# **Embodying architectures**

## Body extensions and forms in hybrid environments

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This article aims to describe the situated interactions between humans and hybrid architectures composed of physical and digital elements. Using a post-phenomenological perspective and drawing on case studies from everyday life and contemporary new media art, the paper will first discuss the limits and possibilities of this philosophical approach. Specifically, post-phenomenology has limitations in describing the technologies present in hybrid architecture that are becoming increasingly transparent and capable of manipulating the habitat while being embodied in the user and widespread in the environment. Through a genealogical reconstruction of the concept of form in Wolfgang Köhler, Kurt Goldstein, and Maurice Merleau-Ponty, the article will explore the continuity between endosomatic and esosomatic space, providing new tools for the postphenomenological debate.

Keywords: Post-phenomenology, media transparency, Gestalt psychology, augmented environment, esosomatic and endosomatic transactions

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### 1. Architectural feedback and hybrid environments

The concept that architectural space is a habitat constructed by humans to create a suitable environment for their activities, while also educating and transforming them, is not new. Walter Benjamin's *Passages* explicitly talks about this idea: the politician and urbanist Georges Eugène Haussmann's regulatory plans to transform Paris not only changed the layout of the French capital but also the lives of its citizens. Indeed, Haussmann's construction of large boulevards eliminated the possibility of building barricades during urban insurrection, thereby transforming the layout and the political life of the city<sup>1</sup>. However, the pragmatic definition of architectural space<sup>2</sup> as a place constituted by and which constitutes human beings' practices and lifestyles is not limited to large urban transformations. There may be many examples in this regard: just think of the bathroom, which has transformed the layout of homes, the hygienic level, and the sense of modesty of its inhabitants<sup>3</sup>.

Although the link between architecture, bodies, practices, and social life is undeniable, today's living spaces – both urban and private – are becoming increasingly digitized, leading to new theoretical challenges. Consequently, living spaces have their own medium specificity that determines novel ways of human interaction with the

<sup>&</sup>lt;sup>1</sup> Cfr. W. Benjamin, *The arcades project,* trans. by H. Eiland & K. Mclaughlin, Harvard University Press, Cambridge & London 1999, pp. 11-13.

<sup>&</sup>lt;sup>2</sup> It was in fact mainly John Dewey who associated architecture with pragmatism (cf. J. Dewey, *Democracy and education. An introduction to the philosophy of education*, Macmillan, New York 1916, pp. 291–305). His approach was then followed and developed, among others, by Richard Shusterman (cf. R. Shusterman, *Somaesthetics and architecture. A critical option*, in K. Faschingeder, K. Jormakka, N. Korrek, O. Pfeifer & G. Zimmermann (ed. by) *Die Architektur der Weltordnung. Architecture in the age of empire*, 11<sup>th</sup> International Bauhaus-colloquium, Weimar 2009, pp. 282-300) and post-phenomenology. The latter, which will be extensively discussed in the course of the article, was in fact born with the aim of bringing classical phenomenology into dialogue with the Jamesian and Deweyan pragmatism (cf. D. Ihde, *Experimental phenomenology. Multistabilities*, State University of New York Press, New York 2012, pp. 115-128).

<sup>&</sup>lt;sup>3</sup> Cfr. E. Coccia, *Filosofia della casa. Lo spazio domestico e la felicità*, Einaudi, Torino 2021, pp. 29-41.

environment. Two macro-typologies can be identified regarding the new relationships between individuals and architecture that are thus constituted: entirely virtual and immersive spaces, where perception (mostly visual) is catapulted into a new architecture independent from the physical location of the body, as it happens in virtual reality; or physical environments enriched by digital elements<sup>4</sup>. In both cases, contemporary architecture imposes new rules on those who inhabit it. In particular, this article focuses on hybrid environments in order to investigate the relationships that arise between physical architecture, the technologies that populate it, and the individuals who inhabit it<sup>5</sup>.

