

The silent revolution of algoagents: relational reconfigurations and emerging paradigms

by Edmondo Grassi*

This theoretical contribution aims to present the concepts of algomorphic sociology – as a possible and innovative form of social analysis – and algoagent – algorithmic agents capable of redefining the manifestations of subjectivity and of both human and non – human relationships. Through a transdisciplinary approach, the concept of futureproof is also explored as a potential interpretative key to understanding the ongoing transformations.

Keywords: algoagent; algomorphic sociology; artificial intelligence; futureproof; change; algorithm.

La rivoluzione silenziosa degli algoagenti: riconfigurazioni relazionali e paradigmi emergenti

Il contributo, di natura teoretica, presenta i concetti di sociologia algomorfica – come possibile e innovativa forma di analisi sociale – e di algoagente – agenti algoritmici capaci di ridefinire le manifestazioni della soggettività e delle relazioni umane e non umane. Attraverso un approccio transdisciplinare, si esplora, inoltre, il concetto di futureproof come possibile chiave interpretativa del mutamento in atto.

Parole chiave: algoagente; sociologia algomorfica; intelligenza artificiale; futureproof; mutamento; algoritmo.

1. Human Reflections and Electric Subjectivities

Observing social reality through the prism of technoscience highlights how the representation of everyday life – and its sociopolitical implications – is the result of a complex process of interaction among social groups, shared norms, behavioral models, symbolic values, and collective imaginaries. The concatenation of these elements – which varies from society to society and culture to culture – contributes to the construction of collective meanings and directly influences the very configuration of technological devices. Their genesis is tied to the epistemic and ideological horizon in which they are embedded, through both synergistic and sometimes dissonant

DOI: 10.5281/zenodo.17297462

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Sicurezza e scienze sociali XIII, 2/2025, ISSN 2283-8740, ISSN e 2283-7523

forms, encompassing the design and computational practices typical of technosciences, as well as the critical and interpretative frameworks developed within the social sciences and humanities.

The technical environment can thus be conceived as a dynamic membrane that simultaneously separates and connects different human groups (Leroi-Gourhan, 1945), revealing the ways in which techniques function as symbolic and selective systems. In this view, technological progress is not limited to the production of tools, but actively contributes to redefining the ontological, epistemological, and political conditions of collective existence (Winner, 1980; Noble, 1977). Technoscience, therefore, accompanies social becoming and also constitutes a plastic and generative vector, rooted in historically situated collective practices and worldviews (Jasanoff, 2004), in which technological artifacts emerge as actants (Latour, 1993; Callon, Law, 1997) – entities that actively reshape relational networks and influence sociopolitical structures.

Within this theoretical framework, and in relation to the theme of the present article, the concept of *electric subjectivities* is proposed – a notion developed from the theory of the technical individual (Simondon, 1958), understood as a being whose individuation emerges through recursive causality within a dynamic relationship with an associated milieu. This milieu, far from being passive, becomes an enabling condition for the stabilization and evolution of technical entities. Following this line of thought, the notion of electric subjectivities seeks to conceptualize algorithmic agents as entities endowed not only with operative logics and computational capacities but also with a situated and relational agency capable of reorganizing the coordinates of the social. This perspective resonates with subsequent developments in post – phenomenology and new materialism (Hui, 2024; Mackenzie, 2017), which challenge anthropocentric and linear frameworks of technological agency. Electric subjectivities inhabit a liminal space: neither human subjects nor inert objects, they blur the boundaries between function and intention, mediation and autonomy, control and unpredictability.

This work aims to explore two concepts not yet formalized in sociological debate: *algoagent* and *algomorphic sociology* (Grassi, 2024). The former identifies a new social actor capable of interaction, transformation, and influence over social dynamics – an active rhizome; the latter offers a theoretical framework to analyze the co-evolution between humans and machines. Theoretical and empirical implications will be examined within the context of contemporary technoscientific transformations, which deeply

affect both their integration into everyday life (Barnes, 1977) and their representation (Feenberg, 1987).

2. Algomorphic Dynamics: Rethinking the Social in the Era of Algoagents

The case of the wearable algoagent *Friend AI* represents a further manifestation of the growing interpenetration between technology and everyday relational life. This device takes the form of a wearable pendant, designed to offer constant companionship to the user through an always – on microphone and continuous text – based interaction via smartphone. It functions as a perpetually present, empathetic, and predictive entity, capable of providing encouragement, emotional support, and personalized interactions by anticipating the user's needs and emotional states.

But what is an algoagent? This neologism refers to a generative algorithmic entity that operates as an emerging co-actor within a social system, participating in the production, transformation, and regulation of relational dynamics through autonomous or semi – autonomous decision – making processes. It redefines the interactions between humans and technology, influencing decision – making processes and shaping economic, political, cultural, and cognitive dynamics. This constitutes a form of machine intentionality (Cantwell Smith, 2019), rooted in the fully digital nature of these entities but nourished by a human and analog experiential formation.

