The re-doing of the I-face bond: Bodies, prostheses, and affordances

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ABSTRACT

This article explores how prosthetic artifacts affect bodily identity and the sense of Self, not merely as tools but as agents that retroact on humans and are impacted in turn. Adopting a multidisciplinary approach grounded in phenomenology, neuro- and cognitive science, enactivism, Material Engagement Theory (MET), and feminist philosophy, the author proposes understanding prostheses as materially embedded practices that shape perception, agency, and Self-consciousness rather than passive extensions or functional enhancements. Central to this argument is the face, typically considered a distinct and transparent marker of identity. By reinterpreting it as a site of aesthetic and material negotiation based on a qualitative experimental study, the author shows how wearable artifacts like masks disrupt the pre-reflective sense of Self and highlight the relational, sensory, and affective dimensions of human subjectivity. The author argues for a heuristic shift: from a functionalist model of human-artifact coupling to one that acknowledges failure, discomfort, and the feedback loops through which bodies and technologies co-constitute each other.

Dave: "HAL?... HAL!... HAL?!... HAL!!... HAL!!!..." […]
HAL: "Stop, Dave. I'm afraid. I'm afraid, Dave.
Dave, my mind is going. I can feel it. I can feel it.
My mind is going. There is no question about it.
I can feel it. I can feel it. I can feel it. I am afraid."
Stanley Kubrick, 2001. A Space Odyssey (1968).

Bodies, the Self, and Prostheses

Nowadays, we register a widespread production, distribution, and use of material and digital devices that act upon our living bodies and affect our daily life in personal and social contexts, with enormous economic, political, medical, and environmental consequences. These implements are referred to, often interchangeably, as prostheses, media, and tools, as if the prosthetic, medial, and instrumental functions were one and the same. This reasoning may be sound when devices are

considered as means for increasing our productivity and our capacity to overcome obstacles in various private, professional, and social situations. However, while all three functions may be present in a particular gadget (e.g., a smartphone offers a prosthetic memory, an interface for watching films, and a way of reaching people akin to a telephone), they are neither equivalent nor necessarily embedded together at once (Sartori, 2024). Moreover, overcoming obstacles is not what artifacts primarily do, as I will argue.

For this article, I will consider those material constraints that impact the human body, interfering with our sense of Self in ways that make us aware of our situated physical experience and thus breaking down its transparency. Such constraints arise from artifacts that I consider prostheses insofar as they are directly connected to our anatomy and neurobiological mechanisms and processes and retroact on them. That is, I deem prostheses to be agents of personal identity.

Prostheses are mostly thought of as means to replace missing limbs, implement neuro- and muscular abilities, correct or compensate for disabilities, expand affective and cognitive agency, protect body functions, and respond to bodily input. This means participate in the very process of hominization (Gehlen, 1940; Leroi-Gourhan, 1964-1965; Plessner, 1928), individualization (Simondon, 1958), and even personalization (Young, 2005). Despite the intimacy that humans have with these agents of identity, all the verbs I just used (replace, implement, correct, compensate, modify, expand, protect, respond) imply autonomous actions performed upon human bodies, taken as objects to which artifacts (from canes and clothes to microchips) are applied.

Such is the old idea that Plato suggested in his Alcibiades Major and that has survived through the centuries, giving rise to a powerful narrative about what it means to be human. The body, we read, is to humans what tools are to the shoemaker. And just as the user of the instrument is distinct from the instrument itself, humans are distinct from their bodies, acting upon and making use of them. The body is a tool, and being a tool entails no cognitive agency. Let's further develop Plato's account, which is seminal to the mind/body divide that has characterized Western thought and our way of understanding of human behaviors. In the first place, the shoemaker's work product—the shoes—are themselves tools for protecting the shoemaker's feet; they are like a thick second skin. The feet—while distinct from the shoes—are wrapped up securely in them. In the second place, while the shoes may fit perfectly, they may also be too short, hurting the big toe; too narrow, causing blisters; or badly sewn, making the feet sore. In such situations, to the extent that the constrained wearer experiences discomfort, some action is taken to address it, such as flexing or angling the feet to relieve pain or even changing shoes.[i] The body thus reveals itself to be not just an instrument but an intelligent agent that "somehow" leads its owner.

