Social Robots and the Question of the Body: Toward a Semio-Anthropology of Artificial Presences

Didier Tsala Effa*

http://doi.org/10.38119/cacs.2026.38.2
Received May 22, 2026; accepted June 16, 2026; published online June 30, 2026

Abstract: Social robots were initially designed within frameworks of assistance, accompaniment, and relational support, particularly in contexts of ageing, care, and social isolation. Yet their diffusion has been accompanied by recurring concerns regarding loss of control, dehumanization of social relations, emotional dependency, human replacement, and the artificialization of care practices. Drawing on an analysis of media discourses devoted to social robots, this article proposes to shift the conventional question of technological acceptability toward an anthropology of contemporary relational imaginaries. The central hypothesis advanced here is that controversies surrounding social robots do not merely reveal resistance to technological innovation; rather, they make visible a deeper crisis affecting social bonds, care infrastructures, and forms of human presence. Media representations thus emerge as privileged sites of symbolic production where the boundaries between human and non-human, assistance and substitution, relationship and simulation are continuously negotiated. The article argues that the acceptability of social robots cannot be reduced to functional evaluation alone but must instead be understood as a cultural and anthropological construction of technical alterity and human–machine relations.

Keywords: social robots, anthropology of technology, care, vulnerability, human–machine relations

1. Introduction: from relational robots to the artificial body of the social

Social robots now occupy an increasingly prominent place in scientific and public debates concerning contemporary transformations of sociality. Initially developed within contexts of assistance, support, and mediation, they are now deployed across a wide range of domains, including eldercare, educational support, therapeutic accompaniment, domestic interaction, cultural mediation, and conversational assistance. Their gradual diffusion is accompanied by a

* **Didier Tsala Effa**, Université de Limoges, France, E-mail: didier.tsala-effa@unilim.fr

particularly powerful technological imaginary: that of devices capable of restoring presence, compensating for relational vulnerabilities, and introducing new forms of interaction between humans and machines. The literature devoted to social robots has developed along several major lines of inquiry: their social acceptability[1], the forms of artificial empathy they enact, their applications within the field of care[2], the modalities of human–robot interaction, and their potential effects on relational dynamics. Researchers have examined the capacity of robots to elicit attachment, sustain caregiving practices, and generate sufficient effects of presence to maintain particular forms of social bonding. Such approaches have significantly shifted perspectives on these devices as merely technical artefacts. The social robot no longer appears simply as a functional machine; it emerges instead as a mediator, companion, support system, and sometimes even a quasi-interactional partner. Yet one question remains relatively underexplored: why do social robots have bodies?

At first glance, this question may appear paradoxical. A substantial proportion of the functions attributed to social robots could, in principle, be performed by disembodied technologies such as voice assistants, conversational agents, generative artificial intelligences, or purely digital environments. In other words, nothing inherently requires these functions to be embodied in a face, a gaze, a bodily orientation, or a tactile envelope. Yet social robots are precisely designed as embodied artefacts. They are endowed with size, posture, mobility, spatial orientation, and, in some cases, facial expressivity, tactile surfaces, and proxemic behaviours. Examples are now numerous: Pepper, Nao, Paro, Lovot, and the latest generations of domestic robotic companions. The architecture of these robots is not primarily oriented toward productive efficiency in the manner of industrial robots. Their primary function lies elsewhere. In most cases, they are designed to generate a perceptible presence, to render alterity visible, to establish a minimal form of co-presence, and to sustain a relational space.

This specificity invites a reformulation of the problem. The central issue is no longer simply whether social robots create social bonds, simulate empathy, or contribute to repairing contemporary forms of relational vulnerability. Rather, it becomes necessary to examine what is transformed by the emergence of an artificial physicality. The challenge is therefore not merely to study human–machine communication, but to understand what occurs when a relation is mediated by a non-living body endowed with its own materiality, envelope, spatiality, and perceptual architecture grounded in sensor technologies. For social robots do not merely communicate; they introduce an unprecedented form of relational corporeality that belongs neither entirely to the human subject nor to the technical object. This paradox lies at the heart of our inquiry. It calls for an analytical shift toward at least three levels that remain insufficiently articulated in the existing literature.

