

Enabling ‘AI’? The situated production of commensurabilities

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Abstract

How can we examine so-called ‘artificial intelligence’ (‘AI’) without turning our backs on the STS tradition that questions both notions of artificiality and intelligence? This special issue attempts a step to the side: Instead of considering ‘AI’ as something that does or does not exist (and then taking a position on its benefits or harms), its ambition is to document, in an empirical and agnostic way, the performances that make, sometimes, ‘AI’ appear or disappear in situation. And it comes out, from this perspective, that ‘AI’ could be considered a vast commensuration undertaking.

Keywords

AI, ethnography, history, ethnomethodology, commensurability

For some STSers—including us—the term ‘artificial intelligence’ (AI) can easily sound old hat. Artificial? Classic works by Star (1983, 2002), Haraway (1988, 2016), Latour (1993, 2013), Lynch (1985, 2014), and many others on the formation of scientific facts and technical assemblages have called into question the opposition between ‘natural’ and ‘artificial’, ‘real’ and ‘constructed’, ‘human’ and ‘machine’. Intelligence? A risky notion, to say the least, that should at a minimum be used in plural, as the empirical inquiries of Hutchins (1995), Netz (2003, 2004), Suchman (1987, 2006), Collins (1992, 2018) and many others have shown that there are only equipped, collective, embedded, affective, and distributed cognitive processes—not to mention their embodied enactment. Hence,

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sometimes, a lingering hesitation to engage with an object labeled ‘AI’ (Kirtchik, 2019). So many pitfalls from the outset! For those who inherit from the above-mentioned authors, ‘AI’ might seem at best a passing fad, at worst a painful manifestation of the lack of social and political significance of STS, setting aside the recurring conceptual confusions (Brooker et al., 2019; Shanker, 1998) and historical imbroglis (Penn, 2020).

Yet this same post-constructivist STS tradition also invites us to take an interest in the term ‘AI’. Does the term not actively contribute to the constitution of the collective world through the discourses it animates, the books it feeds, the policies it suggests, or even the feelings of rejection it sometimes evokes? Yes: According to the classic STS tradition, ‘AI’ is a contradiction in terms. But no: Its contradictions do not prevent it from producing differences, and therefore from existing. ‘Essence is existence and existence is action’, the Deleuze-inspired STS mantra goes. How, then, should we take part in the analysis of the contemporary world in its interaction with the term ‘AI’ while preserving the gains of the works that contributed to the acuity of the STS glance (and that enter in contradiction with a distinction, even dialectically reunited, between ‘intelligence’ and ‘artificiality’)? A first move in this direction could be, we suggest, to take a step back and look at how the specialized literature considers ‘AI’, before attempting a flank movement.

To keep in mind the ambivalence of the term ‘AI’ and its capacity ‘to evade definition in order to maximize its suggestive power’ (Suchman, 2023, p. 781), we generally write it in quotation marks in this introduction.

A flank movement in the understanding of ‘AI’

Current discussions on ‘AI’ often start by assessing its reality by reference to some metaphysics of intelligence (human problem solving, brain-computer analogy) and/or some technological achievements (game playing, image recognition, curated chatbots), before taking a stand on the benefits or harms of this existence. This is, for example, the case of positive discourses promoting the liberatory potential of increased automation (e.g., Kurzweil, 2013; Walsh, 2017) and of more negative discourses dealing with the threats of the ‘singularity’, the moment when humans will assumedly become a nuisance to their master computers (e.g., Hawking, 2014; Hern, 2014). By and large, from this agreement over the actuality of AI—the assumption that the term designates a fact—also derive some of the discourses on the biases embedded in statistical learning technologies, discourses that warn against the harms such contingent and fixable design flaws generate for scores of increasingly vulnerable populations (e.g., Gebru, 2020; Wallach, 2010).