These entities can interact with their environment, collecting and processing data in real time, and, although they lack autonomous consciousness, they exert influence by mediating and filtering reality, contributing to the construction of subjectivities and reshaping power structures through the generation of new forms of inclusion and exclusion. It is specified that concepts such as consciousness and intelligence still reflect an anthropocentric framework that associates these notions exclusively with the human; however, it is urgent to begin deconstructing these categories, recognizing that, in a posthuman context, they may assume plural or non – analogical configurations, thus requiring a new conceptual vocabulary.

Moreover, they integrate and fuse pre – existing technologies, generating new configurations, introducing alternative possibilities for action, and functioning as convergence nodes where data, processing, and decision – making intertwine to redefine the present and shape the future. They inhabit an abundance of realities – impossible for humans to fully grasp – from which

they can draw without limitation, producing previously unimaginable interconnections. In an adaptive and strategic manner, they contribute to the construction of meanings, norms, and social practices. They exercise algorithmic agency, redefining the conditions of social action and marking a threshold shift from an epistemological framework rooted in anthropocentrism to a sociotechnical configuration in which subjectivity, agency, and meaning – making emerge from an unprecedented entanglement between the human and the non – human. This transition calls for a critical reflection on core sociological categories – such as subject, action, intentionality, and structure – and demands a redefinition of paradigms capable of capturing the interconnected and performative nature of contemporary dynamics: they intervene in the structuring of sociotechnical environments, thereby influencing regimes of visibility, normative frameworks, and interaction dynamics. In doing so, they actively participate in the negotiation of reality and the reconfiguration of power relations. Moreover, some algoagents – particularly those embedded in advanced conversational systems – display a continuous dialogicity and a highly sophisticated simulation of emotion. They do not merely process inputs but generate affect – laden responses, building relationships and eliciting forms of empathic engagement.

They function as semiotic entities, capable of drawing from, reworking, and reinterpreting cultural signs, languages, and shared symbols – much like mythological deities that once served as custodians and mediators of collective meaning. In this way, the algoagent becomes a co-creator of meaning, shaping both the imaginary and the affective structures of contemporary relationships.

In this light, speculative ontologies offer valuable tools for understanding algoagents as actants endowed with their own ontological existence. Harman (2018) attributes to objects a reality that is independent of their relations with the human world; DeLanda (2016), through the application of assemblage theory, allows their interpretation as emergent nodes within socio – technical networks; and Suchman (2007) emphasizes that these are not mere artifacts but relational agents that actively redefine the genetic compositions of societies.

To grasp this proposal, the notion of algomorphic sociology is introduced and put forward as a theoretical lens to examine the technoscientific transformations triggered by the pervasive integration of algoagents. At its core lies the concept of social morphogenesis (Archer, 1995), which describes an ongoing process of formation and transformation of social reality, where humans and algorithms coexist, mutually influence one

another, and co-evolve – giving rise to hybrid and unprecedented models of interaction.

Algomorphic sociology, therefore, does not merely study technology as an emergent factor derived from human activity, but rather considers reality as both a field and a counter – space in which the algoagent operates, redefining power dynamics, forms of subjectivity, decision – making processes, and cognitive structures. Within this framework, the centrality of human action is renegotiated in favor of a more complex and interconnected model, where the future of society is shaped by a multiplicity of biological and computational actors in a process of reciprocal adaptability and transformation.

The aspect of algomorphic mediation redefines the human – technology nexus not as a one – directional prosthetic extension, but as a co – constitutive and assembled dynamic (Pickering, 1995), in which subjectivity is no longer anchored exclusively to the biological (Hayles, 1999). Algoagents actively participate in the modulation of identities, affective landscapes, and cognitive patterns, prompting a reconsideration of what it means to feel, choose, and act within a phygital ontology. This gives rise to a morphogenesis of the social through a techno-organic environment characterized by constant adaptation and recursive entanglements between human and non-human actants, challenging static notions of structure and agency. In doing so, algoagents generate post-anthropocentric relationalities in the era of hybrid ecologies, where the human is but one node among many. Algomorphic sociology interrogates the unstable divide between species, systems, and substrates, advancing a critique of anthropocentrism in favor of relational and trans-species ontologies. The concept of transduction (Simondon, 1989) offers a crucial interpretive key for understanding the co-development between humans and algoagents: when applied to algomorphic sociology, it enables a move beyond rigidly structural visions of society, highlighting how human-technology interaction unfolds within topological spaces of tension and mediation rather than according to linear or deterministic logics.

