cultivating existing networks of friends but in discovering new content for the user to create networks of metadata through interaction with it. On TikTok, the For You feed occupies the entire main page: it is not a delimited feature sharing space with other features (as it is the case on Twitter, Facebook, and YouTube), but the place to select, classify (like/save), and watch the content. This main invitation to interact does not claim to fulfill a clear user intention expressed in a query but surprise them with what is next to come. Decisions in the form of reactive interactions to content are constantly being made, yet since every decision leads to another decision, interaction with the feed results in an effective deferral of decision (Hui Kyong Chun, 2011). These repetitive reactions to an algorithmic arrangement of experience trigger a feedback loop that produces and puts data in motion. A non-representational interpretation of TikTok's interface can then frame it as an experiential context that puts data in motion through the encounter between a user and an algorithm.

To reframe the question of ontology into that of a political ontology allows me to transform the nature of this paper's object: from a designed process to algorithmically arranged, yet uncertain performances. The uncertainty and novelty brought about by every encounter between users and their devices is a necessary condition for these interfaces to become a site of data production within a larger sociotechnical system. The algorithmically curated social media interface cannot be described only as a set of requirements to fall back to whenever communication between actors hasn't been properly realized. Translated to political terms, the interface does not act as a regulator of communication, a public sphere to achieve consensus and resolve disagreements. What these user interfaces do politically is, instead, disposing (Panagia, 2021)

a collective practice, that of data production, by framing it into desirable individual experience: playful discovery, identity curation, sharing, and social recognition.

This reframing of the ontology of algorithmic technologies is a first step to tackle the wider goal of reimagining how to ethically or politically design them beyond the Habermasian ideal of democracy as communicative action. A reframing that also strays away from the implicit normative understanding that the practice of democratic politics is to achieve consensus through structured communication. Understood this way, the question of how to develop more democratic algorithmic technologies is not necessarily that of how to create better conditions for digital communication. Rather, it is about making the design of the distribution of experience with algorithmic technologies a political, and not only a technological design, question. Thus, to confront the question of how to design a more democratic social media cannot be limited to vertically blueprinting yet another online tool for sharing information. This question is concerned with the broader one of how to democratically arrange the actions and relations performed with algorithmic technologies.

In the next section, I will borrow from the work of Jacques Rancière to make the case of how the arrangement of experience, algorithmic or otherwise, is itself a central site of political disagreement. A political arena that, I argue, the Habermasian designer would rather leave under algorithmic control to avoid interrupting the usual course of user engagement/democratic deliberation.

4 Politics as Aesthetics

As contended before, algorithmically curated social media interfaces are better described as the disposing of user experience to induce practices that mobilize data. Through the interface, social media designers determine what counts as an experience for its users and the valid ways they have at their disposal to react to it. In this regard, social media interfaces enact a specific power relation in which designers define the contours of what is possible for users to experience and do. If social media platforms were to be spaces of deliberation, they would not be free from hierarchical power relations since the terms under which a hypothetical deliberative process would take place are not themselves open to democratic negotiation and ultimately bound to design decisions.

The Habermasian designer, I argue, does not shy away from this distribution of power. Instead, they wish to exert it differently–ethically, they might argue. Jacques Rancière has extensively written about this impossibility to avoid power relations in any discussion forum (Rancière et al., 1999). In dialogue with Harbermas' procedural theories of democracy (Deranty, 2003), Rancière has repeatedly offered an alternative picture of politics (Rancière et al., 2001; Rancière, 2015; Rancière et al., 1999). Where Habermas proposes pragmatic constraints necessary to establish an argumentative exchange and, therefore, communication as preconditions to politics, Rancière grounds his political thought on the notion of disagreement (*mésentente*). That is, precisely on the impossibility of communication and agreement.

For Rancière, disagreement is not just misunderstanding. Disagreement is not a simple failure of communication to overcome and reach consensus. On the contrary, disagreement is at the basis of politics:

> "Disagreement is not misconstruction. The concept of misconstruction supposes that one or another or both of the interlocutors does or does not know what they are saying or what the other is saying, either through the effects of simple ignorance, studied dissimulation, or inherent delusion. Nor is disagreement some kind of misunderstanding stemming from the imprecise nature of words. […] Disagreement clearly is not to do with words alone. It generally bears on the very situation in which speaking parties find themselves. […] An extreme form of disagreement is where X cannot see the common object Y is presenting because X cannot comprehend that the sounds uttered by Y form words and chains of words similar to X's own. This extreme situation –first and foremost– concerns politics" (Rancière et al., 1999, pp. x–xii).

