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PATRICE CORRIVEAU*, EDMONDO GRASSI**

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1. Affiliazione / Authors' information

* University of Ottawa, Canada

** Università Telematica San Raffaele, Italia

2. Contatti / Authors' contact

** edmondo.grassi@uniroma5.it

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Inhabited by Algorithms: Prostheses, Identity, and the Reconfiguration of the Social

Patrice Corriveau[*]*, Edmondo Grassi*[**]

[*] University of Ottawa (CA)
[**] Università Telematica San Raffaele (IT)

Email: edmondo.grassi@uniroma5.it

Abstract

This editorial introduces a special issue exploring the intersections between technology, identity, and social life in the digital age. Taking the prosthesis as a paradigmatic figure, it argues that technological mediation is not external to the human condition but constitutive of it: from bodily devices to algorithmic environments, artifacts co-produce subjectivities, redistribute agency, and reconfigure the norms through which bodies, capacities, and identities are recognized. Drawing on STS, sociology of the body, and the framework of algomorphic society, the editorial examines how digital platforms and AI-based systems – understood as semi-autonomous relational actors – reshape self-presentation, emotional regulation, and practices of recognition. The contributions gathered in the issue address phenomena including algorithmic legitimation, AI imaginaries among young adults, online shaming, moral panic, and the attention architectures of digital childhood. Together, they interrogate the threshold at which technology ceases to be a support and becomes a co-constitutive matrix of social experience.

Keywords: algomorphic society, digital identity, emotions

The first and perhaps most visible form through which technology enters human life is the prosthesis: an object that becomes an artifact and that, from the surface, penetrate beneath the skin. Its appearance is often abrupt in the life of the human animal, as it functions as a device of integration: it compensates for a lack, substitutes for an impaired function, and restores operational continuity to a body in need of enhancement or affected by loss. In this immediate sense, it appears as a functional artifice, an expression of a technical rationality oriented toward the manipulation of bodily capacities and the restoration of efficiency and autonomy.

To reduce the prosthesis to its compensatory function, however, would be to overlook its symbolic and anthropological significance. A prosthesis does not merely replace; it redefines. It intervenes not only upon a biological deficit but also reorganizes the relationship between corporeality and technique, between identity and materiality, between limitation and possibility. It operates as an interstitial, threshold device – a counter-space through which the individual can be reinterpreted from perspectives previously unavailable. In this light, the prosthesis is not an "object" added to an already complete subject; rather, it is a device of co-constitution. It inscribes programs of action, distributes competencies, establishes delegations, and renders certain practices possible while making others unthinkable, thereby participating in the ordinary configuration of the self and the social world (Akrich,

1992; Latour, 1992). It thus becomes a paradigmatic figure of the way modernity has conceived the human as transformable and expandable – not because abstractly "enhanceable," but because historically produced within material ecologies of tools, infrastructures, and knowledge. Homo sapiens may therefore be understood as constitutively technical: a living being whose individuation – corporeal and social – takes place through an intertwining of gestures, artifacts, and mediations that are not external to "human nature", but internal and formative in dimensions (Mauss, 1934; Leroi-Gourhan, 1964; Simondon, 1958). The prosthesis makes this condition particularly visible: the body is not merely an organism, but a situated assemblage traversed by sociotechnical relations, maintenance practices, regimes of normality, and politics of accessibility. In short, technology does not attach itself to an invariant human; it actively participates in producing the provisional boundaries of what a given culture recognizes as "body," "capacity," or "autonomy" (Haraway, 1985; Bowker & Star, 1999; Stiegler, 1998).

From a technological standpoint, prosthetics represent one of the domains in which innovation has most significantly improved quality of life. Advances in materials, the introduction of myoelectric systems, and the integration of neural interfaces have transformed once rudimentary devices into apparatuses capable of dynamic interaction with the body, restoring increasing degrees of functional autonomy. Yet this very sophistication reveals that the prosthesis is not a simple external object; it is one half of a relation of co-functioning with the subject, reshaping self-perception and altering the ways in which one inhabits one's own body.

