

10 Algorithmic faces

Reflections on the visage in artistic translation and transition¹

Silvia Barbotto

1. Introduction

On the one hand, the dimensionality of contemporary living lies in the semanticized expectation of the physical, ontological, and phenomenal entity and, on the other, in its digitized and realized synthesis in the ethereal zone of e-society. The substantial polarities between the tangible and the intangible, between the phenomenal and the epistemic, matter and energy, physical and algorithmic, between the extremities of different events, are part of the same interconnected fabric. We think of categorical fractioning, typological definitions, and the intent of necessary objectification as parts of a functional but provisional phase: the imbalances caused by isolation with respect to a broader scenario need referential extension, integration, and completeness in order to fully realize their ephemeral independence.

Among the fractional inferences there is the alternative of staying: *in between* is manifested the sense of a hybrid, pulsating, creative, extended world. In this space we find the nucleus of this chapter, whose basic proposal is to problematize the face as a solid entity in its own right in order to enhance instead its shaping context, identifying a field of research linked to an environment as well as an object. Without excluding the face as a set of elements with a compact and well-defined architecture, we position ourselves in that landscape that delimits its dialogical dimension, the scenery of senses, and effects but also that of data and clouds.

Our objective consists in defining the points of contact and estrangement with respect to which the relationship of the encounter between the face and the situation in which it is immersed is generated; at the same time, we also have to probe what this situation generates, in terms of expressiveness, agency, and relationality. Hence, it is necessary to unravel the following issues, the resolution of which will be imbricated in the text:

- identify the manifesting media of the human face and describe its expressive formants

- recognize the circumstantial dimensions and outline their compositional syntax
- unravel the relational configurations of the face in contemporary society through a process of categorical association.

In this way, we bring to light the vehicles of signification by which the meaning of the face is generated and shared in this intermediate space, thus procuring new perspectives of structured procedure, that is, new investigative *methods*.² Semiotics, as a discipline specialized in the study of signs and in the stabilization of fluid categories, is invoked to deal with the relationship and transition between the magnitudes of binarism, fundamentally composing the mediation in which the processes of reading, writing, translation, and transition between one sphere and the opposite one take place: signification thus sediments in the incorporation and unbundling of the spaces traversed, of physical-algorithmic magnitudes articulated individually and collectively in the interlude that such dynamism generates and propitiates.

Binarism and *asymmetry* are the laws binding on any real semiotic system. Binarism, however, must be understood as a principle which is realized in plurality since every newly-formed language is in its turn subdivided on a binary principle. Every living culture has a “built-in” mechanism for multiplying its languages. . . . For instance, we are constantly witnessing a quantitative increase in the languages of art.

(Lotman 1990: 124)

Interdisciplinarity in research leads us to hybridity as one of the theoretical models: is the vacuum part of this place of transition? According to the Dirac sea model, the vacuum was an infinite space of negative-energy particles (electrons) which, by making a quantum leap, transformed themselves into positive energy and thus left a gap, which was later found to be filled by the antiparticle, a virtual particle called the positron. The faces in the void bring us back to the investigation of occupied space as well as the material entity we refer to: virtuality becomes actualization after a quantum leap into the *in-between*. The leap between binarisms, the dialogue in the living dichotomy, and the crossing into the void are bridged by everyday living in which the multiple languages of art proliferate and create the field.

This space needs to “summarize the properties of quantum happenings”, as Merrell would say (2010: 83): paraphrasing his words, we must remember that quantum particle-happening, as a *possible possibility*, can be in many places; moreover, we know that it does not live in an ordinary space-time “until it *interdependently interrelates* (and *interacts*) with something/

somebody else". The chronotope of the face within the paradigm of quantum physics is never the same: "you can never step into the same semiotic stream twice" (Merrell 2010: 82).