Therefore, for Rancière, politics are not a form of rationality for discussing the best ways to deal with pre-established social issues. Politics is not the continuation of an established order of enunciation. Quite the reverse, politics starts when this order is interrupted by a claim of equal validity of the words and gestures that were structurally excluded from it. Therefore, politics has the radical claim to equality as its principle (Rancière et al., 1999, pp. 10–11). And, by placing disagreement at the core of politics, Rancière questions the centrality of community and communication in politics. Rather than politics starting from the foundation and consolidation of a unified community (of speech), Rancière centers the cleavage between those who are counted as part of a community and those who are not at the starting point of politics. Politics starts when this arrangement is disturbed by the demand of the non-part to, not only be a part of the community, but to reconstitute it:

> "The essence of politics, then, is to disturb this arrangement by supplementing it with a part of the no-part identified with the community as a whole. Political litigiousness/struggle is that which brings politics into being by separating it from the police that is, in turn, always attempting its disappearance either by crudely denying it, or by subsuming that logic to its own." (Rancière et al., 2001, p. 9).

Thus, according to Rancière a *political* community is inherently divided, as politics can only exist insomuch there is always an excess to be accounted for. Rancière and other proponents of agonism in politics (see Mouffe, 1993) imagine them doing very different things than establishing proper communication between parties. It is in the struggle that comes before a mis-accounted part is accepted as an interlocutor where the politics happen. In this sense, Rancière's account of politics parallels the aims of the proposed political ontology of algorithmic technologies: it is not on the level of communication and representation where politics take place, but in the contestation of the exclusionary and hierarchical ways in which social medial design decides over its non-designer users. And, continuing the analogy, it is only through the exclusion

of users from the practice of design, that a community of designers, ethical or not, is constituted and gains the legitimacy to decide for the non-designers.

Opposed to the political, Rancière situates the police. Not limited but including the actual police body, the police refers to "an order of bodies that defines the allocation of ways of doing, ways of being, and ways of saying […]; it is an order of the visible and sayable that sees that a particular activity is visible and another is not, that this speech is understood as discourse and another is noise." (Rancière et al., 1999, p. 29). The police is a social order that prevents the appearance of politics. It upkeeps the division of the social as a collection of groups with a clear identity, role, expected actions, and allocated spaces (Ranciere et al., 2001). Roles such as user, designer, engineer, investor, etc., that uphold a particular *distribution of the sensible* in technological design processes.

As I covered before, social media organizes the collectively performed practices of data production by controlling what users get to experience. It can thus be interpreted as the algorithmic manifestation of the police. Like the police, social media is the founding and enforcement of a particular distribution of the sensible. I bring up Rancière's expression 'partition or distribution of the sensible' (*partage du sensible*) (Rancière, 2006) as it sheds light on a different facet in the way in which Rancière conceives politics. Quoting Davide Panagia on this term, the *partage du* sensible is "a term that refers at once to the conditions for sharing that establish the contours of a collectivity (i.e. "*partager*" as sharing) and to the sources of disruption or dissensus of that same order (i.e. "*partager*" as separating)" (Panagia, 2010, p. 95).

Panagia argues that this expression allows Rancière to conceptually link politics to aesthetics (Panagia, 2010). For Rancière, the term aesthetics evokes its ancient Greek meaning referring to anything concerning the realm of the sensible; anything that appears to the senses (Rancière, 2015). Aesthetics has then to do with the broad question of what can and cannot be experienced and politics is bound to aesthetics because it is through the instauration and control of regimes of experience that certain groups remain excluded from the social whole. Aesthetics thus deals with how the social, since it is a shared lived experience, is disposed. It is then a political category and, inversely, politics is an aesthetic one. Ultimately, the link between politics and aesthetics does not only mean that artworks (or design) can be political, but that politics itself, that gesture of equality that comes prior to any exchange of ideas about how to better manage a community, is an aesthetic endeavor (Panagia, 2009).