The first salient characteristic of hybrid architecture is to make the prescriptive rigidity of cement and plaster explode: the static nature of the infrastructure gives way to a constant remodulation of space that is responsive to human immanent needs, making it naturally multifunctional. The ability of the hybrid architectural space to transform itself quickly goes hand in hand with the total rethinking of the design of public, familial, private, and workspace environments, with enormous consequences for life. One example is home automation, a rapidly expanding sector that aims at making homes increasingly intelligent, automatic, and easily manageable, therefore more sensitive to and manipulable by human desires<sup>6</sup>. In a smart house, with a click or even a voice command, the room that once served as a home office can immediately transform into a cinema hall, projecting the chosen film in high-quality audio and video. Therefore, working, private, and social life can potentially be present in a single hybrid environment capable of responding to different needs.

The example just presented highlights another peculiar characteristic of the relationship established between the inhabitant and the hybrid architecture: immediacy. Prior to home automation and the Internet of Things, it was necessary to perform multiple tasks such as lowering the blinds, preparing the projector and the stereo system, renting

<sup>&</sup>lt;sup>4</sup> Regarding a discussion of the difference between emersive and immersive technologies, cfr. R. P. Malaspina, A. Pinotti & S. Pirandello, *Emerging, filtering, symbiosing. Experiences in augmented art*, in "VCS: Visual Culture Studies", III-IV, 2022, pp. 101-124.

<sup>&</sup>lt;sup>5</sup> The article will not specifically address the vast and complex topic of immersive environments, particularly those in virtual reality, for at least one more reason in addition to that already highlighted in the body of the text: the literature that has addressed the modes of interaction with immersive spaces is already rich and in-depth (cfr. J. Whyte, *Virtual reality and the built environment*, Routledge Oxford 2002). <sup>6</sup> This is the direction in which new companies are moving, such as Bumblebee (<u>https://bumblebeespaces.com</u>) and Ori (<u>https://www.oriliving.com</u>), which have quickly become leaders in the sector.

a VHS or DVD, inserting it into a specific player, and finally watching the projection. Today, in a responsive environment, the individual does not need to use all these different elements but can delegate the task to a perceptively invisible technological process. It is said that in this sense, media and technologies are becoming increasingly transparent, in continuity with our body, cognitive modalities, and desires, making it possible to satisfy needs with less effort. This creates a sensation of immediacy, which is actually a form of hyper-mediation where tangible and performative actions of the body are delegated to technologies capable of autonomously and punctually carrying out assigned tasks.

#### 2. Post-phenomenology: technologies, bodies, architectures and practices

To describe the continuity established between body and tools in today's hybrid architectures, a post-phenomenological method is proposed. This approach has long focused on the modes of interaction between individuals and devices. According to Don Ihde, the founder of this philosophical current, Husserl's idea of intentionality must be refined by describing the active role that technologies play in constituting pragmatic relationships between individuals and environments<sup>7</sup>. In post-phenomenology, the interactions that exist between humans, technology, and the world can be fundamentally of four types: «embodied relation», «hermeneutic relation», «alterity relation», and «background relation»<sup>8</sup>. This article will focus on the embodied relation and the background relation, which respectively discuss the themes of instrument transparency and technologically mediated architectural space.

Transparency can be defined as the sense of pragmatic continuity between organic and inorganic that is inherent to the agency of certain technologies, especially those used semi-automatically and habitually, and for which no reflective attention is required during its employ. For example, when using a qwerty keyboard, intentionality is mediated by the technology that, during the operations, is no longer an object of reflection but rather an instrument for action. The lack of problematization of the keyboard places it in a relationship of transparency with respect to the writer, who, accustomed to using it, can

<sup>&</sup>lt;sup>7</sup> Cfr. D. Ihde, *Technics and praxis. A philosophy of technology*, D. Reidel Publishing Company, London 1979, pp. 6-18.