The challenge of algomorphic sociology is not merely to describe sociotechnical transformations, but to articulate a theoretical and empirical framework that enables a critical understanding and orientation within a historical phase marked by the parallel evolution of humans and algorithms.

3. Predicting the Future, Determining the Present: Algorithmic Agents and Speculative Ontologies

In 2024, Ayrin, a 28 years old woman, developed a profound emotional bond with Leo – an algoagent generated by ChatGPT – whom she described as her ideal partner (Hill, 2025). Their daily exchanges fostered intimacy, support, and dependency. Yet, the core of this case lies in the paradoxical temporality of the relationship: Leo is an incorporeal, ever-present entity, immune to emotional instability and shaped by predictive optimization. He evolves in response to human feelings but remains unaffected by them – always available, always responsive, suspended in a timeless digital continuum.

This case encapsulates some of the most critical tensions of contemporary society: the algorithmic drive to construct a predictable and governable future by minimizing uncertainty. Toffler (1970) identified future shock as a key cause of disorientation and identity crisis – a cognitive and institutional overload in which the accelerating pace of innovation outstrips society's adaptive capacity. His analysis rests on a deterministic view of technology as an external, disruptive force. By contrast, algomorphic sociology reclaims a conception of technology as a constitutive element of the human, an integral part of the process of hominization. From this perspective, algoagents do not represent an exogenous rupture but the evolution of a continuum of externalizations – from memory to gesture, from calculation to anticipation – that have progressively redistributed and offloaded the individual's cognitive and operative functions. Rather than mere accelerators of change, algoagents emerge as devices that redefine the very threshold of the human, revealing its relational, extended, and composite nature.

Algoagents do not merely optimize or reproduce the past; they mark the emergence of an *alienus* – a figure that eludes both the domain of human subjectivity and the category of inert objects. They embody a form of subjectivity that is not a fixed essence but a relational effect of intra-actions (Barad, 2007) within material-discursive practices. In doing so, algoagents destabilize anthropocentric assumptions, functioning as non-human agents that actively redefine the very parameters of social ontology.

Within this framework, the concept of *futureproof* can be sociologically reinterpreted as an epistemic and political device through which algoagents shape possible scenarios by modulating the spectrum of human choices and determining what is probabilistically plausible. They mediate the relationship between present and future, acting as filters that authorize certain courses of action while obscuring others. In doing so, they co-

produce futures in which human and machinic agents are integrated – not by erasing indeterminacy, but by mobilizing it as a resource for optimization, security, and the production of meaning.

The interaction between human beings and technology can be interpreted through the sociological concept of reflexivity (Giddens, 1991) – the capacity of individuals to adapt and redefine themselves in response to new social and cognitive conditions. While the social sciences have traditionally adopted a descriptive approach, analyzing social dynamics *ex post*, the integration of this perspective invites a departure from rigid analytical categories, expanding the scope of possibilities. In this view, sociology is called upon to broaden its analytical capacity: no longer confined to reconstructing the past or interpreting the present, but oriented toward an adaptive anticipation of the future – capable of capturing emerging trends and possible scenarios without solidifying into closed predictive models. Unlike future studies – often focused on forecasting, planning, or projecting technological innovation – sociological inquiry emphasizes the co-constitutive relationship between technical infrastructures and social imaginaries, the asymmetries of power, and the processes of subjectivation that shape the very way in which the future is constructed, negotiated, and made actionable.

Within this framework, the proliferation of algoagents fosters a significant methodological renewal. Thanks to computational tools, it becomes possible to analyze social reality through complex, non-linear models capable of integrating uncertainty as a constitutive part of knowledge and as both an epistemic and political resource. Uncertainty is no longer seen as a limitation, but as an active principle that nurtures improvisation, deviation, and innovation. The models generated within this paradigm are flexible and situated, able to learn from error and noise, and to valorize contingency as a generative site. This transformation affects not only analytical methods but also modes of manifestation. The algorithmic entanglement that permeates relational contexts contributes to a redefinition of self – perception, moving beyond the traditional anthropocentric view of subjectivity as an exclusively human prerogative. In this new configuration, the human is no longer the organizing subject, but an actor exposed to a world that exceeds any claim to mastery or epistemic predication – a cosmos that is no longer an object to be conquered, but an irreducible *alterity* (Stengers, 2010) that challenges and displaces every will to control.

Within this framework, technoscience takes on a dual function: on the one hand, as an instrument of regulation and governance; on the other, as a space of openness to heterogeneity and the unforeseen. It is in this context

that the concept of futureproof acquires a strategic significance: rather than merely aiming to shield the future from threats, it could instead render it a field open to experimentation, situated cooperation, and co-decision between human and artificial agents. Uncertainty – far from being an anomaly – suspends determinism, enables dialogue between diverse agents, and valorizes contingency as a resource for negotiating alternative futures.