Rancière's link between politics and aesthetics is a fundamental step to reconsider the political dimension of social media beyond representationalism. A switch from Habermas to Rancière as the political philosophy[6] underlying technological design practices reframes the goals of the ethical design of social media from the production digital spaces for deliberation to a critique of design as a police order perpetuating specific regimes of experience and, consequently, action. Linking aesthetics to politics allows to see the practice of designing as intrinsically connected to the ways in which it hierarchically disposes the people who practice it and those who use their outcomes.

[6] Although Rancière would reject that term (1999, p. vii).

It also highlights the double nature, political and aesthetic, of terms such as representation. Rancière makes this explicit with the notion of police order. The police, by disavowing any excesses questioning the logical continuity between cause and effect (Rancière, 2009) –any unaccounted part of the social that might indict its presumed totality, is analogous to the notion of representation, which needs to guarantee a continuity between represented and representation. If Karen Barad's argument against representationalism challenged the modern assumption for which representations grant a privileged access to an inaccessible world, Rancière challenges the idea that society itself can be neatly represented and that the task of democracy is to produce proper (technological) representations of the social. Furthermore, they reveal the political desires of control behind the aspiration to represent society at large. Since, as Barad argues, the action of representing does not happen without a context of formulation, representation hits a dead end when it attempts to map the social world in which it is itself reflexively implicated. Rancière's distribution of the sensible is then a useful notion to articulate how representation is a political activity arranging the ways in which the world is experienced. Thus, representing is not solely an epistemic or aesthetic endeavor looking for meaning in the world, but also a political project of alignment between representation and represented.

5 Discussion and Implications for Design

Viewed as a political site for disposing user experience and collectively performing assemblages, user action with social media cannot be reduced to realizing a designer's intended values within a communicative framework. This has significant implications for the role of the designer and the practice of design when addressing social media and algorithmic technologies. Instead of designing an artifact or even an interface to be used in pre-established ways, the designer is proposing potential assemblages to be performed. These are encounters between humans, technology, and other humans where the designer is at best a coordinator or a facilitator (a political organizer) with no necessary priority (ontological, epistemic, ethical, and political) over how the encounter develops. In contrast to the Habermasian procedural idea of communication, a political organizer has no final say on how the process and its outcome should unfold. Their role is not that of enclosing a procedure or medium and ensure its stable persistence, may it be a social media platform or deliberative democracy, but to open it up again and again by enabling collective action for the recognition of a previously unrecognized other (a group, a practice, an experience). The goal of a politically oriented designer is thus not to conserve the conditions of democracy, but to enact a position unacknowledged by those very conditions.

If we wish to produce more democratic practices with social media and algorithmic technologies, we should first question the kind of relations we are assembling. And, more specifically, the kind of communities or collective subjects they are producing through a distribution of experience. This is not done in an attempt to reduce uncertainty or set the right conditions to efficiently carry out assumed democratic practices, but to question the ways in which we are coming together and who do we become as part of a collective when we gather around technologies. How are our relations

structured? Who gets to control who? Are these relations egalitarian or hierarchical? Inclusive or exclusionary? That is, we must bring an entire host of questions from political organizing into the heart of, both, political theory and technological design. In this regard, I follow Rancière, for whom a theory of democracy, which entails the emancipation of equal citizens, is not properly a theory (a top-down explanation of emancipation), but theorizing must structurally assume this equalizing mandate and practically participate in emancipation (Deranty et al., 2010). Analogously, a switch form Habermas to Rancière in ethically informed design should not perpetuate hierarchical epistemic structures in which designers have representational access to what users really value, but design itself be conceived as a practice of democratic equality.

Mirroring Rancière's thoughts on politics, an agential realist position regards algorithmic technologies as an open-ended process to be constantly performed through material and discursive practices. This connection helps us grasp that a political life of the algorithmic age cannot be attained by doubling down on the designer's role of embedding democratic values and dictating proper usage, but by opening up the design process to user intervention and participation (see DiSalvo, 2022; Toussaint et al., 2021). That means, to blur the boundaries between design and use. Or, more radically, reconceiving the practice of design as a form of political organizing. So, the task of the designer is no longer to design democratic practices, but to make (technological) design a democratic practice. The goal is, then, not to open design to produce a democratic outcome, but the political gesture of opening the process itself.