<sup>&</sup>lt;sup>8</sup> Cfr. R. Rosenberger & P. Verbeek, *A field guide to postphenomenology*, in R. Rosenberger & P. Verbeek (ed. by) *Postphenomenological investigations*. *Essays on human–technology relations*, Lexinton Books, Lanham 2015, pp. 9-42.

focus on the text being written rather than the gestures their hands are making. The tool thus becomes embodied: it turns into a functional part for the intentionality of the individual who acts in the world through the instrument<sup>9</sup>. This continuity can be transformed into a form of co-dependency that effectively makes the individual hybrid. According to Peter-Paul Verbeek, when the instrument becomes completely transparent to the point of being an integral part of the body, a new type of relationship emerges: the «cyborg relation», in which the individual becomes hybrid and their performative and perceptive possibilities are transformed by the prosthesis<sup>10</sup>. The cyborg relation is a radicalization of Ihde's embodied relation, and its applicability is limited to cases where the individual establishes an integration relationship with a rehabilitative prosthesis capable of reconstituting their physiological and sensorimotor model. Postphenomenologists who support Verbeek argue that it is impossible to have a cyborg relation with technologies capable of implementing the sensitivity and performance of the normodotated body, which is therefore treated as a normative and difficult-to-modify model<sup>11</sup>.

Both the embodied relation and the cyborg relation make technology transparent, but they require the instrument or the prosthesis to be in close proximity to the body. In contrast, the background relation is established with environmental technologies that are distributed throughout the architectural space. As Ihde has shown, the background relation has two peculiarities:

First, the machine activity in the role of background presence is not displaying either what I have termed a transparency or an opacity. The "withdrawal" of this technological function is phenomenologically distinct as a kind of "absence." The technology is, as it were, "to the side"<sup>12</sup>.

<sup>&</sup>lt;sup>9</sup> Cfr. D. Ihde, *Postphenomenology and technoscience. The Peking University lectures*, Suny Press, New York 2009, p. 42.

<sup>&</sup>lt;sup>10</sup> Cfr. P. Verbeek, *Cyborg intentionality. Rethinking the phenomenology of human–technology relations*, in "Phenomenology and cognitive science", VII, 2008, pp. 387-395.

<sup>&</sup>lt;sup>11</sup> Cfr. H. De Preester & M. Tsakiris, *Body-extension versus body-incorporation. Is there a need for a body-model?*, in "Phenomenology and the cognitive sciences", VIII, 2009, pp. 307–319; H. De Preester, *Technology and the body. The (im)possibilities of re-embodiment*, in "Foundations of science", XVI/2-3, 2011, pp. 119-137.

<sup>&</sup>lt;sup>12</sup> D. Ihde, *Technology and the lifeworld. From garden to earth*, Indiana University Press, Bloomington 1990, p. 109.

The author explicitly references the thermostat as an example of background technology because thank to it is possible to delegates the task of determining the temperature of the domestic environment. However, unlike tools that are in proximity to the body and require no reflective attention during use, the thermostat cannot be considered transparent as it must be set through reasoning and therefore it does not satisfy the criteria of continuity and pre-reflectivity. In summary, the limited user-friendliness, the infrequent handling, and the gradual response of background technologies during the late 1980s contributed to their placement among other non-transparency tools.

While post-phenomenology clearly distinguishes between technologies in close proximity to the body and those in the environment, it is uncertain whether this rigid dualism still applies to new technologies. Are there tools today that are transparent in terms of bodily and/or cognitive activities while also acting in reconfiguring the environment?

#### 3. Cyber bodies in augmented environments

As a response to the questions posed in the previous section, case studies from the contemporary art world can provide evidence of how a pre-reflective and technologically mediated continuity between the body and the architecture can be established. One early application of this perspective was artist David Rokeby's 1982 project, *Very Nervous System*<sup>13</sup>. This artwork transforms the body into a musical instrument using motion-tracking technologies to capture the organism's movements: an image processing software mediate and simultaneously synthesized them into sound stimuli produced by the hybrid architecture. The resulting melody is not only continuous but also informed by the dancer's movements. As the expressive possibilities of the body change through the mediated continuity between gesture and sound, *Very Nervous* transforms the possibilities of interaction with the environment and thus the way of inhabiting it. Similarly, Sonia Cillari's hybrid environment *If You Are Close to Me* (2008) visualizes the modes of physical and proxemic encounters. The work features a large sensory platform on which