We know pragmatically that a dynamic entanglement, a permanent negotiation, is at stake between the living tool (the body)—which is much less compliant than Plato suggests—and made tools (artifacts), and we trust this knowledge when we pick out our shoes, wear them, do things while wearing them, and take them off. However, such pragmatic competence, which derives from personal experience, shapes bodily habits, and supplies implicit orientation criteria within social and environmental situations, is generally neglected in theoretical inquiries about the living body. It comes to us as a naturalized knowledge, so transparent as to appear irrelevant for a conscious narration of the Self.

In fact, the notion that prostheses affect the sense of Self by altering our position and behavior in the world has been recognized by scholars[ii] but not acknowledged in its full methodological, heuristic, and epistemic capacity in first-person oriented inquiries about the Self. Our understanding of the organic/inorganic coupling reproduces the old schema of the body as a thing to be successfully operated on, with potential failures dismissed as negative exceptions to be ruled out or problems to be solved. We are quite conservative in following the narrative of the Alcibiades Major. Of course, 4ECognition did argue that human cognition is grounded in bodily processes, that mental activity relies on interaction with our environment, that knowledge emerges through conducting meaningful exchanges and through doing, and that cognitive processes can extend beyond our heads into tools and artifacts (Gallagher et al., 2018).

That notwithstanding, the interaction between humans and artifacts is conceived of primarily from the point of view of a goal to be achieved by someone and a result to be evaluated, not as an ongoing performance where "failures" consistently reshape old affective and cognitive habits or create new ones to experience, being therefore "positive." It would seem that the ability to rethink material qualities in terms of their theoretical value is foreclosed to philosophy. Put another way, such narratives discount aesthetic studies, whose specific mission is to investigate how sensations and feelings raised and shaped by encounters with actual and imagined entities play into our affective and cognitive experience as it occurs in a mundane environment.

This neglect surely stems from many factors. For my present purpose, I suggest that the methodological reason for conceiving of the alliance of body and artifacts in productive-instrumental terms depends on and serves the idea that the bodily sense of Self consists in "the feeling of being a unitary identity driven by a non-conceptual representation of body-related information" (Porciello et al., 2018, p. 262), which is there to be acted upon. Such an identity can potentially be described as the result of an entanglement but is conceptually posited as coherent, compact, and individualized. Which is not what life suggests that we are. A Janus-faced epistemic dilemma is therefore at work: on the one hand, we need a stable and replicable knowledge that produces objectivity and reusable research tools to identify the "I," while, on the other, we are searching for the actual "me." This polarity is not new in philosophy (Gallagher & Zahavi, 2021; Merleau-Ponty, 1945). But the challenge, as we now know, is not just that the "me" is sensible to senses but that the "I" itself is embodied (Gallese & Cuccio, 2015) and that the embodied Self is not just neurobiological but fabricated by those inorganic elements and technologies that interact with it.

A useful deconstruction of the myth of the abstract human "I" is offered by Shaun Gallagher's pattern theory of Self (Gallagher, 2013), in which he describes it as "a cluster concept which includes a sufficient number of characteristic features" (p. 3, italics mine). He identifies several domains: neurobiological, emotional, behavioral, interpersonal, cultural, material, and narrative. Gallagher's argument has the advantage of moving beyond the traditional nature/culture and mind/body divide, allowing for a broader inclusion of various experiences, forms of knowledge, and media. Most important, it frames the Self not as a passive object of analysis but as an active participant in the world, capable of both being influenced by external forces and taking (intellectual and pragmatic) actions.

The bodily sense of Self, with which prostheses primarily interact, is characterized by body ownership (i.e., identification with one's own body), self-location (i.e., the experience of where I am in space), and first-person perspective (i.e., the point of view from which I experience the world) and sense of agency (i.e., the sense of being the one who generates an action (Gallese & Sinigaglia, 2010) (e.g., Blanke, 2012; Blanke et al., 2015; Dary et al., 2023). Usually, the bodily sense of Self is "transparent"—that is, tacit, pre-reflective, and taken for granted within the self-narrative. The transparency of bodily habits and that of the bodily Self mutually reinforce one another. That said, it is not accurate to describe the bodily sense of Self as simply ego-related. It is not simply personal but always situated, which means gendered, mediatized, socialized, and thus, ultimately, relational.