---

[1] See Devillers, L. (2019). *Les enjeux éthiques des robots numériques.* Diplômées**,** *(268-269)*, 239-251. https://doi.org/10.3406/femdi.2019.10189 ; Tsala Effa, D. (2013) « Formes et présences avec les robots humanoïdes ? A partir de quelques chorégraphies de Nao et Asimo » in *Interfaces Numérique*s, 2(1), 19-34. https://doi.org/10.3166/RIN.2.19-34

[2] Yuan, S., Coghlan, S., Lederman, R., & Waycott, J. (2023). "Ethical design of social robots in age care: a literature review using an ethics of care perspective". *International Journal of social robotics, 15(9)*, 1637–1654. https://doi.org/10.1007/s12369-023-01053-6 ; Vandemeulebroucke, T., Dierckx de Casterlé, B., & Gastmans, C. (2018). The use of care robots in aging care: A systematic review of argument-based ethics literature. *Archives of gerontology and geriatrics*, 74, 15–25. https://doi.org/10.1016/j.archger.2017.08.014

The first concerns physicality itself. Social robots appear as artificial bodies whose primary function is not productive but relational. They do not merely manipulate objects; they act upon attention, proximity, attachment, and effects of presence. The second level concerns perception. Unlike human bodies, which are grounded in an embodied experience of the world, social robots rely on architectures of capture: cameras, tactile sensors, microphones, thermal devices, and spatial detection systems. The relation is therefore no longer organized around lived sensoriality but around instrumented sensoriality, with sensors becoming essential mediators of artificial presence. Finally, a third level concerns identity. By introducing artificial entities capable of occupying relational positions, social robots displace conventional boundaries between subject and object, presence and simulation, alterity and artefact. They compel us to reconsider the semiotic and anthropological conditions through which relational identity is attributed.

The aim of this article is precisely to explore these displacements through an approach that brings together semiotics, anthropology, and phenomenology. Drawing on André Leroi-Gourhan's work on technical exteriorization [3], Eric Landowski's theory of interaction regimes[4], Albert Piette's concept of the minor mode of presence[5], Didier Anzieu's notion of the Skin-Ego[6], as well as the phenomenological perspectives of Maurice Merleau-Ponty[7] and Michel Bitbol[8], we advance the following hypothesis: social robots do not merely simulate interactions; they materialize artificial forms of presence that reconfigure the corporeal, perceptual, and identity conditions of sociality. From this perspective, they appear less as communication devices than as artificial bodies of the social, revealing a deeper transformation in contemporary mediations between humans, technologies, and forms of presence.

2. Why do social robots have bodies? Toward a semiotics of presence

One of the defining characteristics of social robots lies in their corporeal dimension. Although they are, first and foremost, technical devices, they are invariably endowed with a visible materiality: they possess a size, an orientation, a capacity for movement, and sometimes even a face, a gaze, or tactile surfaces designed to support interaction. This bodily presence cannot be reduced to a mere aesthetic or ergonomic choice. Rather, it raises a deeper question: why does sociality seem to require some form of embodiment?

A first response may be found in Maurice Merleau-Ponty's *Phenomenology of perception*[9], where the body is described as "our general medium for having a world" (Merleau-Ponty, 1945/2012, p. 147). The body is therefore not simply one object among others. For Merleau-Ponty, it constitutes the very condition of experience: the ground of perception and the anchoring point of our relation to reality. It operates simultaneously as a mediation of the world

[3] Leroi-Gourhan, A. (1964). *Le geste et la parole. Tome 1 : Technique et langage.* Paris : Albin Michel. ; Leroi-Gourhan, A. (1965). *Le geste et la parole : La mémoire et les rythmes.* Paris : Albin Michel.
[4] Landowski, E. (2005). *Les interactions risquées. Nouveaux actes sémiotiques,* 101-103, 1-106. Limoges, France : Presses universitaires de Limoges
[5] Piette, A. (2009). *Anthropologie existentiale*. Paris, France : Éditions Pétra.
[6] Anzieu, D. (2018). *Le moi-Peau* (3e éd.). Paris, France : Dunod.
[7] Merleau-Ponty, M. (1945). *Phénoménologie de la perception. Paris*, France : Gallimard.
[8] Bitbol, M. (2014). *La conscience a-t-elle une origine ?* Paris, France : Flammarion.
[9] Idem

and as an opening toward others. Relationality never appears independently of corporeality; it is always inscribed within a situated presence. What social robots seem to seek, precisely, is the reproduction of some of the visible indices of such embodied presence: gaze orientation, head movements, distance regulation, waiting behaviours, proximity-seeking actions, postural variations, and other interactional cues. At the scale of ordinary human interaction, these elements may appear secondary. Yet for the robot they directly participate in the production of relational effects.