A focus on the relations and encounters that social media disposes can be the starting point to imagine different online and algorithmic practices with purposes, scales, and forms of engagement that are not the production and mobilization of data for profit making. It should be noted that this approach has the limitation of excluding existing corporate social media, as their for-profit motives and fetishization of artefacts make them prone to reproduce the hierarchical structures of technological corporations in the practices they afford (see Horkheimer et al., 2002). It also strays away from policy recommendation or best practices solutions since they tend to limit themselves to give palliative fixes against possible corporate social media wrongdoings, rather than actively imagining ways of doing online social differently.

In this regard, an agential realist conception of algorithmic technologies also does not allow for a clear normative position. That is, as it is focused on how practices co-produce systems (technological, political, and technopolitical), on its own, agential realism doesn't admit a normative standpoint where someone can judge whether an assemblage of practices is good or bad; ethical or unethical. This is because the question tackled by this position is not the necessarily an ethical one (or even aesthetic in the traditional Kantian sense in which a viewer produces a judgment about an artwork) of producing good collective performances with technology to achieve a "well-functioning" democratic digital society. The question is instead a political and conflictual one: what roles are given to human actors in the assemblage? To non-human ones? What do their actions do? What experiences and subjects, individual or collective, are (mis)recognized?

Considering these limitations, a Rancièrian technological design calls for a radical questioning of who gets to be considered a designer and what kind of contexts can design be practiced. While it is true that technological design requires decisions to be

made and lock-in specific features that might displease and even exclude other, these remain closed-off and prevent disagreement since they are embedded in corporate contexts that nowadays monopolize technological design practice. Answers to this standstill could be the adoption of tolerant paternalist strategies as proposed by Floridi (2016) or promoting agonistic design cycles in which users have the possibility to rediscuss a design after its first release. These options, however, remain acritical about the political distribution of roles in the design process. In a nutshell, the user remains a user and is heard only if the designer or their institutional context desires to do so and under their terms. The user's standpoint is merely tolerated by a position in power.

Also influenced by Rancière's notion of disagreement, this is the same concern that Mahmoud Keshavarz and Ramia Maze (2013) have about participatory design. They assert that an implicit ideal of consensus also underlies participatory design as it is usually practiced: "Participation in design is often oriented to the practical matter of achieving consensus, or agreement upon and stabilization of a particular set of social relations, norms and courses of action" (2013, p. 10). Their practical research with women activists from Iran and Sweden and their commitment to staging participation in design as dissensus, led them, not only to innovative methods for "indisciplinary" participation (2013, pp. 17–18), but chiefly to reconsider the role of the designer and their relationship to participants. They recognize that a design process "involve[s] the framing and staging of relations among diverse participants, including those with very different starting points than designers, with distant positions within an organizational hierarchy and with heterogeneous skills and interests" (2013, p. 8). That is, that the designer is someone who stages relations between people who are different to them and probably in an unequal relation to each other. This staging is not done in order to smoothen out or resolve those differences, but to highlight them and intervene in an existing social order. For Maze and Keshavarz, the designer becomes a translator "from a world of experiences and communities that tend to be invisible or marginalized into a world of factual spectators"(2013, p. 19). The task of the designer-translator is to intensify contradictions within a social order; to juxtapose mismatches and discontinuities present in our everyday life. So, instead of providing meaning, smoothening out the continuity between cause and effect, or efficiently representing all sectors of society, designing for disagreement opens a void of meaning that allows for political subjectivation that had previously remained unaccounted for.

Maze and Keshavarz's proposal echoes that of Alberto Romele who, also influenced by Rancière, has stressed the importance of stock images of AI (often anthropomorphized robots over sanitized blue backgrounds, see Vrabič Dežman (2024) in determining the expectations designers and users place on these set of technologies (Romele, 2022). As a counterproposal to the aesthetics and economies of stock imagery of AI and borrowing from Rancière's terminology, Romele proposes the creation of "pensive" images of AI. Following Rancière, for Romele an image allows for pensiveness when it "bring[s] together different regimes of expression without homogenizing them" (2022, p. 15). Moreover, pensive images remain open to interpretation and do not necessarily adhere to the reality they represent.

When translated to the practice to design, a pensive design might thus entail a lack of obvious use scenario or evident affordances, as it would juxtapose different realms

of experience and action. This "purposeless" design is, in fact, an avenue that speculative and critical design (see Dunne, 2008) have amply explored. Nevertheless, as Romele notes, and as it is also the case for critical design practice, this discourse of openness to interpretation and purposelessness spawns from the fact that Rancière built the notion of pensive image after the paradigm of art (Romele, 2022, p. 15). This could mean that for technological design to be pensive, its practices and institutions should resemble those of art. This is made evident by the example Romele gives as a pensive image of AI, clearly inserted within artistic institutions and discourse[7].