It is now widely acknowledged that our bodily Self-consciousness is constituted by the gaze of others, whether physically present or imagined. The idea that our sense of Self depends on our being seen was first formulated by Jean-Paul Sartre and Maurice Merleau-Ponty. Sartre posits that the experience of being gazed at is fundamental to being aware of one's own existence, stating, "I recognize that I am as the Other sees me" (Sartre, 1943, p. 246). He proposed the notion of "body-seen" (Sartre, 1943, p. 382) to articulate how human relations arise in a sighted world where people view each other's bodies from the "outside" (Sartre, 1943, passim). Merleau-Ponty similarly underscores how Self-recognition is predicated on having one's body seen by others: "As soon as we see other seers […] henceforth, through other eyes we are for ourselves fully visible; that lacuna where our eyes, our back, lie is filled, filled still by the visible, of which we are not the titulars" (Merleau-Ponty, 1964, p. 143). Developing these premises, Luna Dolezal proposes the idea of the "lived seen body" to describe "more than just a visible representation of oneself as seen from a distanced perspective; it is intrinsically bound to one's lived experience and the lived awareness that one is visible to others" (Dolezal, 2015, p. 50). It is not just that, as Giovanna Colombetti contends, being seen is the source of Self-consciousness (Colombetti, 2023), but that, as Iris Marion Young puts it, "I cannot see myself without seeing myself being seen" (Young, 2005, p. 63), or in other words, "I cannot assess my own presence in the world, without seeing myself being seen".

I share these arguments and also subscribe to the premise that the other's gaze through which one sees oneself can be culturally shaped by worn garments, clothes, and fabrics in general (Young, 2005). However, despite the implied relational dynamic, in all these instances, the seen body is still posited as a raw object, seeable a priori. Its situatedness is thought of, once again, from the observer's point of view, which takes anatomy as an impersonal object fully contained by its concept. I argue instead that there is no such thing as framed flesh. I submit that people do not simply experience their body being seen insofar as it falls in the visual spectrum of the onlooker, as if it were available in plain sight, conceptualized as plainly gazeable in and for itself, as an objectifiable organism. The body that occupies a public space and encounters artifacts and other people's gazes and gestures always negotiates with them, to the point where we make ourselves (un)seeable by means of a whole range of artifacts that establish the aesthetic conditions under which human beings are exposed to onlookers, and shape their experience of being seeable in a feedback loop (Calbi & Cappelletto, under review). We are living humans insofar as we are entangled, threads in a spool of thread.

This is why Gallagher's "cluster" idea, useful as it is, leaves the bodily sense of Self in a personal experiential vacuum. I contend that the third-person perspective alone is heuristically flawed for studying the retroactive effects of artifacts on humans since prostheses are not heterogeneous to our given body. In fact, I take human beings and things to be co-constituting and co-embedding. In other words, prostheses shape the experience humans have of themselves as agents by exerting a retroactive effect on their sense of affective and cognitive agency, which participates in their sense of Self. Most important, I think of them, not as ready and willing, but as responsive to humans just as humans are to them. A loop is at work whereby I am because I feel and because I feel myself felt through matter whose aesthetic qualities are acknowledged by my reaction to them.

The Face, an Extraterritorial Body

Let's therefore queer the research on the bodily sense of Self (Ahmed, 2006), which is to say, reorient our heuristics to challenge the idea of the Self as an individual identity that we encounter head-on, expanding on accounts from phenomenology, material engagement theory, neuroscience, cognitive science, and feminist philosophy. To say that the Self is entangled with prostheses breaks the logic of the flesh as a tool that I own and master, as the Alcibiades Major would have it. Not only am I my body, but I am bodily, which means I am insofar as I am affected by external matter that responds to me, my skin, my skeleton, my organs, my neurons. The impact is pragmatic and cognitive. But this phenomenological argument contains a blind spot. Paradoxical though it may seem, when we reflect upon, study, theorize, run experiments on our bodies, we regularly and staidly think about it from the neck down, as if the face, the locus of identity par excellence, were an extraterritorial personal space, detached from the organic core and, consequently, free of its relation with artifacts. Of course, the likes of spectacles, Google Glass, and hearing aids are placed over the face and/or implanted in the head, but they are treated as directly connected with the brain, as if the face were a transparent medium. What a decapitated unitary identity this makes us! (Cappelletto, 2025; Simmel, 1901).