Attributing to the body, and especially to the face, the predominant space in which to study these transitions, we see that since ancient times the human being has conciliated the interactions between aesthetics and materiality as integrated proposals. Inasmuch as they can be considered natural platforms, faces can be thought of as semiotic apparatuses that lend themselves not only to constant reading but also to the continuous intervention, direct or mediated, of human doing in relation to human and nonhuman doing and being: they are therefore predisposed to becoming cultural, social, artificial, and somehow *algorithmical* from the day they are born, in both proprioceptive and exteroceptive ways, becoming *possible possibilities*. To say nothing of the nonhuman faces, specifically the face products of machine agency, which are certainly and completely artificial and which give rise to a whole series of contemporary questions to which it is urgent to find answers. Taking up the etymological sense of the fundamental component of artificiality, we see that its roots in human action are also related to the paradigm of art as "ars facere": we thus refer to the scenarios of a complex landscape, to the contemporary artistic condition of highlighting certain trends, especially in terms of intelligence and creativity, both human and artificial.

Some of these issues, void-polarities-artificialities, have already been addressed in a few open-access articles within the FACETS research project: the Socio-cultural Habits and Inflections of Faces Across Time and Space (SHIFT) program contains titles such as "Artificial Face and Transhumanism in Contemporary Art", "Art, Face and Breathscape: From Air to Cultural Texts", and "Trace and Traceability in/of the Face. A Semiotic Reading Through Art" regarding the topic of art/artifice, while the Visage Intelligence Systems From Antiquity to the Genesis of E-Societies (VISAGE) program includes, for instance, "Reading and Writing in N-dimensional Face Space", concerning the intrinsic relationship between facescape, emptiness, and the neutral mask, with reference to Jacques Lecoq and the neutrality of expression as a result of the search for the *in-between* space.

The syntagmatic configuration of faces constitutes an environment that we could call the facescape: while the embedded face tends to give evidence of the material substance whose form it conveys, the virtual face, on the other hand, tends to become the spokesperson for a transitory dematerialization destined initially to occupy the ephemeral state of binary language and then, at times, to slide into that of disappearance.

All figurative syntax is based on the interaction between matter and energy, and the stable or unstable balances of this interaction produce

identifiable figures. From the moment objects are treated as interacting bodies, and not only as abstract forms, further integrated into a figurative syntax, the interaction between matter and energy takes on the aspect of an interaction between the movements of one and the sheathing of the other.

(Fontanille 2008: 226; our translation)³

While the digital images of faces perpetuate, proliferate, and, fleetingly, are sometimes illusorily forgotten, the data linked to them instead establish real material mechanisms. The physical-algorithmic extension therefore interests us from various points of view concerning above all its heterogeneous and multiform entity: we would like to understand what gradients, intensities, and varieties of physical-algorithmic bodies we know; how they are generated and developed; what types of corporeity they include or exclude and, above all, in what spaces such syncretisms take place, how they are grafted into the real and digital territory, and how their habitability is constituted. The content is structured in the following subchapter:

- Art and artificiality, the physical-digital body-face;
- The semiotics of living;
- Datafication and matter in the contemporary ecosystem;
- Dwelling *in-between*.

2. Art and artificiality, the physical-digital body-face

The human being, a kind of *arkhano*⁴ exposed to artificiality and, therefore, also to making art dialogues and interacting with materials of various kinds, from the heaviest to the most ethereal, from the most evident to those that are invisible, in an approach of *modalizing* like that of the alchemist.

The alchemist was called the “creator”, this science was commonly called the “Great Art” and the alchemical process, the opus, took the name of “Great Work”. . . . Just like the opus, the process of art finds simultaneously its own outcome and its own configuration on several levels: the physical one of the materials treated, the visual and harmonic one of the forms, and the ideal one of the spirit, and finally the “sapien- tial” one of the complex and numerous meanings, also brought back to the perfect iconological unity of allegory.