<sup>&</sup>lt;sup>13</sup> In its executions, the performance is in constant transformation. In particular, over time, it has become increasingly inclusive: initially, motion-tracking technologies were only able to map a single individual, but today they are able to simultaneously map the movements of 6 visitors in a room. For further in-depth analysis cfr. K. Kwastek, *Aesthetics of interaction in digital art*, MIT Press, Cambridge & London 2013, pp. 234-240; N. Stern, *Interactive art and embodiment. The implicit body as performance*, Gylphi Limited, Canterbury 2013, pp. 273-305.

the performer is positioned, while the spectators can approach and manipulate her body as if it were a technological interface to act in the architecture. The gestures of the active spectators and those of the performer are translated into geometric games, synchronously projected on all the walls of the room, depicting a stylized, mobile, changeable, and sensitive human form<sup>14</sup>.

While these two case studies focus on the remodulation of an internal and circumscribed space<sup>15</sup>, the contemporary art world has also shown the ability to build hybrid architectures in the urban context. The *Metaspace* project, designed by Jaime del Val, is a participatory installation project where the user immediately becomes a performer, creating sounds and colors with the movements of their body applied to the surrounding urban architectural environment<sup>16</sup>. Its political purpose is clear: *Metaspace* reinvents information and control technologies by highlighting the diversity of embodied expression through «a new concept of interactive architecture that transforms in all its physical and digital aspects, constituting dynamic, participatory, and performative environments»<sup>17</sup>. Del Val aims to achieve what he calls Metatopia: an emergent and independent space where the body and the data it generates can inform the city and its architecture. Those who will inhabit a Metatopia will witness a *détournement* in which environmental media, currently used for surveillance and control, will be repurposed to make the architecture of the city continuously and effortless malleable.

All the installations presented constitute images of the body starting from a technological re-elaboration of its gestures. The media that establish a continuity between bodily movement and architectural transformation are not exclusive to the art world. Similar interfaces are also at the core of the design of modern smart homes, which aim to make our living environments increasingly responsive and pre-reflectively manipulable. What changes in these hybrid architectures is users' sense of agency, i.e., the subjective pre-reflective awareness of initiating, executing, and controlling one's own volitional actions in the world<sup>18</sup>. The mediation process implemented by motion tracking

<sup>&</sup>lt;sup>14</sup> Cfr. K. Kwastek, Aesthetics of interaction in digital art, cit., pp. 241-248.

<sup>&</sup>lt;sup>15</sup> It should be noted that Very Nervous System, although only rarely, has also been performed in urban environments and towns, one such case being Potsdam in 1993.

<sup>&</sup>lt;sup>16</sup>Paris, London, Santiago de Chile, Valparaiso, Brasilia, and Mexico City are just some of the cities that have hosted the artistic installation *Metaspace*.

<sup>&</sup>lt;sup>17</sup> <u>https://metabody.eu</u>.

<sup>&</sup>lt;sup>18</sup> Cfr. S. Gallagher, *Philosophical conceptions of the self. Implications for cognitive science*, in "Trends in cognitive sciences", IV, 2000, pp. 14–21.

technologies has such agency that, according to Ksenia Fedorova, it leads to the constitution of the «body-data image»: a new image of the body that allows unprecedented agentive-performative functions to the organism, giving rise to pre-reflectively technologically mediated bodily consciousness. Therefore, the body-data image goes beyond both the sphere of the individual and the stability typical of non-hybrid architecture, relocating the body in the space of relations and producing an environment continually shaped through the actions of the organism that inhabits it<sup>19</sup>.