We know that this is not actually how humans function. Studies on the "enfacement illusion" show that when people are touched at the same time and on the same area of the face as someone standing opposite, they experience the sensation of looking in a mirror and perceive the touch as if it were happening to them (Sforza et al., 2010). "Crucially, these sensations are accompanied by a misattribution of the others' facial features to the self-face (i.e., the so-called self-face attribution bias) in self-other discrimination and recognition tasks (Sforza et al., 2010; Tsakiris, 2008)" (Porciello et al., 2018, p. 262. See also Bufalari et al., 2023). Face ownership, then, is clearly as malleable and vulnerable to other bodies and artifacts as body ownership is. That should come as no surprise, since the face itself is nothing but body.

However, as these studies unwittingly demonstrate, and notwithstanding the face's fleshy nature, one's experience of one's own face comes by way of others' assessments. It exists for the one who observes it, except in the case of self-touch, which, interestingly, is restricted by social norms. In fact, the extensive and well-documented scholarly literature on the privilege accorded to the face, from a psychological and behavioral standpoint, deals with the matter in third-person terms. From birth, we are able to detect the presence of other people and to interact with them primarily because

we recognize their "eyes-mouth" pattern and subsequently because we understand their facial expressions, distinguishing between positive and negative emotions (Addabbo et. al., 2018; Schurgin et. al., 2014; Wegrzyn et al., 2017). "The face holds a special importance for our sense of identity because it is the most distinctive feature of our physical appearance. In line with this, behavioral and neural evidence show that the self-face has a special status in human cognitive and emotional systems (Devue & Brédart, 2011; Keenan et al., 2003). One's own face is recognized faster (Tong & Nakayama, 1999), grabs and retains attention longer than even highly familiar faces (Bréedart et al., 2006; Devue et al., 2009)" (Porciello et al., 2018, p. 262). The ability to perceive the quality, timing, and contextual appropriateness of facial expressions is indeed crucial for social interaction. A list of common expressions confirms it: to face someone, to say something to someone's face, to put your face on the line, to change face, to save face, to lose face, to have a face-to-face.

My face is a mark of personal identity for the others who rely on it. Shouldn't this most indicative sign of our personhood—endowed as it is with eyes that see, a nose that breathes and smells, a mouth that speaks, savors, breathes, and chews, ears that hear and maintain balance, and skin that registers heat and humidity—be reconsidered in the context of the whole body, so it can tell us something about our bodily sense of Self? Studies on prostheses will help us do just that.

The most challenging methodological problem at the core of such a proposal is epistemic trust. What should be the privileged source of knowledge on personal identity: third-person knowledge or self-reporting? This is the methodological dilemma that keeps the "I" and the "me" mutually heterogenous from an epistemic point of view. Trust, it should be noted, is not the same as accountability. Let's set aside the matter of trusting scholars and focus on the trust accorded to individual statements that we endow with epistemic value (although such an alternative is admittedly quite rough).[iii] With self-reporting, which entails making first-person statements about oneself, the data are always open to the challenge that people's arguments are subjective—that is, biased—and therefore not just untrustworthy but methodologically intractable. Of course, many disciplines, such as ethnology, anthropology, and psychology, have developed methods to master the variety of people's accounts. Still, the knowledge they generate is dangerously taken as "weakly qualitative."

My point is precisely that personal "biases," like the self-face attribution bias, once acknowledged, drive a rich heuristic inquiry that exposes the conservativism in the research on the sense of Self and helps us better establish how our bodily experience participates in self-narration. Indeed, subjectivity denotes situatedness, not relativity. If there is no pure "biological ground" for understanding the bodily sense of Self, since our brain/body system is gendered, mediatized, and socialized, which to say, prosthetic and fabricated (Cappelletto, 2022), we need to theoretically exploit how body and artifacts interact and enact new (dis)abilities that, in turn, impact the affective and cognitive agency humans display by confirming, enhancing, or even inhibiting it.[iv]

The Struggling Self

For this second part of my argument, I will start from another story about craftsmanship, very much the opposite of Plato's. In Carlo Collodi's The Adventures of Pinocchio, one of the most posthumanist novels ever written (save for the paternalistic finale), we read of Geppetto, a carpenter who begins carving a wooden puppet in human form. The wood takes shape, starts to move, and kicks its maker, causing him discomfort and even pain. No one forces Geppetto to finish the work, yet he cannot stop. The more it progresses, the more the matter escapes his control. His governance over the wood must be constantly reaffirmed; but in a subtler sense, the wood itself calls into question his human ownership of and agency over his own body. The matter is alive. The life is matter.