I agree with the possibilities of art to generate pensiveness while remaining critical of the different set of difficulties that artistic institutions pose, yet what I propose along with Romele, Maze, and Keshavarz is an effort to rearticulate the practice of designing and the context in which it is embeded. That is, to perform the relations between designers, users, and the institutions where these take place in more horizontal ways. This, in my opinion, has the consequence of expanding what is understood by designing to practices in contexts that are not those of professional designers in technological design institutions. In this sense, a shift from Habermas to Rancière in ethically oriented design practice requires writing and thinking about design for a different audience. The suggestions sketched in this article are therefore not especially directed to professional designers, ethicists, or policymakers working for the continuation of the institutions they are embedded in, but to any user of algorithmic technologies who wishes to creatively appropriate them.

In a similar spirit to Maze and Keshavarz's reformulation of the role of designer as translator, I wish to suggest a different role of the user of algorithmic technologies: the tactical user. One that is probably more demanding both technically and politically, but that allows for a creative reappropriation or misuse of technology to perform gestures of equality that interrupt the police order. Inspired by activist and squatting movements (see Boer et al., 2019), as well as the early 2000's movement of tactical media (Galloway, 2006, pp. 174–207; Kluitenberg, 2011; Raley, 2009), the tactical user does not use design to enforce a particular arrangement of actions with technologies, but to interrupt those arrangements by explicitly overriding a design's affordances and its designers' intentions (as ethical as they might be). Think, for example, of the ways in which a protest takes over a public space (legally or illegally) to make visible an otherwise invisible demand. Or, in the context of online distributions of the sensible, a distributed denial-of-service attack, or an en masse feed flooding, could be considered acts of tactical design practice. This does not necessarily mean that whenever these tactics are deployed it is done ethically or for well-meaning purposes. My suggestion here is that if we start seeing them as the starting point for design practice, the goals, subjects, contexts, and relations of design reappear as performed assemblages for dissensus rather than coded procedures for consensus.

[7] "Let us consider the robotic sculpture Black Box by the French artist Fabien Zocco (https://www.fabienzocco.net/blackbox.html). Robotic black cubes move slowly on the ground. Their movements let a sort of enigmatic behavior emerge, lending a semblance of life to these minimalist artifacts. Black Box thus aims to give substance to the often used, but less often thought of, metaphor of the "black box," which in the ethical discourses on AI indicates the inaccessibility to the internal functions of a system such as a machine learning algorithm." (Romele, 2022, p. 15).

6 Conclusion

As I have argued in this paper, agential realism interweaves the political and the ontological and, in this matter, it shares with the work of Rancière its understanding of equality as more than a normative principle or a moral obligation but an ontological stance leading to a radical reinterpretation of how things exist (Deranty et al., 2010). So, even if it could be claimed that an agential realist position needs to be complemented by a normative theory of democracy for it to judge if assemblages are democratic or not, I once again propose to follow the work of Jacques Rancière in that a theory of democracy should not be bound to a position external to political action. Instead, it should emerge from the struggle of recognition of new configurations in political and technological relations. In this case, form the struggle of recognition of the collective experience of aggregated user interaction with self-corrective algorithms as a site for data production, rather than from a regulatory ideal of democracy as a communicative action.

To conclude, a switch from Habermas to Rancière as the implied political assumptions of ethically informed design is to perform a categorical expansion. That is, expanding the politics of social media and algorithmic technologies to its non-representational or communicative facets. And, by doing this, expanding conceptions of user agency, from repetitive reactive interaction to the possibility of rearticulating and reappropriating practices with algorithmic technologies. This is because the political does not happen once certain conditions are met, but it entails the contestation of this very conditions and, therefore, the idea that these can be set transcendentally behind the backs of those who participate in it.