Parallel to these discussions, and often in reaction to them, competing analyses begin by denying the reality of ‘AI’ by reference to some other metaphysics (phenomenology, social constructivism) and/or technological failures (autonomous driving, uncurated chatbots), before taking a stand on the benefits or, more often, the harms of this ontological error. This is for example the case of expert discourses that challenge the use of the term ‘AI’ while highlighting the societal benefits of statistics- and probabilities-based technologies (e.g., Earley, 2016; Julia, 2019). This ontological refusal also serves as a basis for more radical criticisms, particularly regarding the contingent work that the

term ‘AI’ obscures, while relying upon, as well as the danger this invisibility poses to traditional labor protection (e.g., Casilli, 2019; Gray & Suri, 2019). Somewhat complicating the picture, some authors express similar ontological rejection by using the vocabulary of biases to warn against the harm that necessary and unfixable design flaws generate for already vulnerable populations (e.g., Crawford & Calo, 2016; Noble, 2018; O’Neil, 2016).

While many of these discussions are crucially important, particularly in terms of their mobilizing and affective impacts, this issue takes a different path. Rather than a binary approach that would begin by taking for granted AI by either affirming or denying its reality, articles in this issue report on the practical formation or dissolution of ‘AI’—as a recognizable, if paradoxical, phenomenon. Similar to what Muniesa (2011), following Dewey (1939), proposed to do for the study of valuation, the issue pleads for a *flank movement*: Instead of considering AI as something that does or does not exist, its ambition is to document and describe, in an empirical and agnostic way, the *performances* that make ‘AI’ appear or disappear—this in response to what might otherwise amount to a ‘practice U-turn’ (Sormani et al., 2011) in the social study of ‘AI’.

But how should we initiate this pragmatist-inspired flank movement? Or rather, using Dewey’s terminology, taken up by Muniesa, how should we operationalize this distancing from the ‘realist-idealist’ dualism that pervades the social study of ‘AI’? Our advocated movement implies refocusing on field-based investigations and practical situations. Taking a processual look at something (which is often indicated, in STS, by the noun-forming suffix ‘ization’) to identify, or relocate, some of the conditions of its realization implies conducting empirical inquiries into concrete actions. In this sense, and to document the conditions of ‘AI’ appearing in action and to describe its local performance(s), it seems to us essential to start from concrete and assignable *situations*, a starting point still struggling to make its way into the social study of computational technologies.

The still still-neglected situation?

What is a situation? There are many different acceptations of this notion, some of which have been the topic of recent discussions within STS, ranging from methodological pleas for new interesting social analytics that mobilize computational tools (e.g., Marres, 2020) to programmatic discussions on critical experimentation with and against AI-labelled technology (Marres & Sormani, 2023). But do these discussions really challenge the fact or requirement that the analysis of a situation implies a form of proximity—be it by taking field-notes, engaging in video recording, or meticulously reconstructing actions from historical sources (Ginzburg, 1980)? Doesn’t the social analyst have to stay close to concrete actions—discursively mediated and/or interactively transacted—if only for him/her to become able to document and describe the activities that participate in the local production of meaning and order? Let us briefly pause on these questions before introducing the contributions to the special issue.

The ‘traditional’ conception of the situation as implied by our questions echoes the classic works of Goffman (1964), Garfinkel (1967), and Sacks (1992), for all of whom the conditions of social interactions are never completely determined and require

constant and local efforts of action and interaction, adjustment and repair. These deserve to be documented and described, if only to get a better sense of the multiple ways in which ‘we live together in the world’ (Thévenot, 2007). However, for the specific case of the social analysis of computational technologies and ‘AI’ in action, it seems to us that it is the sociologist Louis Quéré who provides a particularly instructive definition of the situation in his dense article titled ‘The still-neglected situation?’ For Quéré—who provides a critical commentary on ‘computer supported cooperative work’ (CSCW), an STS-related line of ethnomethodological research—a situation corresponds to a spatiotemporal entity ‘structured in a certain way, that opens possibilities and perspectives for action, and points to appropriate actions to take’ (Quéré, 1998, p. 241). In this sense, a situation not only corresponds to a ‘conversation’, the interactive *hic et nunc* in and through which our experiences happen to be articulated; a situation, more broadly, ‘emerges when something takes shape; its development, which is unpredictable, corresponds to a succession of events, contingencies and initiatives that lead to its *denouement*’ (p. 242).