What truly destabilizes Geppetto is not just the kicks or the puppet's antagonism; it is when Pinocchio steals his wig from his head. The moment the puppet interferes with the maker's head, Geppetto's control over his face and body collapses. It is a physical violation with consequences for his human identity: a challenge to the craftsman's personal agency. To have it taken by a puppet-to-be is to be undone by his own fabrication. Wood and flesh contrast and coalesce. The matter is indeed alive, the human Geppetto is disfigured, and the handcrafted humanoid Pinocchio is running away, raising many questions about what a body is and how it exists (Collodi, 1881-1883; Zamir, 2010).[v]

Moving from fiction to reality, the COVID-19 pandemic presented an experimental situation in which the daily use of disposable wearable artifacts like face masks affected personal identity and interpersonal behaviors. I took it as a chance to conduct a first-person study investigating the impact of wearing a prosthesis-like artifact, with its multisensory components and affordances, on the wearer's Self-perception.

I suggested that face mask wearing fashions the bodily consciousness of "being" based on the aesthetic experience we have of their fabric, which activates the reflexive relation between the living body that accompanies and shapes my action (Leib) and the body I act upon (Körper). The neuroscientist Marta Calbi and I investigated the processes of human subjectivation, stressing the feedback effect that covering exerts upon the wearer's bodily Self-consciousness by touching the skin of the face. We based the study on the idea that face masks were not surfaces or veils like makeup, but not-quite-ergonomic artifacts that interfere with people's hair, beards, skin, and eyelashes, as well as their earrings and eyeglasses, and their breathing, smelling, speaking, hearing, and seeing. We conducted semi-structured qualitative interviews with forty-eight participants: twenty-four individuals who had never used lower face-covering protective devices before the pandemic and twenty-four hospital workers with prior experience using such devices.

The interview consisted of three sections of uniformly semi-structured verbal questions—during which the interviewer could further explore and expand on emerging topics based on the flow of conversation—and two practical sections in which participants were asked to perform simple everyday actions. Of the three verbal sections, the first focused on the iconic features of the mask, aiming to investigate how and to what extent it influences the wearer's visual-perceptual

experience; the second explored the performative and material aspects of the mask to understand how it affects subjective bodily consciousness; the third investigated the impact of prior knowledge of the face mask on the wearer.

The results based on self-reported experience, which we read through Interpretative Phenomenological Analysis (IPA; Smith et al., 1999; 2021),[vi] showed that face mask wearing dramatically updates bodily Self-consciousness by retroacting on breathing experience, with differences between the two groups of participants. "Breathing is a complex physiological process essential to life. Its experience is mostly taken for granted, and it is beyond our constant attention unless bodily, environmental, or emotional changes arouse breathing awareness (e.g., Adler et al., 2014; Carel et al., 2015)" (Calbi & Cappelletto, 2024, p. 13). It is transparent. Even more noteworthy is the fact that breathing "requires bodily movement" (Gallagher, 2020) and "is at the crossroads of interoception and exteroception" (Adler et al., 2014, p. 131) and "provides the brain with exteroceptive, proprioceptive, and interoceptive feedback" (Monti et al., 2020, p. 426; see also Adler et al., 2014; Allen et al., 2023; Molle & Coste, 2022), thus strongly and broadly contributing to bodily Self-consciousness. "Most interviews bring out [an] awareness of dyspnea caused by the presence of the face mask acting as a filter, a barrier, or a muzzle that interferes with the taken-for-grantedness of breathing. Participants were very precise in describing the face mask as an obstacle to an otherwise physiological process that under normal conditions is pre-reflective. The face mask triggers Self-reflection, interfering with the usually tacit perception of the lived Self and reconfiguring its relations with the environment" (Calbi & Cappelletto, 2024, p. 14). The body was experienced as opaque, which is to say, alive and present, at hand.