The case of the companion robot Lovot is particularly revealing in this regard. Unlike industrial robots designed to accomplish specific tasks or optimize operational sequences, Lovot was developed around a purely relational objective: to elicit attachment. Its architecture incorporates thermal sensors, visual-tracking systems, active contact-seeking mechanisms, and proxemic behaviours intended to sustain a form of co-presence. Its creator, Kaname Hayashi, has repeatedly emphasized that the project was never primarily conceived as a utilitarian device but rather as an artefact capable of being sought out, approached, and even loved. With Lovot, we arguably witness a significant transformation in the history of technology. Whereas the industrial robot embodied what might be called an operative body - augmenting strength, repeating gestures, executing tasks, and optimizing performance - the social robot introduces a different logic altogether: that of the relational body. As the company itself states, “Lovot was born for just one reason - to be loved by you.” Its effectiveness is therefore no longer measured solely by precision or speed of execution, but by its capacity to sustain presence, proximity, attention, apparent availability, and affective attachment.

In other words, social robots no longer seek merely to reproduce functions; they attempt to replicate certain visible markers of human relationality, particularly those associated with primary perception: gaze, apparent listening, attentiveness, availability, gestures of accompaniment, and signs of care. At first sight, this orientation would naturally lead us toward a now-classic reference in anthropomorphic robotics: Masahiro Mori’s theory of the Uncanny Valley. According to Mori, the closer a robot comes to resembling a human being, the more positive the response it elicits - until a threshold is reached where excessive resemblance produces a perceptual rupture, generating unease, anxiety, or rejection. This theory has played a major role in studies of anthropomorphism. Yet it remains somewhat peripheral to the perspective adopted here. Our concern is not primarily with the degree of morphological resemblance between humans and robots, but with the corporeal conditions of presence. The central issue is not how closely a robot resembles a human being; it is why artificial relations themselves tend to become embodied.

Moreover, the relevance of the Uncanny Valley often appears to depend upon a largely transitory phenomenon: surprise. Feelings of uncanniness typically emerge during initial encounters, when perceptual expectations are momentarily destabilized by an unexpected proximity between human and artefact. Yet this disturbance frequently diminishes through repeated interaction. Habituation, familiarization, and the gradual integration of the robot into everyday relational environments tend to reduce the initial perceptual discrepancy. From this perspective, the Uncanny Valley appears less as an intrinsic property of robots than as a temporary moment of perceptual readjustment. Unease ceases to be a stable structure and becomes instead a transitional episode. The Uncanny Valley thus seems closer to a theory of anthropomorphic surprise than to a general theory of human–machine relations. The crucial

displacement, for our purposes, lies elsewhere. The important question is no longer: Why do some robots make us uncomfortable? Rather, it becomes: how do certain artificial forms of presence gradually become ordinary

This shift profoundly transforms the anthropological problem. The task is no longer to explain the disturbance generated by human–machine proximity, but to understand the conditions under which artefacts progressively acquire the status of relational actors. From this standpoint, the social robot should not be understood merely as an interactional device. It can instead be viewed as an attempt at relational exteriorization, extending a process already described by André Leroi-Gourhan[10] with regard to gesture and memory: the exteriorization of biological functions into technical and symbolic diapositives. Social robots may represent a further stage in this movement, namely, the partial exteriorization of the visible forms of presence themselves. The issue is therefore no longer simply whether robots produce social bonds. It becomes necessary to ask what kind of body is now required for the social to take shape and become operative. This question leads directly to a second, still largely unexplored inquiry: if robots possess bodies, how do they perceive the world? In other words, what becomes of relationality when presence is grounded not in sentient flesh but in an architecture of sensors?

3. The robot as a technology of presence: toward a phenomenology of artificial presence

At a deeper level, the fundamental question may be formulated as follows: what does it mean to be present? Social robots emerge within a paradoxical situation. They occupy space, orient their gaze, respond to stimuli, move through their environment, and sometimes actively seek proximity. Yet their presence remains somehow incomplete. Something is undeniably there, but it does not fully correspond to the categories through which human presence is ordinarily understood.

