

# Intelligent Sensibility: Human-Machine Symbiotic Agencies

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## Abstract

This paper is an effort to examine the codes of interaction between the carbon-based and the silicon-based, i.e., the human and the machine, notably the shifting agencies addressed by adopting feminist technoscientific and new materialist lenses to grapple with the techno-industrial paradigm shift that has been (dis)figuring the anthropocentric condition. The first part of the paper lays down the qualities of this emerging ecology while recognizing the importance of human accountability and situatedness. The focal point of this survey is the anthropologist Lucy Suchman's classic *Human-Machine Reconfigurations* which is elaborated upon through anchor points she posits revisiting Donna Haraway and Karan Barad's arguments. The last part engages with the implications of such a coupling for human and machine sensoria in order to envisage the qualities of a distributive sensorium that this regenerative agency can put forth while alluding to practices of situated computing.

## Keywords

Posthumanism; human-machine interaction; distributive agency; cyborg; regenerative boundaries; hybrid sensorium; situated computation.

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If another techno-industrial paradigm shift has indeed crept up on us so as to perfectly confuse the human-machine boundaries this time around; and that an ontological shift has occurred, as Rosi Braidotti claims, troubling the contact zones “between the organic and the inorganic, the born and the manufactured, flesh and metal, electronic circuits and organic nervous systems”; and that the carbon-based and the silicon-based as a result constantly imbricate, move, and flux inexorably, how can we imagine the agencies constructed around such a flow? What are the implications of such an entanglement for human-machine sensoria?<sup>1</sup>

This co-evolutionary moment through which human and machine complex systems constantly affect and are affected by one another’s interrelation to create an unfolding terrain of imbricated becoming is referred to as *technogenesis* by N. Katherine Hayles. The implications of this adaptable and generative interrelation are profound: not only we, as humans invested in the holiness of humanism, have to grapple with constant adaptation of culturally coded networks of human life, but also with the psychobiological shifts that have occurred notably in rewiring of intricate neuronal activities of the human brain.<sup>2</sup>

Detached from the preformulated subject-object binary, the anthropologist Lucy Suchman’s classic *Human-Machine Reconfigurations* offers a profound angle on theorizing the conditions of this human-machine distributive agency. To delve into reconfiguration as an emergent ecology where agencies are constantly made, unmade and remade, at various points Suchman draws on the scholarship of Donna Haraway as well as Karen Barad, notably through the notions of figuration and intra-action.

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## Haraway’s Figuration: A Situated Construct

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Through the concept of figuration Haraway intends to foreground the tropic quality of material-semiotic practices in technoscience that hover in a space of literal-figurativeness. She envisages technologies as materialized figuration; that is assemblages that are both concerned with meaning making, a figural act, and physical and hence tangible existence.<sup>3</sup>

As a lens that particularly zooms in on human-machine interrelation, figuration is a critical framework that questions the formulation and configuration of technoscientific practices at every instance of

occurrence. The goal is to sidestep fixed universalized paradigms of ‘doing science and technology’ and aim for specificity of local practices that humans actively shape rather than act as a passive observer within.

According to Suchman, the act of figuration is informed by specific socio-cultural constructs arising from site-specificity which can reinscribe or challenge the status quo and question the Euro-American imaginaries built on rationality of the autonomous subject.<sup>4</sup>

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## Barad’s Intra-Action: Entities in the Making

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Barad’s notion of intra-action is based upon their theory of agential realism as an onto-epistemology that challenges individualist paradigms and insists that intra-acting agencies are always already inseparable.<sup>5</sup>

While during an interaction two preformulated entities come together for an exchange, an intra-action underscores how the subjecthood and objecthood gets formed through the encounter. Barad specifically considers technoscientific practices to be a common site of intra-action where we should recognize the act of boundary making, objectification, and subjectification as contingent constructs. Barad’s vision is markedly in line with Haraway’s material-semiotic that considers material constructs and the meaning arising from them as co-constitutive. They too consider the reality of human-machine boundaries to be cut in particular ways that follow certain historicity with socio-political consequences.

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## Suchman’s Reconfiguration

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Drawing on the notion of figuration, configuration and intra-action, Suchman proposes reconfiguration as a creative exploration of human-machine boundaries where what she refers to as “the distributed and enacted character of agency” as a constantly-regenerative phenomenon should be taken into account.<sup>6</sup>

This view sits against the Western-dominant vision of subjects and objects as fixed entities brought together to interact and instead points towards a kind of performativity within the encounter where the agents are in continuous formation, reproduction and transformation; a perspective rooted in Actor Network theory (ANT) as a social theory based on relational

ontology that puts humans and nonhumans alike as *actants* in an ever-evolving interrelated network where there are no preconceived positions taken but the positions are rather assumed through the process of interrelation. In this process the agencies are constantly worked through and negotiated to actively constitute ontologies based on what Michel Callon (2007), one of the proponents of ANT, calls “morphology of the relations” through which cyborgs, hybrids and quasi-objects are constructed and made visible.<sup>7(1)</sup>

Practices of technology-mediated medicine, including reproductive technoscience, as well as human-computer interaction are those that Suchman pays particular attention to as sites of human-machine mutually-constituted agencies. In this space of intra-action the disconcerting fact is that within practices of science and technology, the technical is formulated in the center while the social is either non-existent or pushed to the margins. Here, Suchman walks a tightrope of reconceptualizing the human in a way that the inseparability from the socio-technical substrate is pushed to the fore while recognizing the prominence of accountability but without assuming the dominion associated with ‘pure’ humanism that views technologies as translators and assemblers in service of humans. In other words, the question is how to draw a human-machine intra-action that retains human accountability without telling an essentialist story.