Politics as disagreement is not a set of institutions, actors, or procedures. Rather, politics happens. In this paper I suggest that politics, like digital technologies are an encounter. To be more precise, they are the encounter of contestation of the "identity between cause and effect" (Rancière, 2009). Consequently, politicizing social media is not only limited to 'epistemic reformism' (Panagia, 2021) or representing better or more ethically through increased policing of a given distribution of experience. To put it differently, it is not necessarily about demanding, designing, and enforcing the conditions for a proper communicative exchange through digital technologies. Social media politics is not only an epistemic-normative project implying that an expert designer or policy maker will be able to visualize it in its totality and therefore make claims about how it ought to be. If social media as political reveals politics as an aesthetic endeavor, politics with social media is about contesting the ways in which we (users, designers, policy makers, philosophers, citizens) are enacting relationships with digital and algorithmic technologies. Politics on social media is thus a projection onto the future, a potential of disposing practices otherwise, in more equitable ways, enabled by the indeterminacy of algorithmic technologies rather than the enforcement of a past consensus.

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References

Azoulay, A. (2015). *Civil imagination: A political ontology of photography*.

Barad, K. (1998). Getting Real: Technoscientific Practices and the materialization of reality. *Differences*, *10*(2), 87–128. https://doi.org/10.1215/10407391-10-2-87

Barad, K. (2003). Posthumanist Performativity: Toward an understanding of how Matter comes to Matter. *Signs: Journal of Women in Culture and Society*, *28*(3), 801–831. https://doi.org/10.1086/345321

Barad, K. M. (2007). *Meeting the universe halfway: Quantum physics and the entanglement of matter and meaning*. Duke University Press.

Bhandari, A., & Bimo, S. (2022). Why's everyone on TikTok now? The Algorithmized Self and the future of self-making on Social Media. *Social Media+Society*, *8*(1), 20563051221086241. https://doi.org/10.1177/20563051221086241

Bjerknes, G., & Bratteteig, T. (1995). User participation and democracy: A discussion of Scandinavian Research on System Development. *Scandinavian Journal of Information Systems*, *7*.

Blaser, M. (2013). Ontological conflicts and the stories of peoples in spite of Europe: Toward a conversation on political ontology. *Current Anthropology*, *54*(5), 547–568. https://doi.org/10.1086/672270

Boenink, M., & Kudina, O. (2020). Values in responsible research and innovation: From entities to practices. *Journal of Responsible Innovation*, *7*(3), 450–470. https://doi.org/10.1080/23299460.2020.1806451

Boer, R., Otero Verzier, M., Truijen, K., Schwartz, J., & Instituut, H. N. (Eds.). (2019). *Architecture of appropriation: On squatting as spatial practice*. Het Nieuwe Instituut.

Bucher, T. (2017). The algorithmic imaginary: Exploring the ordinary affects of Facebook algorithms. *Information Communication & Society*, *20*(1), 30–44. https://doi.org/10.1080/1369118X.2016.1154086

Butler, J. (1999). *Gender trouble: Feminism and the subversion of identity*. Routledge.

Çetiner, N. (2020). A recent Trend in the humanities: The New materialisms as Philosophy and Theory. In Öztürk, Serdar, & E. Çalık (Eds.), *Theory and research in Social, Human and Administrative Sciences* (Vol. 2). Gece Publishing.

Callon, M. (1989). Society in the Making: The Study of Technology as a Tool for Sociological Analysis. In Bijker, W. E., Hughes, Th. P., Pinch, T., *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology,* 1st MIT Press paperback ed., 83–103. MIT Press.

Couldry, N., & Mejias, U. A. (2019). Data colonialism: Rethinking Big Data's relation to the contemporary subject. *Television & New Media*, *20*(4), 336–349. https://doi.org/10.1177/1527476418796632

Cristofari, G., Beraldo, D., Rossetti, G., Bodó, B., Chiappini, L., van Doorn, N., Helmond, A., van Hoboken, J., Leerssen, P., Lovink, G., Milan, S., ten Oever, N., Poell, T., & de Waal, M. (2023). *The politics of platformization: Amsterdam dialogues on platform theory*. Institute of Network Cultures.

De Reuver, M., Van Wynsberghe, A., Janssen, M., & Van De Poel, I. (2020). Digital platforms and responsible innovation: Expanding value sensitive design to overcome ontological uncertainty. *Ethics and Information Technology*, *22*(3), 257–267. https://doi.org/10.1007/s10676-020-09537-z

Deleuze, G., & Guattari, F. (1987). *A thousand plateaus: Capitalism and schizophrenia*. University of Minnesota Press.