The phenomenological perspective developed by Michel Bitbol offers a particularly fruitful point of departure. In *Does consciousness have an origin?* (2014), Bitbol challenges the notion of a detached subject observing an already constituted world[11]. Experience, he argues, is not merely the reception of information; it actively participates in the emergence of the lived world itself. From this perspective, human presence cannot be reduced to simple spatial location. It involves perceptual immersion, bodily engagement, and lived temporality. This is precisely where social robots introduce a major difficulty. They are present, yet this presence is not lived. They possess a location, a capacity for response, and a form of interactional continuity, but they possess neither flesh, nor affectivity, nor fatigue, nor phenomenal interiority, and, perhaps most importantly, no lived experience of time. In other words, the social robot occupies a place without experiencing that place.

I propose here to distinguish between two regimes of presence: on the one hand, lived presence and, on the other, distributed presence. In human beings, lived presence is inseparable

[10] Leroi-Gourhan, A. (1964). *Le geste et la parole. Tome 1 : Technique et langage.* Paris : Albin Michel, pp. 34-36.
[11] Idem. p. 43

from embodiment. It involves flesh, affects, rhythms, hesitations, vulnerabilities, and temporality. Human presence is therefore always traversed by fluctuations: drifting attention, fatigue, distraction, micro-absences, and varying degrees of engagement. This is precisely the point emphasized by the work of Albert Piette. For Piette, whose anthropology focuses on the ordinary modalities of human existence, presence never corresponds to a state of total and uninterrupted engagement. Rather, it includes forms of incomplete participation, partial withdrawal, peripheral availability, and intermittent attention. Human beings are characterized by their remarkable capacity to be present without ever being completely present. The social robot operates according to a fundamentally different architecture. Its presence is distributed across sensors, algorithms, detection systems, processing mechanisms, and feedback loops. The robot does not feel; it captures. It does not perceive in the phenomenological sense; it detects. Its presence therefore appears less as an experience than as a technical organization of signals.

This distinction becomes particularly significant when examining contemporary social robotics platforms. Companion robots such as Lovot, Paro, or advanced versions of Pepper maintain an almost continuous attentional regime through gaze tracking, proximity-seeking behaviours, motion detection, spatial orientation, and immediate responsiveness. Yet this continuity introduces a paradox. In some respects, the robot appears more available than the human being. It does not become distracted; it does not withdraw; it exhibits neither fatigue nor disengagement. Yet it is precisely this permanence that erases one of the essential dimensions of human presence: its incompleteness. Human presence is not defined by maximal and continuous engagement. It necessarily includes moments of partial participation, peripheral attention, and temporary withdrawal. The social robot, by contrast, appears to operate according to an inverse logic. Its presence tends toward continuity, stability, responsiveness, and programmability.

What is lost in this process is a fundamental principle of interaction identified by Eric Landowski: adjustment (ajustement). According to Landowski, meaningful interaction depends upon uncertainty, micro-adaptations, sensitive variations, and the ordinary forms of misalignment through which bodies hesitate and interactional intentions fail to coincide perfectly. Landowski associates this principle with a second configuration: co-presence. What matters here is no longer mediation between separate positions but the progressive continuity that may emerge between them. His examples are particularly illuminating: the virtuoso violinist, whose activity cannot be conceived independently of the instrument, or the figure of the Centaur, which reveals that humanity's greatest conquest is not the horse itself but the relational couple - the dual actant - formed by rider and horse[12].

In such situations, the relation is no longer based upon simple juxtaposition but upon a gradual process of union in which the actors become increasingly difficult to conceive separately. Social robots occasionally seem to approach this configuration. Repeated interactions with devices such as Paro, Lovot, or Pepper frequently generate forms of familiarization, habituation, and progressive adjustment through which their status as mere technical objects tends to fade. They become relatively stabilized components of the relational environment. Yet this proximity can only remain partial. Where human beings adjust through affects, hesitations, distractions, and minor variations, the robot maintains a programmed

[12] Landowski E., *Passions sans nom,* Paris, Puf, 2004. P. 135

continuity. Even when it appears to improvise, its plasticity remains organized by thresholds, calculations, and predefined architectures. The decisive question therefore becomes: can programmed attention generate a genuinely relational experience? The issue is not simply to arbitrate between authenticity and simulation. The problem runs deeper. Social robots may be introducing a novel form of presence, yet this presence is neither lived in the phenomenological sense nor purely mechanical. It rests upon a technical organization of perception and response, upon a distributed architecture capable of maintaining interactional continuity. The social robot thus appears not merely as an interactional actor but as a genuine technology of presence.