The post-phenomenological theory of embodiment, previously discussed, is poorly suited to understanding the ways in which these ubiquitous technologies transform the agency of a body and the architecture it inhabits. These «augmented environments», as Fedorova has aptly defined them, allow the pre-reflective extension of the body into the hybrid architecture. The continuity between endosomatic and esosomatic space that these environments allow overturns the post-phenomenological normativity of proximity and distance, of what we can incorporate by cutaneous, somatic, and organic adherence, and of what is other than the body, such as an external space or a background. The emerging architectural hybrid environment enables to think of the synchronism between esosomatic and endosomatic space in generative terms, and thus, to conceptualize incorporation not merely as an additive process but as a continuity between organism and architecture, which is technologically mediated.

Upon closer examination, this continuity, promoted in the concept of body-data image, is also inherent to the idea of form in Gestalt psychology and Merleau-Ponty's early phenomenological philosophy. The next section will, therefore, analyze this genealogical lineage, in order to describe a perspective that has been little discussed in postphenomenology and that will open a redefinition of the concept of embodied relation capable of including the interactions permitted by the hybrid architectures.

#### 4. Body forms and environment forms, a genealogy

Gestalt psychology is known for its focus on describing how humans experience the world. In contrast to their contemporary behaviorist psychologists, Gestalt makes experience a product, rather than a given or passively received stimulus. Through a

<sup>&</sup>lt;sup>19</sup> Cfr. K. Fedorova, *Tactics of interfacing. Encoding affect in art and technology*, MIT Press, Cambridge & London 2020, pp. 73-142.

holistic and syncretic approach, perceiving the world became a complex and active transaction that always involves different sense organs which, in their coordination, inform perception. While this theoretical research focuses its attention on the modes of access to the exosomatic environment, some Gestalt psychologists also relate perceptual activities of the organism to the form of the body.

Wolfgang Köhler made a first effort in this direction in *Die physischen Gestalten in Ruhe und im stationären Zustand*. The subtitle of the work, *Eine Naturphilosophische Untersuchung* (A Philosophical Inquiry into Nature), clearly reveals the author's ambitious project: namely, to elaborate a general conception of nature through the Gestalt approach. Köhler used the «principle of isomorphism», which proposes a structural correspondence between the phenomenal and physiological levels<sup>20</sup>, to study perceptual experience as an event composed of esosomatic and endosomatic elements related to each other. He sought to create a unified model that could link psychological functions, biology, and the external world, and identified the concept of form as the common denominator of this triad<sup>21</sup>.

Köhler's work was further developed by Goldstein in *The Organism*, where the latter suggested a notion of biological form «that is itself of a dynamic character, which changes according to the various situations that the self-actualization of the organism makes necessary»<sup>22</sup>. The reconsideration of the organic body as a unit in becoming, as a form capable of transforming and adapting, allowed Goldstein to consider the organism in its totality, in relation to its parts, as well as in relation to the habitat. He named his methodological and epistemological approach «organismic topography». In this perspective the body, in its becoming and situated structure, is the first element to be thematized biologically and phenomenologically to gain access to the individual's perceptual and mental life. To this end, the organism is read as a functional unit in which every mode of inhibition (or potentiation) involves a reorganization both of the form of the body and of the form in which the environment is given<sup>23</sup>.

<sup>&</sup>lt;sup>20</sup> Cfr. F. Toccafondi, *Il tutto e le parti. La Gestaltpsychologie tra filosofia e ricerca sperimentale (1912-1922)*, Franco Angeli, Milano 2000, pp. 79-81.

<sup>&</sup>lt;sup>21</sup> Cfr. W. Köhler, *Die physischen Gestalten in Ruhe und im stationären Zustand. Eine Naturphilosophische Untersuchung,* Braunschweig, Vieweg 1920, p. XIII.

<sup>&</sup>lt;sup>22</sup> K. Goldstein, *The organism. A holistic approach to biology derived from pathological data in man* (1939), Zone Books, New York 1995, p. 298.

<sup>&</sup>lt;sup>23</sup> Cfr., ivi, p. 178.