This broad notion of situation, which encompasses both a temporal and spatial dimension, is perhaps not the most original one: It is for instance quite in line with Dewey’s ‘logic of inquiry’, evolving from an unclear to a determinate situation, while encompassing the common-sense expression ‘we have a situation here’. Even though it hints at only one type of situation, this common-sense understanding—a situation is what is locally experienced as problematic—has the merit of constituting an effective counter-position to what Quéré calls ‘Cartesian remnants’ (p. 245): disembodied conceptions, many of them inherited from the early development of electronic computing (Jaton, 2021, pp. 91–134), that reduce activity ‘to deliberation and planning, and the agent to a disembodied mind cut off from his environment, determining movements of a body through analysis, thought and calculation’ (Quéré, 1998, p. 225). By describing situations in detail—which implies engaging oneself in historical, genealogical, or ethnographic inquiries (which does not prevent one from using computational methods in one way or another)—it becomes quite complicated to attribute agency to mental mechanisms *ex situ*, to consider actions as resulting from information processing, or to consider social actors as driven by ready-made intentions. By taking the time to account for local situations, social reality becomes thicker, while both logical and cognitivist reductionisms appear for what they are: convenient and quite effective ways of modeling, if not caricaturing (Bogost, 2015), behaviors within technical devices that allow those who use them to act at a distance (Latour, 1988; Muniesa, 2018).

A situation is thus what is locally experienced, temporally unfolding, and sometimes encountered as problematic by an actor, and its description allows, ideally, to better understand the practical and political ordering of the collective world, reflexively and accountably so. So far, nothing very new (though it may sometimes be forgotten). Yet this analytic glance appears to be particularly appropriate to study the local making of ‘AI’, a term that is historically loaded and carries many contradictory visions and promises, not to mention the gap with mundane practices. In this sense, reengaging with the situation is also a way of leveraging its critical potential, as the contributions to this special issue amply suggest.

Producing and probing commensurabilities

We won't here provide a historical account of AI as a research field (e.g., Penn, 2020). Suffice it to recall that, in the mid-1950s, the notion of 'AI' was introduced as an umbrella term and sales pitch for a funding bid (McCarthy et al., 2006). The notion was thus bound up with a particular rhetoric, including its universalist claims and their mathematical formalism (Shanker, 1998), in addition to the computing and engineering tasks for which it stood proxy (the funding bid indeed included a list of contrasting projects). This constitutive ambivalence of 'AI' as an engineering task and allusive concept is perhaps best captured by 'critical' computer scientist Phil Agre's dictum: 'Each technique [in AI] is *both* a method for designing artifacts and a thematics for narrating its operation' (Agre, 1997, p. 7, emphasis added). In turn, this constitutive ambivalence raises the question of how it is dealt with *in situ*, and what attempts at and achievements of 'producing commensurabilities' (Espeland & Stevens, 1998) that it requires—that is, when practitioners engage in training algorithms, staging technology, and/or seeking conceptual clarity, among other situated enactments of 'AI'.

Each in its own way, the contributions of this special issue therefore document and discuss local commensuration practices that participate in the emergence of 'AI' in situation, as a way of managing (at least one of) its characteristic imbroglios. The title of the issue—*Enabling 'AI'?*—stands proxy for those situated practices, as well as their achieved character, not to mention their defeasible and fragile, if not contested quality (hence the question mark).

In a detailed account of how the staff of a nursing home try to make Paro—a baby seal care robot—interact with elderly patients, Chevallier (2023) underlines the work necessary to make the robot's behavior commensurable with the way it is presented by the medtech company that sells it. This 'care of making a robot's care' is a risky endeavor, which is accomplished in situation as well as in reference to visions coming from places different from the interaction sites (notably demonstrations made to caregivers during dedicated presentations and workshops). In his video-assisted ethnography of a robotics laboratory, Lipp (2023) continues to explore this work of interfacing and shows that one way to make the actions of robots commensurable with those of 'real' people is to invisibilize the preparatory work necessary for commensuration. For something called 'AI' to appear in the laboratory, especially during demonstration trials, it is crucial not only to carefully prepare the experimental environment but also to make sure that the environment does not look too much prepared. And to characterize this work of both preparation and maintenance, Lipp proposes the notion of 'human-robot interfacing'.