Far from being a transparent, self-owned, ego-centered, unitary identity, the bodily Self struggles to reach a peaceful state, since it is constantly being crafted and contradicted in its movements, gestures, and balance by the matter around it, notably the fabricated matter. It is a site of negotiations where media and tools compete to become prosthetic. To do so, they rely on their own "affordances."

This term was coined by James Gibson to describe the action possibilities of an object—that is, the ways in which it guides our body habits, which are, in turn, suited to it (Gibson, 1986). People and artifacts are in a reciprocal relationship within a given environment in which perception and action are inseparably linked. A chair, for example, affords the possibility of sitting. Perception is therefore a form of first-person exploration of the environment through which we encounter objects, which invite us to use them in a certain way. We adapt to them plastically. If "affordances are relational, so that my habitual action is a negotiation with the world" (Gallagher, 2025, p. 8), this relationship can be altered (and even disrupted) by artifacts that provoke conflicting bodily actions. Indeed, affordances can also be strange, odd, unusual, peculiar, weird, bizarre, eccentric, infringing on familiar habits, causing bodily discomfort, and thus disrupting transparency.

This is precisely the case with the face mask, which people described to us as a rag, an undergarment, an obstacle, a tool, a device, a harness, a weapon, a hindrance, a diving suit, a cage. Both ordinary participants and medical professionals (doctors and nurses) referred to it as a "thing" (Calbi & Cappelletto, 2024, p. 11): matter that restrains them, holds them back, hinders them, imposes limits on their gestures and movements, and also triggers new bodily performances.

Despite its primary purpose of containing respiratory droplets, the mask proves to be a versatile object with material characteristics that directly stimulate our bodies. Elasticity, flexibility, impermeability, weight, size, shape, and smell all contribute to making this piece of plastic take our breath away, mark, scratch, and irritate the skin, and call for new kinds of facial movement. To keep it on despite its affordances, we must constantly adjust it by going against its own shape, trying to soften the impact of its fabric on our skin and neutralize its presence. The mask is not just hard to manage but irksome, annoying, disruptive to everyday uses of the body such as drinking, chewing, and kissing, and aggravating in one's experience of oneself and dealings with others.

Such a vexing prosthesis is placed between our own skin, which is a sensory organ, and the surrounding environment. Skin is not merely a boundary between the internal and the external world; it is where thermic and tactile receptors are located, and the surroundings themselves are not a landscape but an environment that can be humid or dry, hot or cold, quiet or noisy, full or empty of people and things. Skin is a connection site (Oele, in press). Moreover, it compensates for the face muscles' lack of receptors to detect their own stretch and send that information to the spinal cord and brain. It therefore provides "the various modalities of facial sensory information: touch, stretch, pressure, position, pain, temperature, and taste" (Bress & Cascio, 2024, p. 10) and stimulates the craniofacial muscles both expressively and proprioceptively. The skin, which cannot escape vibrotactile or electro-tactile stimulation, not only simply contains, retains, separates, mediates, and protects, but also sets the face in motion by sending feedback signals. The skin is body in action. Once in contact with unpleasant material, it demands our renewed attention. Through the skin, the mask becomes entangled with the face, which, thus provoked, becomes a field of action itself. The person's bodily consciousness is heightened as a result. The I-face bond is finally acknowledged as grounded in a body coupled with prostheses.

Conclusions: Agency against the Grain

All in all, whenever a prosthesis-like instrument that we struggle to tolerate breaks the tacit, pre-reflective transparency of our body to itself, making us aware of our own actual corporeality, it gives rise to a renewed sense of Self. I understand this power as a "material performative agency" that destabilizes and regenerates interactions between human beings and the social and natural environment. Such interactions feed back onto the individual and, in doing so, produce subjects: situated, embodied agents who end up being eminent craftspeople. Unexpected, hybrid Selves may appear.