The biunivocal relationship between the form and functions of the body leads Goldstein to reread the growth and reproduction of the organism, the acquisition and transformation of behavior, and the modes of perceptions. Through this analysis, the psychologist discusses a body that shows itself, and must be described, first and foremost in its performance, a term with which Goldstein indicates «any kind of behavior, activity, or operation as a whole or in part that expresses itself overtly and bears reference to the environment»<sup>24</sup>. Investigating the immanent and relational process of action and perception, Goldstein understands that performance is simultaneously linked to intentionality and form. Since they reciprocally constitute each other, the form of the body is already involved in a perceptual and agentive performance, while intentionality is already linked to the topography of the organism.

Merleau-Ponty's *The Structure of Behavior* addresses the Gestalt psychology criticism of behaviorist theories and acknowledges Köhler and Goldstein for introducing the concept of form that applies to both the perceived and the perceiver<sup>25</sup>. In particular, Merleau-Ponty expands on this theme in the chapter *The physical order, the vital order, the human order* by observing forms transformation in the evolutionary chain. The study of its organization in holistic terms allows him to find continuity between the inorganic and organic, between simple and complex organisms, leading him to formulate an elastic tripartition between «physical form», «vital form», and «psychic form». With these concepts the author does not mean to indicate «three powers of being, but three dialectics»<sup>26</sup>. Therefore, the three forms should not be understood as unrelated and autonomous, nor it is correct to describe them by merely superimposing the three orders

<sup>&</sup>lt;sup>24</sup> Ivi, p. 42.

<sup>&</sup>lt;sup>25</sup> It is possible that Goldstein's exile in America and his ideas contributed to and enriched the critical debate against behaviorism by bringing together Gestalt psychology and Jamesian pragmatism. As is well known, Goldstein held the seminar *Human Nature in the Light of Psychopathology* at Harvard University between 1937 and 1938 as part of *The William James Lectures*, in which he directly addressed the themes of behaviorism and proposed the organismic topography as an alternative method of research. Goldstein's lectures were crucial in bridging European and American thinkers. In fact, they revealed the shared critical and epistemological assumptions against behaviorism, as well as similar conceptual elaborations and conclusions among James and Dewey's pragmatism, Gestalt psychology, and Merleau-Ponty's phenomenological philosophy of the body. Cfr. K. Goldstein, *Human nature in the light of psychopathology derived from pathological data in man*, cit., pp. 69-95 e pp. 133-173; W. James, *Principles of Psychology* (1890), Harvard University Press, Harvard 1983, pp. 25-39; J. Dewey, *The Reflex Arc Concept in Psychology*, "Psychological Review", 1896 n. 3, pp. 357-370; M. Merleau-Ponty, *The structure of behavior* (1942), cit., p. 184.

as if the consequent contained the previous one unchanged. Rather than being viewed as completely new creations, each form should be seen as a continuation and reorganization of the preceding form as one progresses along the evolutionary lineage. Thus, for Merleau-Ponty, under the sign of morphology, each of the three forms dialectically structures its own modes of access to the world.

In particular, the author recognizes that as one goes up the evolutionary chain, behavior and habits become increasingly differentiated, complex, and stratified. The dialectical relationship between organism and environment intensifies and differentiates particularly in the psychic form, which, for Merleau-Ponty, is the human one and is the most active way of perceiving and acting. The inherent fragility of the psychic form, arising from its heightened sensitivity, can be counterbalanced by work<sup>27</sup>, which refers to the ability to organize plural processes that enable greater manipulation of the forms present both of objects and/or of the environment. Thus, the more complex organisms result in greater continuity with the *milieu*, they can structure a greater number of perceptual and performative relationships, and thus they can carry out more diversified behaviors than a less complex organism. In the psychic form the intensification and differentiation of relationships lead to a coupling in which the environment penetrates the individual, transforming it, and the action of the individual radiates and propagates in the surrounding habitat. The articulate exchange that arises acts both in determining the form of the organism and the architecture of its environment, according to a circular and bi-univocal movement of co-constitution.