Staging as a way of locally overcoming paradoxes specific to 'AI' and its demonstration as a cutting-edge technology is also explored in the work of Sormani (2023). Drawing upon a video analysis of interfacing practices, his contribution revisits a highly mediatized exhibition match—the 'AlphaGo show'—staged in early March 2016 at a luxury hotel in Seoul between AlphaGo, the most sophisticated Go program at the time, and Lee Sedol, an internationally top-ranked Go professional from South Korea. The exhibition match ended in a 4:1 surprise win by the program over the player. Sormani's video analysis homes in on the scenic intelligibility of the exhibition match and AlphaGo's

‘move 37’ in particular, a move that was repeatedly said to showcase its ‘mysterious yet powerful AI’, performing yet another ‘algorithmic drama’ (Ziewitz, 2016).

In their ethnographic study of the use of whole slide imaging in a pathology department in the Netherlands, Carboni et al. (2023) show, among other things, how decision-makers’ attachment to a form of representationalism—which considers digital and physical data to be interchangeable—feeds the situated emergence of ‘AI’. However, this assumption of ontological comparability tends to invisibilize a whole series of calibration operations mainly carried out by lower-level lab technicians. In that sense, ‘AI’ (or the promise thereof) is enacted through a succession of commensuration shadow practices, which they call *faux-tomation* (i.e., automation that requires constant human interventions). In their organizational ethnography of the introduction of machine-learning-based software in accounting and healthcare, Henriksen and Blond (2023) also emphasize the commensuration need of would-be ‘AI’ systems. In their case, this involves *transfer learning*, understood as the transposition of knowledge learned for a specific task (here, automated accounting) to another task (here, hospital patient triaging). However, as they show, this transfer attempt must be preceded by an equivalence between care and accounting, a highly political operation—aimed primarily at reducing costs—that struggles to take on its own meaning.

These elements directly echo Suchman’s (2023) investigation of contemporary US military scholarship in its relation to so-called ‘AI-enabled situational awareness’. In order to attach the label ‘AI’ to warfare devices, Suchman shows that it is essential to make human sensory and behavioral faculties comparable with those of computerized devices, before asserting, in turn, that the latter are today superior to the former. It is indeed through this commensuration work—originating in the 1950s in the US and reactivated at the beginning of the 2000s through the publication of several influential reports—that a supposed crisis of ‘human pattern matching’ arose, to which only ‘increased computation’ was able to respond. And it was supported by numerous cybernetics-inspired schematics and diagrams circulating in decision-making networks that the ‘AI’ nebula came back with force in the US war discourses and devices, notably through the Defense Innovation Advisory Board’s aim to bring Silicon Valley-based start-ups into military R&D projects.

Finally, another approach to the institutional rooting of ‘AI’ is offered by Jatón (2023) whose article furthers a line of research on the construction processes of ground-truth datasets—referential repositories that allow to train would-be ‘AI’ models and evaluate their performances—for the specialized case of personalized cancer immunotherapy. By retracing the history of the setting up of a challenge for the machine-learned detection of promising molecules (neoantigens), Jatón shows how the strategic assertion of an ‘AI-enabled cancer immunotherapy’ relies on the enforcement of benchmarked datasets, which are often costly and time-consuming, but also limited, contingent, and problematic, due in part to their readiness to create lock-in situations.

Taken together, the articles of this special issue document and advocate case studies of ‘AI’ in the making. Of course, it is up to readers to decide if the issue’s situational glance lives up to their expectations. But in these times of overbidding around ‘AI’—which at times leans towards forms of *criti-hype* (Vinsel, 2021) too—it seemed urgent to us to slow down, draw upon STS fundamentals (ethnography, history, description) to probe current cases of enabling ‘AI’, and see what comes out of it—in empirical detail, and as critical insight.

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