The notion of material agency, therefore, needs to be implemented. A broad range of philosophers and anthropologists, including Marcel Mauss, Alfred Gell, Andy Clark, Bruno Latour, and Lambros Malafouris, have prized the idea that artifacts contribute directly to human cognitive behaviors. Malafouris, in particular, has argued that their agency becomes evident precisely at the moment we interact with them. Far from being either a faculty of the object or a capacity of the subject, it is a property that emerges from a mutual material engagement, one that takes place in "that grey zone where brain, body and culture conflate" (Malafouris, 2008, p. 22). His well-known example is that of the potter at the wheel, who, through embodied knowledge and training, collaborates with the wet clay. The two act as "equal partners" (Malafouris, 2008, p. 25) in the

production of a vase. Yet this enlightening argument implicitly rests on the assumption that both parties are already available and willing to engage in the shared action, and that this action has every reason to succeed, just as Gibson's understanding of affordance assumes that artifacts are there to comply with our bodily needs and abilities.

The relation that develops between face and mask targets a different kind of dynamic—one rooted in aesthetic conflict. Unlike the clay, the irritating fabric we constantly adjust on our faces behaves nothing like a friendly partner. Its droplet-filtering function even seems almost independent of (if not inversely proportional to) the discomfort it causes. Prostheses are better conceived of as habits-to-be that enact materially grounded and conflicting performances.

Indeed, I suggest shifting our focus from the alliance between gesture and matter to the vulnerability of the body in its encounter with potentially hostile agents and asking how they directly provoke and potentially alter our sense of Self. I favor a heuristics based on the feedback loop of prosthesis-like artifacts with which the situated Self is inconveniently entangled, apt for an ecological understanding of the Self's cognitive and affective agency at hand in the real world. Starting from simple examples, as in those cited above, we could develop a whole new approach to the human-machine interaction, taking into account not merely its efficiency but its power to show where the coupling fails. This will have many implications for how we design, develop, and experience prostheses and integrate them into our individual lives as well as our social relations with other humans, machines, and hybrid artifacts. Such a better understanding of the embodied, situated first-person perspective of the Self will provide new insight into how humans and technology will co-evolve, mingle, and potentially mutually annihilate.

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[i] Comfort is defined as "the relief from pain and discomfort, leading to a neutral condition." The types of comfort include thermo-physiological (related to the transfer of heat by the fabric), sensory (related to the sensations caused by contact between the fabric and the skin), motor (related to the elasticity of the fabric and its ability not to restrict movement), and aesthetic (related to personal taste) (see Li, 2001).

[ii] It is indeed well-known that the sense of Self can be affected by the presence of material artifacts interposed between the outer limit of the user's peripersonal space, which is the tip of the hand, and the surrounding environment occupied by things with which the user potentially interacts. A cane held in my hand will bring out-of-reach objects "closer to me," and I will experience my arm as longer, not in any morphological sense, but in its capacity to grasp. At the same time, the cane acts as an arm. This knowledge of neuroplasticity is usually accepted when it involves the brain/body system, which primarily means our limbs and notably our hands. A vast literature deals with this topic (see de Vignemont et al., 2020; Serino, 2019).

[iii] I won't delve here into the problem of trust among researchers, which is based on a mix of personal charisma, track record, and the preferability of certain results over others. Latour took great pains to explain how the most straightforward scholarly argument is grounded in a web of research conditions and personal behaviors no less dense than that of bodies and prostheses (Latour & Woolgar, 1979).

[iv] Disabilities count as abilities, since everyone reorganizes the sensorium in a way that reinforces the idea of human identity as an ongoing process of Self-fabrication.

[v] A whole literature plays on this topic, while interestingly reversing the question: does having a humanoid body, as with a doll, puppet, mannequin, or automaton, suffice to make human? (Cappelletto, 2012).

[vi] Following an iterative and reflexive analytical process typical of qualitative research, each interview was transcribed, reviewed, and thematically explored. Specifically, after transcription using the Transcribe feature in Microsoft Word (Office 365) and a subsequent accuracy check, each interview was carefully examined to understand how participants interpreted and responded to the questions, and, in some instances, expanded upon them. To ensure anonymity and prevent identification based on personal traits or group affiliation, participants' identities were anonymized. We annotated the printed transcripts with comments and reflections in the margins to synthesize participants' statements and to draw initial interpretive connections. In parallel, key terms were noted to support the identification of emerging themes. A structured Excel file was created to systematically organize participants' responses, enabling comparisons both within and across groups, and facilitating the assessment of thematic representation across the dataset. As the analysis progressed, earlier transcripts were revisited to ensure consistency in theme identification and interpretation. Themes with limited representation were excluded, and previously analyzed transcripts were reexamined when new thematic elements emerged.