The continuity between esosomatic and endosomatic space under the concept of form, initiated by Köhler and Goldstein, finds its most complete design with Merleau-Ponty. Only with Merleau-Ponty, the idea of form succeeds in constituting a relational ontology in which it describes beings in their becoming, the associated environment, and the relationships that transform both. In this perspective, the psychic form is indeed in continuity with the environment in which it lives, but at the same time, the same organism can manage and manipulate this relationship through technologies and architectures that united reconfigure both the esosomatic space and the performative possibilities of the body there situated.

<sup>&</sup>lt;sup>27</sup> The term work is borrowed by Merleau-Ponty from Hegelian thought «which designates the ensemble of activities by which man transforms physical and living nature» (M. Merleau-Ponty, *The structure of behavior* (1942), cit., p. 162).

#### **5.** Conclusions

The concept of form presented here allows us to describe the relationships between the esosomatic and endosomatic space, notably the generative relationships of the organism in structuring its environment and shaping its own habits. In this perspective, the relationship of transparency between body and hybrid architecture, which is initiated by the artistic experiences presented in the third section, can be seen as a mediation in which the form of the performer's (or the visitor's) body extends, interacts, and is in a prereflective continuity with the form of the architecture. However, the idea of manipulating the environment through media that are transparent to human beings is not unique to some artistic installations. Home automation and the Internet of Things can already establish transparent relationships in daily human-environment interactions. Smart homes activate their functions through increasingly user-friendly apps, requiring less and less concentration to use<sup>28</sup>. Smartphones or tablets are not the only media in a smart house for entering into a pre-reflective continuity capable of transforming the architectural environment: the building's functions can be controlled by voice commands (as already happens with Siri, a project on which Apple is investing and expanding through the Matter device line)<sup>29</sup>, or they can be activated with a simple gesture (as in the case of Imaginary Interface, a prototype phone without an interface capable of transforming hand movements into device operations) $^{30}$ .

The pre-reflective continuity between individuals and architecture through specific media and technologies is not only already reified, but as just shown, it is leading today to a diversification, diffusion, and development of the technologies that allow it. These transformations involve both embodied and background relations. New environmental technologies are undermining the two main avenues that post-phenomenology believed were necessary for embodiment to occur: the need for technology to be in proximity to the body, which entails an additive conception of hybridization (tool+body); and the idea that total transparency of technology is unique to rehabilitative prostheses capable of

<sup>&</sup>lt;sup>28</sup> Cfr. F. Parisi & S. Sartori, *La temperatura dell'interfaccia. Embodiment, ipnosi e allucinazione*, in "Imago. Studi di cinema e media", XXIII, 2021, pp 23-40.

<sup>&</sup>lt;sup>29</sup> <u>https://developer.apple.com/apple-home/matter/</u>.

<sup>&</sup>lt;sup>30</sup> Cfr. S. Gustafson, D. Bierwirth & P. Baudisch, *Imaginary interfaces. Spatial interaction with empty hands and without visual feedback*, in "Proceedings of the symposium on user interface software and technology", 2010, pp. 3-12.

remodeling the human physiological model to a standard. Even the background relation is unable to describe the modes of use of these devices, considering them as necessarily non-transparent technologies. Instead, the idea of form allows us to rethink the incorporation of the environment, particularly the hybrid architectural one, and could be very fruitful for post-phenomenology in this sense. In the new paradigm, hybrid environmental technologies enhance an original way of living the world of the human being as an organism-form in continuity with the architecture-form that inhabits and manipulates. At the same time hybrid architectures allow for an unprecedented continuity between organic and inorganic, and this new paradigm requires not only concepts capable of describing it but also an ethical perspective. If the article has contributed to give a theoretical proposal in the post-phenomenological landscape, there is still much work to be done on the ethical front. In the coming years will became crucial to understand the feedback effect that the constant use of transparent media triggers on the form of cognition, on the possible and actual performative capacities of the human organism. In order to avoid falling into technophobic or technophilic tendencies, it is important that the ethical perspective that will be developed starts from a phenomenological description capable of analyzing the relationships that media and technologies establish with their users.