This special issue situates itself within this broader framework and seeks to explore how digital and artificial technologies intervene in the social, cognitive, and emotional transformations of subjects. It examines the intersections between identity, emotion, and society, tracing emerging configurational nodes of the self and of living together. The contributions gathered here explore, in particular, the role of algorithms and platforms in shaping representations of the self and in defining new norms of value, acceptance, and exclusion. They analyze the impact of digital interaction on emotional regulation and on dynamics of conflict, recognition, and vulnerability, highlighting phenomena such as the pursuit of validation at any cost, online revenge, anxiety, and hypervigilance characteristic of mediated sociality. They address the paradox of hyperconnection, whereby constant presence on social networks may intensify isolation and alienation, transforming connection into emotional solitude. Finally, they investigate how AI-based systems – especially conversational environments, and recommender systems – reshape relational experience, influencing not only what we feel but how we learn to name, order, and govern our emotions.

What happens when a technological element is incorporated into the fabric of personal identity? To what extent does a technically integrated body continue to be perceived as "original"? The prosthesis destabilizes historically constructed boundaries between given and modified, between biological and artificial. It shows that such boundaries are not merely ontological but normative and cultural: they depend on regimes of normality and pathology, on conventions concerning what counts as "intact," "functional," or "adequate" (Canguilhem, 1966; Davis, 1995). In this sense, the prosthesis acts as a critical lens on the social construction of corporeality and disability, rendering visible the collective expectations that regulate recognition, acceptability, and stigma (Garland-Thomson, 1996). It foregrounds what often remains implicit: the human condition is intertwined with devices and

technical mediations, which do not merely "support" the body but co-produce what a society defines as legitimate body, capacity, and identity (Jasanoff, 2004; Ihde, 1990).

If originally associated with compensating for bodily loss, the prosthesis can sociologically be understood as a general figure of contemporaneity: the form through which the human extends capacities, delegates operations, stabilizes fragilities, and reorganizes presence in the world. Read in this way, it becomes a grammar of transformation marking the transition from an image of the subject as self-sufficient unit to a relational and distributed conception in which identity is constituted through mediations and extensions.

It is precisely here that the prosthetic question shifts from the strictly corporeal to the psycho-social and cultural plane. In the digital era – and, more broadly, within the algomorphic horizon (Grassi, 2024; 2025a; 2025b) – this extension concerns not only gesture or function but mental and relational life: memory, attention, public exposure, recognition, intimacy. The self no longer remains confined to material corporeality; it diffuses across networks and connected environments, becoming plural, modulable, fragmented, and constantly renegotiated according to logics of self-presentation and impression management that, while known to classical sociology, acquire new asymmetries under conditions of permanent connectivity (Goffman, 1959; boyd, 2010; Marwick & boyd, 2011). Identity is not simply expressed online: it is co-produced by social practices and technical infrastructures that function as environments of selection and ordering, determining what appears, what circulates, and what remains marginal (van Dijck, Poell, & de Waal, 2018; Couldry & Hepp, 2017). Algorithmic intervention intensifies this co-production: recommender systems, ranking mechanisms, and personalization not only reflect preferences but shape them, influencing attention and the perception of relevance, with direct consequences for recognition practices and affective economies of digital presence (Gillespie, 2014; Bucher, 2018; Beer, 2017).

The algoagent is not a mere computational tool but a semi-autonomous actor endowed with relational agency, narrative capacity, and epistemic function. Contemporary society may thus be interpreted as a morphogenetic environment in which computational potential contributes to the production of new identity configurations, relational forms, and institutional arrangements. The term "algomorphic" – a fusion of algorithm and morphé – indicates precisely this capacity to give form. Algorithms do not simply support human processes: they intervene in the construction of subjectivities, modulate access to information, and restructure grammars of social recognition. Autobiographical identity itself becomes an iterative process of rewriting, in which algorithmic affordances and data traces participate in the stabilization and destabilization of the self. Methodological anthropocentrism thus appears insufficient. Interaction with algoagents unfolds within relational systems where intentionality is no longer exclusively sovereign but distributed. To rethink the ontology of the social in the age of artificial intelligence means to acknowledge this redistribution of agency and to interrogate the novel forms of power that follow from it. It is no longer a matter of observing the impact of technology on society: what is at stake is understanding how algorithmic intelligence actively participates in the very constitution of the social.