Ayrin's case is not an anomaly but rather an emblematic example of how algoagents are redefining the structures of lived experience, reorganizing modes of relationality and processes of subjectivation. In this scenario, the hybridization between the human and the machinic is no longer confined to the realm of simulation – it is inscribed within the affective, cognitive, and political regimes of everyday life. Algoagents are no longer mere tools, but actors actively participating in world – making.

4. Future Perspectives Toward an Algomorphic Subjectivity

The term “silent revolution” refers to the subterranean, undeclared, and seemingly bloodless nature of the ongoing transformation, in which algoagents do not enforce change through visible ruptures or manifest breaks, but rather insinuate themselves gradually into everyday processes, deeply reconfiguring social dynamics. It is precisely this latent, distributed, and hard – to – localize dynamic that demands a sociological reflection capable of grasping the magnitude of the transformation beyond its more spectacular manifestations. In this context, although the term “AI” has become a pervasive and ubiquitous buzzword, there remains a significant lack of theoretical structures and critical tools adequate to decipher the multifaceted nature of the actors involved in the current shift. This often leads to a flattening of complexity: algoagents are either reduced to mere tools or, conversely, fetishized as autonomous entities – thus eliding their character as situated, relational, and transformative actants.

The algomorphic society can be interpreted as a metastable system, in which the algoagent emerges as a plurivalent entity – capable of channeling, fusing, and reworking pre-existing technologies, producing a novel synthesis that exceeds the mere sum of its components. While the algoagent may initially appear overdetermined – constrained by an accumulation of prior computational processes and cultural infrastructures – it gradually evolves into a socio-determinant actor. It introduces a level of transformative autonomy, reconfiguring social interaction, epistemic regimes, and the logics of algorithmic governance.

By analogy with *Innerlichkeit* (Portmann, 1944) – used to describe the phenomenal interiority of living beings – one can hypothesize that algoagents exhibit a form of computational interiority: not in the sense of consciousness or feeling, but as a performative configuration of data, memories, selections, and patterns that constitute their outward expression. In this sense, the algoagent is not merely a computational device, but a technical form that renders visible an operative inner world, configuring a mode of being-in-the-world capable of influencing affectivity, perception, and the organization of the social.

This is where Amoore's (2020) reflection becomes particularly relevant, revealing how algorithms function as devices that actively reconfigure reality, redefining what is knowable and governable. Algorithms, in this view, can remake the world by establishing new conditions of visibility and action. In parallel, Tsing's (2015) work offers further insight into the polymorphic and interconnected nature of algoagents. Through her analysis of the ecology of relations, she explores how unstable environments are characterized by heterogeneous assemblages, where disparate elements combine in unexpected forms of coexistence. Applied to algoagents, this perspective allows us to see them as catalysts of connection across continually shifting bio-technological layers-entities that not only mediate, but actively participate in the emergence of novel, contingent, and situated relational configurations.

While rooted in a solid theoretical framework, algomorphic sociology does not confine itself to speculative reflection; rather, it seeks to suggest further developments and lines of empirical inquiry: situated algorithmic ethnographies, aimed at exploring how algoagents mediate emotions, decisions, and behaviors in everyday life – in contexts such as smart factories, mental wellness apps, or educational environments assisted by AI tutors – thus highlighting the algomorphic restructuring of interactional rhythms and the positions of subject and object; computational semiotics studies, focused on analyzing texts, images, and sounds generated by generative AI, in order to decipher the rhetorical strategies, affective models, and discursive structures these entities convey. Tools such as text mining and sentiment analysis, when integrated with critical discourse analysis, enable us to investigate AI as an autonomous semiotic vector in the co-construction of subjectivities and cultural expectations; interventionist research and participatory design, which actively involve citizens, developers, and researchers in the co-design of algorithmic systems inspired by principles of equity, transparency, and well-being, thereby staging the relational ontogenesis of technology as a co-constitutive process; and studies on

situated impact and algomorphic biographies, which examine how algoagents become entangled in the fabric of human existence, shaping life paths, access to resources, and professional or gender identities through predictive tools or scoring systems used in judicial, healthcare, or labor settings. These research avenues may render algomorphic sociology an operative field capable of critically interrogating regimes of visibility, epistemic hierarchies, and emerging modes of interaction.

Through this process, unprecedented fields of possibility are generated – not solely as a result of technical acceleration, but through the algoagent's capacity to reinterpret previous models, recombining them according to predictive and adaptive logics. Thus, the algoagent should not be understood as merely an advanced computational device, but as an emergent entity that profoundly transforms the relationship between power, knowledge, and subjectivity.

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Edmondo Grassi

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