As a feminist construct, the figure of the cyborg, taken across its regenerative stance, can offer one avenue to explore this notion by radicalizing the human-machine, male-female, and subject-object boundaries, towards an emergent ecology where socio-materiality is constantly made, unmade and remade. From the Harawayan goddess-turned-cyborg to the elegant hero/ine and saviour as cultural imaginary and further as an everyday socio-materiality without a singular body, the figure of the cyborg is omnipresent across the socio-technical substrate.<sup>9</sup>

By overstepping the isolated shell that contains the human-machine hybrid, in Suchman’s reading, cyborg not only shatters the glamorized singular figure but “dissolves into a field of complex sociomaterial assemblages” to open up new ways of theorizing and practicing such an entanglement.<sup>10</sup> Braidotti, takes this destabilization one step further to put forth the figure of the deglamorized everyday cyborg as “anonymous masses of the underpaid, digital proletariat who fuel the technology-driven global economy without ever accessing it themselves.”<sup>11</sup>

Intrinsically, we can see how at every moment of instantiation cyborg cuts the human-machine boundary at a certain angle and not the other to constitute a shapeshifting intertwinement of the carbon-based and the silicon-based capable of subverting human-made socio-politico-cultural constructs. This fluid ecology is meant to transcend deeply etched preconceived notions of intelligent machines as human techno-extensions or the sensing and sensible human weary of the techno-dystopia, to instead reconceptualize an entanglement among networked agents, that constitute leaky, generative boundaries.

The stability of the human agency is thereby compromised as according to Suchman “the person figured here is not an autonomous, rational actor but an unfolding, shifting biography of culturally and materially specific experiences, relations, and possibilities inflected by each next encounter—including the most normative and familiar—in uniquely particular ways.”<sup>12</sup>

Within these spaces of constant transformation of the boundaries and redrawing the agencies, the question of accountability is by no means diffused: we need to recognize that we draw boundaries for meaning making and these boundaries are always charged with human-centered conceptions and misconceptions that have repercussions. This accountability is to recognize our position within animation and reanimation of situated encounters. As Barad states: “we are responsible for the world in which we live, not because it is an arbitrary construction of our choosing, but because it is sedimented out of particular practices that we have a role in shaping.”<sup>13</sup>

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## (Re)(Con)Figuring Hybrids of Sense-Making

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During the act of boundary making the question that arises is how can we cut the boundaries in ways that give rise to hybrids of sense making where intelligibilities and sensibilities are constantly figured, configured and reconfigured? Reconfiguration in this sense can be read as a possibility to negotiate sensory modalities to locate *sensing* and *effecting* <sup>(2)</sup> not as autonomous qualities associated with the human or the machine but traceable within the process of intra-action. If technical practices foreground machine agency and yet human sensoria and sensibility cannot be reduced to compressed temporal flow of machinic computation, we need to reckon with contingent encounters that go beyond biological and technological determinism. Bio-sensibility and machine

intelligence in this sense can be deconstructed and diffused to be reconfigured as dynamic fragments of a curious *intelligent sensibility* adjustable towards acting in contingent and context-specific situations.

Such a hybrid, quasi-sensoria made in between the human and the machine offers a heterogeneous socio-materiality with qualities that are no longer inherent but always negotiated and in formation. This ontological in-betweenness tends to question universalized presumptions about technical practices centered around the aptitude of the machine intelligence to offer reliable, definitive, and objective responses to complex questions that are always rooted in specific situations.

In this sense as Haraway notes the answer does not lie in the dichotomous poles of positivism with its hallmark of scientific objectivity or relativism with its absolute unfixed orientation but in localized and embodied partial perspectives.<sup>14</sup>

Such a vision relies on the symbiosis of the technical and the sensible to form an interdependent intelligent sensibility that takes shape within the act of becoming to reckon with procedural, socio-political, and cultural dimensions of local conditions to compose and assess situated work-flows and responses.

(1) While Suchman praises the idea of “generalized symmetry” proposed by ANT, she subsequently proposed “dissymmetry” as a framework that recognizes the human-machine differences. Others including Bowker and Leigh Star, put forth a number of critiques pointed towards ANT’s networked interrelations. They consider the larger social construct to question the equalizing effect of such a framework toward human/nonhuman actants and the ethico-political repercussions of a world operating on this logic, pointing out that ANT “can be read as an uncritical *celebration* of the power of modern science and technology.”<sup>8</sup> Elsewhere, others such as Mel Chen, Zakiyyah Jackson, and Tiffany King, among others contend that posthumanist theories in general discount the human discrimination factors at play due to micro and material nature of such inquires.

(2) Sensing and effecting are mechanisms of interaction within biological and technical organisms; while sensors receive information from the environment to relay to the system, effectors act upon the world based on feedback loops that occur between the two. These notions are derived from cybernetics, a field of inquiry that studies the principles of communication and control within regulatory systems.

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