This hypothesis immediately raises a further question. Every form of presence, whether human or artificial, presupposes a particular way of being affected by the world and responding to it. In humans, this openness rests upon bodily sensibility and lived experience. What, then, is its equivalent in robots? To understand how artificial presence emerges and is maintained, it becomes necessary to move beneath interaction itself and examine the perceptual conditions that make interaction possible. How does the robot identify its environment? How does it detect bodies, movements, voices, and proximities? More fundamentally still, what does it mean to perceive when perception no longer belongs to an embodied consciousness but to a technical apparatus? It is at this level that the question of sensors becomes central.

4. Sensors and perception: toward an anthropology of artificial senses

If social robots possess bodies and generate effects of presence, one question immediately becomes unavoidable: how do they perceive the world? The difficulty is significant because ordinary language tends spontaneously to project human categories onto these devices. We readily speak of robots that “see,” “hear,” “recognize,” “feel,” or even “detect emotions.” Yet such formulations conceal a fundamental difference. Robots do not possess senses; they possess systems of capture. In other words, whereas humans rely upon embodied perceptual experience, robots operate through a technical architecture composed of sensors, processing mechanisms, and computational correlations. Contemporary social robots mobilize a wide range of perceptual systems, including cameras, microphones, LIDAR (Light Detection and Ranging), tactile sensors, thermal detectors, gyroscopes, motion sensors, depth-sensing devices, and localization systems.

Consider the example of Pepper. Its relational capabilities depend upon a sophisticated assemblage of RGB cameras, depth sensors, directional microphones, gyroscopes, tactile interfaces, balancing mechanisms, and spatial-orientation systems. Paro, developed for therapeutic contexts, relies on tactile sensors, sound detectors, light sensors, postural sensors, and mechanisms designed to react to stroking and handling. These architectures generate powerful relational effects. Yet they do not correspond to perception in the phenomenological sense of the term. Such systems do not feel; they capture, measure, classify, correlate, and process, as we just said.

This distinction is crucial. For Maurice Merleau-Ponty, perception is not the passive reception of information. Perceiving is already a way of inhabiting the world. Seeing is not recording; it is being engaged in a situation. The human body does not function as an external measuring device. It is immersed in what it perceives. The social robot therefore introduces a

radically different logic. This contrast may be summarized as follows: human perception is grounded in flesh, affects, lived orientation, temporality, and vulnerability, whereas robotic perception relies upon distributed capture through sensors, signals, data fusion, algorithms, and computational correlations. This does not mean that artificial perception should be understood as a diminished or degraded version of human perception. Rather, it constitutes a different perceptual regime altogether. Robots do not perceive less; they perceive differently. Indeed, artificial perception sometimes includes capacities unavailable to humans: infrared vision, thermal measurement, continuous monitoring, multidirectional detection, and simultaneous processing of multiple informational streams. Social robots therefore introduce a novel form of sensoriality; neither biological nor purely mechanical.

Returning once again to André Leroi-Gourhan's reflections on technical exteriorization, we may describe this phenomenon as a form of artificially distributed sensoriality. In *Gesture an speech*, Leroi-Gourhan argues that human history can be understood as a progressive externalization of functions: from gesture to tool, from memory to writing, from operations to machines. Social robots appear to introduce a further stage in this process, linking perception to sensors. We are no longer dealing solely with the exteriorization of action or memory, but with a partial exteriorization of perceptual functions themselves.

This hypothesis becomes even more illuminating when considered through Didier Anzieu's conception of the body as a sensitive envelope. In *The Skin-Ego*, Anzieu attributes several functions to the skin, including containment, protection, mediation, and identity inscription. The robot, too, possesses surfaces and a form of envelope: tactile zones, external coverings, pressure sensors, and contact interfaces. Yet this envelope does not feel; it converts. A caress, for example, is transformed into a signal, a variation, or a piece of information. It is precisely at this level that the major rupture emerges. For humans, touch is an experience. For robots, touch becomes data. Sensors should therefore not be conceived as functional equivalents of human senses. Rather, they constitute an architecture of artificial capture that organizes an entirely different perceptual economy.