Deranty, J. P. (2003). Ranciere and Contemporary Political Ontology. *Theory & Event*, *6*(4). https://doi.org/10.1353/tae.2003.0010

Deranty, J. P., & Citton, Yves, Mecchia, Giuseppina, Chamber, S. A. May, Todd, Bosteels, Bruno, Panagia, Davide, Watts, Philip, Ross, Alison, Ross, Toni, & Melehy, Hassan. (2010). *Jacques Rancière: Key concepts*. Acumen.

Dieter, M. (2015). Dark Patterns: Interface Design, Augmentation and Crisis. In D. M. Berry & M. Dieter (Eds.), *Postdigital Aesthetics: Art, Computation and Design* (pp. 163–178). Palgrave Macmillan UK. https://doi.org/10.1057/9781137437204_13

DiSalvo, C. (2022). *Design as democratic inquiry: Putting experimental civics into practice*. The MIT Press.

Dixon-Román, E. (2016). Algo-Ritmo: More-than-human performative acts and the Racializing assemblages of Algorithmic architectures. *Cultural Studies ↔ Critical Methodologies*, *16*(5), 482–490. https://doi.org/10.1177/1532708616655769

Dunne, A. (2008). *Hertzian tales: Electronic products, aesthetic experience, and critical design* (1. MIT Press paperback ed). MIT Press.

Floridi, L. (2016). *Tolerant Paternalism: Pro-ethical Design as a Resolution of the Dilemma of Toleration* (SSRN Scholarly Paper 3835901). https://doi.org/10.2139/ssrn.3835901

Galloway, A. R. (2006). *Protocol: How control exists after decentralization* (1. MIT Press paperback ed). MIT Press.

Gamble, C. N., Hanan, J. S., & Nail, T. (2019). WHAT IS NEW MATERIALISM? *Angelaki*, *24*(6), 111–134. https://doi.org/10.1080/0969725X.2019.1684704

Gillespie, T. (2010). The politics of 'platforms'. *New Media & Society*, *12*(3), 347–364. https://doi.org/10.1177/1461444809342738

Gore, A. (1994). Forging a new athenian age of democracy. *Intermedia*, *22*(2), 4–6.

Habermas, J. (1994). THREE NORMATIVE MODELS OF DEMOCRACY. *Jurgen Habermas*, *1*(1).

Helmond, A. (2015). The platformization of the web: Making web data platform ready. *Social Media+Society*, *1*(2), 2056305115603080. https://doi.org/10.1177/2056305115603080

Hird, M. J. (2009). Feminist engagements with Matter. *Feminist Studies*, *35*(2), 329–346.

Hofweber, T. (2023). Logic and Ontology. In E. N. Zalta & U. Nodelman (Eds.), *The Stanford Encyclopedia of Philosophy* (Summer 2023). Metaphysics Research Lab, Stanford University. https://plato.stanford.edu/archives/sum2023/entries/logic-ontology/

Horkheimer, M., Adorno, T. W., & Noerr, S., G (2002). *Dialectic of enlightenment: Philosophical fragments*. Stanford University Press.

Hu, L. (2021). Tech Ethics: Speaking Ethics to Power, or Power speaking Ethics? *Journal of Social Computing*, *2*(3), 238–248. https://doi.org/10.23919/JSC.2021.0033

Hui, K., & Chun, W. (2011). Crisis, Crisis, Crisis, or Sovereignty and Networks. *Theory Culture & Society*, *28*(6), 91–112. https://doi.org/10.1177/0263276411418490

Keshavarz, M., & Maze, R. (2013). Design and Dissensus: Framing and staging participation in Design Research. *Design Philosophy Papers*, *11*(1), 7–29. https://doi.org/10.2752/089279313X13968799815994