This shift introduces a decisive tension: if bodily prostheses promise reintegration and functional autonomy, digital prostheses of the self-promise visibility, connection, and enhancement while often generating new vulnerabilities. The same architectures that facilitate relational access can intensify the anxiety of identity

performance: the same environments that multiply participation opportunities can increase experiences of exclusion, marginalization, and invisibility. Connection becomes an ambivalent field: a site of recognition and dependence, empowerment and exposure. Digital technologies thus do not merely host interactions, they define their affective and evaluative grammar. They act as socio-emotional regulatory devices, orient expectations, introduce explicit and implicit metrics of value (attention, consent, desirability), and normalize forms of acceptance and rejection. The relationship to self and others unfolds within technical frameworks that shape perception and evaluation – what counts, what appears, what is recognized, what is discarded. Hence the need for a vocabulary capable of reading identity and infrastructure, emotion and platform architecture, subjectivity and automation together.

Through an explicitly interdisciplinary approach, this issue seeks to grasp the identity, emotional, and psychosocial consequences of digital transformations, not by separating opportunities and risks as abstract poles but by understanding them as intertwined outcomes of the same reconfiguration: a social order increasingly mediated by technoscientific entities capable of formatting experience, orienting attention, modulating affect, and redistributing visibility and vulnerability. From this perspective, the prosthesis appears not as exception but as intensification of a more general condition. The human has always been technically mediated – a technoscientific animal, as it were: what changes is the degree of integration and the visibility of that mediation.

In the first article, Stefani examines how platform algorithms reshape young people's perceptions of authority, showing how legitimacy increasingly shifts toward digital forms of validation – visibility, engagement, reputation – capable of competing with institutional devices. Banaś offers a qualitative analysis of young adults' narratives, highlighting how artificial intelligence is experienced not merely as technical innovation but as existential transformation, suspended between transhumanist imaginaries, expectations of opportunity, and fears of dehumanization and control. Dias Tavares analyzes the Justine Sacco case through network analysis of Twitter data, interpreting "cancel culture" as a contemporary form of shaming punishment grounded in viral exposure and moral exclusion. Greco provides a conceptual clarification of "moral panic," proposing an analytical model that addresses the complications introduced by contemporary AI rhetoric. Finally, Tomelleri investigates smartphone-based childhood through the lens of affordances and design, showing how attention architectures orient practices and socio-emotional dispositions, and suggesting safety by design and media education as critical pathways. Taken together, these contributions do not merely describe emerging phenomena; they also provide conceptual tools for grasping the contemporary threshold at which technology is no longer a simple support but a co-constitutive matrix of social life. The issue thus takes shape as a space for critical dialogue on the current forms of prostheticization – bodily, cognitive, and relational – that traverse our present.

The subjective implications of this process are far from secondary. The incorporation of a prosthesis may be experienced as reappropriation – a recovery of competencies and biographical continuity – or as estrangement, as the presence of an external element signaling fracture, or even as the opening of an as-yet-unexplored threshold. Such variations cannot be explained solely by the technical quality of the device, nor reduced to a "psychological" variable. They depend on situated social positioning, differential access to material and symbolic resources,

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cultural capital, digital literacy, and the geographies of care that shape time, competence, and accompaniment (Bourdieu, 1979; Annandale, 1998). Moral and cultural frameworks also matter: whether the prosthesis is interpreted as autonomy and modernization, or as vulnerability and dependence; as normalization or visible difference. Integration is not merely biomechanical; it is, above all, narrative and social. It requires interpretive work, daily negotiation, and recognition by others, stabilizing only when the prosthesis enters ordinary repertoires of identity and relational expectation (Charmaz, 1995; Shilling, 2003).

In this sense, the prosthesis condenses deep cultural tensions – between autonomy and dependence, enhancement and vulnerability, inclusion and differentiation. It challenges the very concept of personal identity, revealing how the image of a self-sufficient and ontologically closed subject has largely been a normative construction. Observed from this perspective, the prosthesis is not marginal but theoretically illuminating. It prefigures a process of technical extension that no longer concerns merely compensating for lost function but systematically expanding human capacities through increasingly integrated devices. From functional support we move to enhancement; from substitution to co-evolution. The adoption of prostheses cannot therefore be read exclusively as technological progress. It is a complex social event involving material, symbolic, relational, and normative dimensions. To analyze it means to interrogate how society redefines the body, normality, capacity, and limit – and, ultimately, how it reconfigures the contemporary understanding of the human.

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