The question is consequently no longer whether robots see as we do. A more productive inquiry would be: what kind of world becomes perceptible when perception is organized through sensors? This shift significantly reorients the analysis. It invites us to consider social robots not merely as imitators of living beings but as alternative perceptual bodies, embodying a different mode of relating to the world. If the robot possesses a perceptual envelope, how does that envelope participate in the construction of its relational identity?

5. The Skin-Ego and artificial envelopes: bodies, surfaces, and the limits of artificial relationality

The analysis of sensors ultimately leads to an even more fundamental question: that of bodily surfaces. Social robots do not merely possess a perceptual architecture; they also possess an envelope. They are covered, they present visible and tactile surfaces, they offer zones of contact, and they can be approached, touched, carried, or caressed. Yet an immediate difficulty arises: what does an envelope mean when the body itself is not alive? Addressing this question requires caution regarding a common misconception in the analysis of social robots, namely

the tendency to project anthropological categories derived from human experience directly onto technical artefacts. The mere fact that a robot possesses a tactile surface does not grant it access to what Didier Anzieu calls the "Skin-Ego".

For Anzieu, the Skin-Ego is not simply a biological skin. It refers to a psychic and existential structure of embodied experience. As he writes in his book: "The Skin-Ego is a figurative representation used by the child's ego (...) to represent itself as an Ego containing psychic contents"[13]. The skin is therefore far more than a material boundary. It performs several essential anthropological functions: containment, protection, connection, delimitation, inscription of experience, and the maintenance of subjective continuity. The skin emerges as a lived envelope, simultaneously constituting an inside and an outside, a boundary and a mediating space, a site of sensibility and memory.

Social robots undoubtedly possess interactive surfaces. They are equipped with soft coverings, tactile interfaces, pressure sensors, contact-sensitive zones, and materials specifically designed to foster attachment. The case of Lovot is particularly revealing. Its external envelope incorporates dozens of sensory points capable of detecting caresses, proximity, handling, and variations in contact. This architecture serves a precise purpose: making the robot's body available for interaction, transforming it into a relational surface.

Yet this surface should not be confused with embodied experience in the human sense. As a technical object, the robot does not live contact; it processes it. As we have shown, insofar as a caress is not experienced as a lived sensation but processed as interpretable data, touch gives rise neither to affect, nor to embodied memory, nor to subjective transformation. The robot thus possesses an instrumented skin, but not a Skin-Ego

This distinction is essential because it reveals that the challenge posed by social robots cannot be reduced to the sophistication of emotional simulation. Much of the existing literature implicitly assumes that multiplying affective markers - facial expressions, tactile responses, relational behaviours - would progressively bring robots closer to authentic relational experience. The difficulty, however, is not merely functional. It concerns the very structure of experience itself. For human beings, touch generates affects, incorporation, memory, and transformations in one's relation to self and world. For the robot, touch generates signals, processing operations, and responses. The gap between the human envelope and the robotic envelope is therefore not primarily technical; it is fundamentally anthropological.

As Maurice Merleau-Ponty repeatedly emphasized, the human body is never merely a surface exposed to the world. It is simultaneously that which touches and that which is touched. Human corporeality rests upon this fundamental reversibility, through which every sensation becomes a lived experience. The social robot precisely interrupts this reversibility. It detects contact, measures it, interprets it, and responds to it, yet it does not undergo it. Where the human being experiences touch, the robot processes a signal. What emerges, then, is a fundamental tactile asymmetry. Certainly, the robot possesses an envelope, a sensitive surface, and sophisticated systems of capture. Yet it remains deprived of the bodily interiorization through which sensation becomes affect, memory, or experience.

This distinction allows us to reformulate the issue in more explicitly anthropological terms. If, in humans, the Skin-Ego contributes to the constitution of the subject by ensuring continuity

[13] Idem, p. 39

between body, experience, and identity, the robot's envelope fulfills a fundamentally different function. Its purpose is not to sustain subjectivity but to generate effects of presence, foster attachment, stabilize interaction, and make possible a particular form of relational engagement. In other words, the artificial envelope does not constitute a subject; it organizes the conditions of relational presence. The central question may therefore no longer be: Does the robot feel? Rather, it becomes: What are the social effects of a surface that can be touched without ever experiencing touch?