Kluitenberg, E. (2011). *Legacies of tactical media: The tactics of occupation: From Tompkins Square to Tahrir*. Institute of Network Cultures.
Koopman, C. (2019). Information before information theory: The politics of data beyond the perspective of communication. *New Media & Society*, *21*(6), 1326–1343. https://doi.org/10.1177/1461444818820300
Kroes, P. (2010). Engineering and the dual nature of technical artefacts. *Cambridge Journal of Economics*, *34*(1), 51–62. https://doi.org/10.1093/cje/bep019
Kroes, P., & Meijers, A. (2002). *The Dual Nature of Technical Artifacts – presentation of a new research programme*.
Latour, B. (2015). *Science in action: How to follow scientists and engineers through society*. Harvard Univ. Press.
Latour, B., & Latour, B. (2007). *Reassembling the Social: An introduction to actor-network-theory*. Oxford University Press.
Le Dantec, C. A., Poole, E. S., & Wyche, S. P. (2009). Values as lived experience: Evolving value sensitive design in support of value discovery. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 1141–1150. https://doi.org/10.1145/1518701.1518875
Lessig, L. (1999). *Code and other laws of cyberspace*. Basic Books.
Lupton, D. (2018). How do data come to matter? Living and becoming with personal data. *Big Data & Society*, *5*(2), 2053951718786314. https://doi.org/10.1177/2053951718786314
Matteo Pasquinelli. (2018). Metadata Society. *Posthuman Glossary*. Bloomsbury Publishing Plc.
McQuillan, D. (2018). People's councils for ethical machine learning. *Social Media+Society*, *4*(2), 2056305118768303. https://doi.org/10.1177/2056305118768303
Mitchell, W. J. T. (2017). Counting media: Some rules of Thumb. *Media Theory*, *1*(1), Article1.
Mouffe, C. (1993). *The return of the political*. Verso.
Nichols, T. P., & LeBlanc, R. J. (2021). Media education and the limits of literacy: Ecological orientations to performative platforms. *Curriculum Inquiry*, *51*(4), 389–412. https://doi.org/10.1080/03626784.2020.1865104
Panagia, D. (2009). *The political life of sensation*. Duke University Press.
Panagia, D. (2010). *Partage du sensible*: The distribution of the sensible. In J.-P. Deranty (Ed.), *Jacques Rancière* (1st ed., pp. 95–103). Acumen Publishing Limited. https://doi.org/10.1017/UPO9781844654727.008
Panagia, D. (2019). On the political ontology of the *Dispositif*. *Critical Inquiry*, *45*(3), 714–746. https://doi.org/10.1086/702613
Panagia, D. (2021). On the possibilities of a political theory of algorithms. *Political Theory*, *49*(1), 109–133. https://doi.org/10.1177/0090591720959853
Raley, R. (2009). *Tactical media*. University of Minnesota Press.
Ranciere, J., Panagia, D., & Bowlby, R. (2001). Ten theses on politics. *Theory & Event*, *5*(3). https://doi.org/10.1353/tae.2001.0028
Rancière, J. (2006). *The politics of aesthetics: The distribution of the sensible* (Pbk. ed.). Continuum.
Rancière, J. (2009). *The emancipated spectator*. Verso.
Rancière, J. (2015). *Dissensus: On politics and aesthetics*. Bloomsbury Publishing Plc. https://doi.org/10.5040/9781474249966
Rancière, J., Rancière, J., & Rancière, J. (1999). *Disagreement: Politics and philosophy* (J. Rose, Trans.). Univ. of Minnesota Press.
Romele, A. (2022). Images of Artificial Intelligence: A blind spot in AI Ethics. *Philosophy & Technology*, *35*(1), 4. https://doi.org/10.1007/s13347-022-00498-3
Society in the Making: The Study of Technology as a Tool for Sociological Analysis (1989). In W. E. Bijker, T. P. Hughes, & T. Pinch, *The Social construction of technological systems: New directions in the sociology and history of technology* (1st MIT Press paperback ed, pp. 83–103). MIT Press.
Srnicek, N. (2019). *Platform capitalism*. Reprinted). Polity.
Toussaint, W., Ortega, A. G., Vroon, J., Harty, J., Solmaz, G., Kudina, O., Peltonen, E., Bourgeois, J., & Ding, A. Y. (2021). *Design Considerations for Data Daemons: Co-creating Design Futures to Explore Ethical Personal Data Management* (arXiv:2106.14975). arXiv. http://arxiv.org/abs/2106.14975
Van De Poel, I. (2020). Embedding values in Artificial Intelligence (AI) systems. *Minds and Machines*, *30*(3), 385–409. https://doi.org/10.1007/s11023-020-09537-4
Vol. 14 Platform Politics. (2013, January 7). *Culture Machine*. https://culturemachine.net/platform-politics/
Vrabič Dežman, D. (2024). Promising the future, encoding the past: AI hype and public media imagery. *AI and Ethics*. https://doi.org/10.1007/s43681-024-00474-x

Zuboff, S. (2019). *The age of surveillance capitalism: The fight for a human future at the new frontier of power* (First edition). PublicAffairs.