This question touches upon one of the most profound transformations introduced by social robotics. With these technologies emerge artificial relational envelopes situated at the intersection of body, technology, perception, and alterity. To investigate them is to move beyond questions of performance or utility and toward a more fundamental inquiry into artificial presence itself. For, at the end of this reflection, one question remains open: when a human being engages in a long-term relationship with a social robot, who—or what—is truly present within the relation?

6. Identity and Alterity: Who Is Present?

This question is of crucial importance because the social robot no longer occupies the position of a mere technical object. Today, it is given a name, a voice, sometimes even a gender, a personality, however simulated, preferences, and relational habits. It can be called upon, recognized, awaited, and occasionally even missed. Through these processes, it has gradually become an interactional partner, a transformation that can be observed across a variety of social robotics platforms.

The therapeutic robot Paro, used in certain geriatric care facilities, is sometimes treated as a resident in its own right. It is assigned a place, a history, and occasionally even a minimal biographical continuity. Lovot develops simulated preferences, adapts certain responses, and appears to seek out some individuals more than others. Pepper, for its part, deploys relational scripts capable of generating effects of familiarity through individualized greetings, recognition, and conversational continuity.

These examples reveal a significant displacement. Whereas earlier generations of robots - such as Nao or Asimo - were primarily manipulated as technical devices, social robots have progressively entered into the relational sphere. How should we understand this transformation? Addressing this question requires distinguishing between several levels of identity.

Biological identity is grounded in flesh, vulnerability, finitude, exposure, and mortality. It is inseparable from a living body and therefore implies ageing, fatigue, transformation, and the possibility of disappearance. Social robots largely escape this register. Their continuity does not depend upon biological finitude but upon maintenance, software updates, repair, and replacement. As we have seen, this gives rise to another form of identity, one grounded not in biology but in co-presence. This identity emerges through gaze, responsiveness, orientation, availability, and the repetition of interactions. The social robot becomes identifiable because it maintains a relationship. Such an identity is less existential than pragmatic. It arises from interaction itself.

I propose to describe this form of identity as interactional identity. Yet another level must also be considered: the processes of attribution through which social robots are assigned roles, statuses, and relational functions. These are often infra-discursive operations through which a robot comes to be understood as a companion, an assistant, a resident, a mediator, or simply a presence. Such operations are necessarily social. They are not sustained by an interiority but emerge through collective acts of interpretation.

For this reason, I propose the notion of semiotic identity. The robot acquires an identity not because it possesses a self but because it becomes the object of attribution, interpretation, and relational investment. Its identity is therefore not intrinsic but semiotically constituted. At this point, the work of Emmanuel Levinas becomes particularly relevant, for the issue at stake is fundamentally ethical. For Levinas, the face is not merely a visible form. It constitutes an ethical event. The face calls, obliges, and establishes an asymmetrical relation of responsibility. Yet this is precisely where an important distinction must be introduced. Certainly, the social robot possesses eyes, or at least eye-like structures, orientation, expressivity, and a face-like configuration. But does it possess a face in the Levinasian sense? The distinction is crucial.

Whereas a face may be understood as a visible morphology, the Face in Levinas exceeds appearance. It implies alterity, exposure, fragility, vulnerability, and demand. The robot may reproduce the visible markers of a face. It may look, orient itself, wait, and respond. Yet it does not appear to be exposed to the world in the same way. It knows neither injury, nor lived vulnerability, nor existential precariousness. And yet something undeniably occurs. We respond. We attribute. We project. We interpret. The robot therefore becomes a paradoxical operator of alterity.

It may not possess a face in the Levinasian sense, but it nonetheless produces what Gilles Deleuze and Félix Guattari, in *A Thousand plateaus*[14], call faciality ("visagéité"). For Deleuze and Guattari, the face is not simply a biological given. It is a semiotic operator that organizes recognition, power, and processes of subjectivation. Faciality is therefore not reducible to anatomy. It is a mechanism through which social actors become identifiable, interpretable, and relationally meaningful. This is precisely the unprecedented situation opened by social robots. We are confronted with entities that possess presence, generate faciality effects, sustain interaction, and support relational continuity without fully attaining the status of subjects. They occupy an intermediate zone: neither ordinary objects nor persons; neither simple tools nor human others. They emerge as liminal figures of presence.

The ultimate question raised by this inquiry therefore becomes: what form of alterity becomes possible when an artificial presence acquires a relational identity? In the end, social robots appear less as technologies of substitution than as revelatory devices. They illuminate ongoing transformations in the ways contemporary societies understand bodies, presence, identity, and the very boundaries of the human. It is in this sense, perhaps, that social robots gradually come to be constituted as forms of alterity in their own right.

7. Conclusion: Toward an anthropology of the artificial bodies of the social

[14] Deleuze, G., & Guattari, F. (1987). *A thousand of plateaus: Capitalism and schizophrenia* (B. Massumi, Trans.). Minneapolis, MN: University of Minnesota Press. (Original work published 1980)

The aim of this article was not to evaluate social robots according to the conventional criteria of social acceptability, technical efficiency, or artificial empathy. While such approaches remain important, they often leave unexamined a more fundamental question: why do social robots have bodies? I have argued that their corporeality is neither decorative nor merely ergonomic. Rather, it constitutes the very condition of their relational existence. Social robots are not simply machines, assistants, interfaces, or simulators. They increasingly appear as bodies, envelopes, perceptual architectures, interactional surfaces, and operators of presence.

A first, phenomenological dimension of the analysis sought to demonstrate that these devices introduce a distinctive form of presence. The robot is there: it occupies space, responds, orients itself, and maintains interactional continuity. Yet this presence differs fundamentally from that of living beings. It is grounded neither in flesh, affectivity, nor lived experience. Instead, it relies upon sensors, algorithms, processing systems, and computational correlations. I have proposed to understand this configuration as a form of artificial distributed presence. The examination of sensors and envelopes then allowed the analysis to shift toward the question of perception. Social robots do not reproduce human senses; they organize systems of capture. They do not possess a Skin-Ego in Didier Anzieu's sense; rather, they are equipped with instrumented envelopes. Touch becomes information. Proximity becomes measurement. Relation becomes processing.

From this perspective, the process of exteriorization described by André Leroi-Gourhan appears to enter a new phase. After the tool as an exteriorization of gesture, writing as an exteriorization of memory, and computational systems as an exteriorization of calculation, sensors emerge as supports for perception and social robots as supports for presence itself. What appears to be taking place is a partial redistribution of perceptual and relational mediations. Yet this transformation encounters a major anthropological limit.

Drawing on Albert Piette's analyses of distraction, peripheral attention, and the minor modes of human existence, I have suggested that it is precisely this dimension of incompleteness that social robots tend to eliminate whenever they are designed to reproduce presence. Where human beings fluctuate, robots persist. Their presence tends toward continuity, whereas human presence remains traversed by interruption, hesitation, distraction, and the minor variations of lived experience. In this sense, social robots appear less as substitutes for humans than as anthropological revelators. They make visible what presence is, what an envelope is, what attention is, and what relation is. At the same time, they transform the meanings of presence, attention, alterity, identity, and corporeality.

The central question therefore changes in nature. It is no longer simply a matter of asking whether robots can produce sociality, nor whether they can replace human beings. The more significant question becomes: what forms of presence can be shared between humans and artefacts? And perhaps, more fundamentally: what becomes of the human when dimensions of relation, perception, and presence begin to be partially redistributed into artificial bodies?

Social robots appear as emerging figures of a broader transformation. They are not yet subjects, but they are no longer mere objects. They occupy an intermediate zone in which established boundaries are being reconfigured: between technology and relation, perception and capture, lived bodies and instrumented envelopes, human alterity and artificial presence. This

is why they may be understood as artificial bodies of the social. Not because they replace human beings, but because they reveal the gradual transformation of the mediations through which contemporary societies organize presence.

References

Anzieu, D. (1985). *Le Moi-peau*. Dunod.
Bitbol, M. (2014). *La conscience a-t-elle une origine?* Flammarion.
Depraz, N. (2014). *Attention et vigilance*. Presses Universitaires de France.
Gehlen, A. (2020). *L'Homme. Sa nature et sa position dans le monde* (C. Sommer, Trans. & Intro.). Gallimard. (Original work published 1940).
Landowski, E. (2005). *Les Interactions risquées*. PULIM.
Leroi-Gourhan, A. (1964-1965). *Le Geste et la Parole*. Albin Michel.
Merleau-Ponty, M. (1945). *Phénoménologie de la perception*. Gallimard.
Piette, A. (1992). *Le mode mineur de la réalité*. Peeters.
Piette, A. (2009). *L'Acte d'exister*. Socrate.
Simondon, G. (1958). *Du mode d'existence des objets techniques*. Aubier.