(Calvesi 1986: 10–19)⁵

“Formativity”, a term dear to Umberto Eco [1970 (1968): 13–16], could integrate the notion of artificiality by emphasizing the material dimension and in some way the physical one in a sort of isotopy identifying in the

organism the synonym of form and in the producing (more than in the expressing) the *forming action*. The performative dimension linked to agency in either human or non-human typology as well as a modeling and transforming function are inherent to the sphere of artificiality. Referring to Pareyson, Eco recalls:

In the work, the person forms “his concrete experience, his interior life, his inimitable spirituality, his personal reactions in the historical environment in which he lives, his thoughts, his customs, feelings, ideals, beliefs, aspirations”. This does not mean that the artist simply narrates himself in the work; in it he exhibits himself, he shows himself as a mode.

[Eco 1970 (1968): 14, our translation]

Art, having undergone enormous fluctuations on every scale, as has society, is of its own disposition inclined to contribute to meaning, methodology, spatiality, and temporality in order to retrieve old narratives and, at the same time, to build new ones. Art, as a story-telling which identifies in *saying also a form of doing*, is not only a rhetorical way of reducing the speaking process of re-producing something preconstructed but also a manner of contributing to the production itself, as a continuous reference to the extra-societal setting. At the same time, recalling Deleuze’s view, in this posture there is not necessarily an intention to communicate; according to him, the relationship between art and communication is nonexistent:

The work of art is not a tool of communication, it has nothing to do with communication, the work of art does not contain information, but on the contrary, there is a fundamental affinity between the work of art and the act of resistance (previously defined as the only plausible possibility of counter-information).

(Deleuze in “Art as an Act of Resistance”)⁶

Visual anthropology, aesthetic ontology, biopolitics, and biosemiotics of culture and body are some of the disciplines which, without necessarily resorting to the paradigm of communication, deal with the artistic text, its production and proliferation, and the mechanisms that the text triggers directly or indirectly as a fundamental aspect capable of casting a bridge between tangible and possible societies. A dimension of potential, and therefore linked to the future, is often impregnated in making art whose objective, however, is usually far from the directive function of being a unilateral trajectory, coming closer instead to embodying indexical and certainly evocative suggestions. Jury Lotman, one of the major exponents of cultural semiotics, refers to art as a secondary modeling system, whose

dialectic focuses, as in the games paradigms, on the inventive dialogue between the primary language, certainly communicative, and multiple natural-cultural instances.

Art, as a paradigm of reference on which to base oneself and from which to unfold, “is a singular composition of chaos through form, gesture and environments that take on a concrete corporeity in the space of communication, vision and projection” (Berardi 2018: 29, our translation). As a preponderant part of the implicit epistemic foundations, these are discursive ruptures of monolithic criteria whose distancing from the pre-established amplifies horizons within a liberation in the alternative. Art as an alternative created language, evident avant-garde work, and constant method represents a process very similar to science as in Heisenberg’s affirmation, quoted by Formaggio:

Both science and art give form over the centuries to a human language by means of which we can speak about the most remote parts of reality, and the coherent series of concepts such as the different styles of art are the different words or groups of words of this language.

(Formaggio 1976: 80, our translation)

Thinking of art as a semi-systemic world but also extending the inclusive perimeter, as an aestheticized panorama and a widespread means of evident artificiality, leads us to the necessary untangling of the spatial morphogenesis of digitality and analogy, which will be the second part of this chapter. The philosophical contribution of this text consists in conjugating the analysis of works of art with assumptions and deductions about how the echo generated from artistic awareness is pervasive, insofar as it is a signification of the potential *actualized* through the recognition of existing otherness, the fundamental crossroads of an immanent congruence, the combinatorial designation of sensitive variables, and co-possibilities.

In 2001, Strauss and Fleischmann academically presented their artistic project *Murmuring Fields*, the prototype of an informative universe in which real space becomes a diffuse and hybrid environment, interfacing and interacting with the virtual, enabled *by* and *with* the body, defined by the researchers themselves as “a physical interaction space filled with data” (Strauss *et al.* 2001: 2). Mixed reality, they explain,

signifies the interconnection of the real and virtual producing a new framework for communication and interaction possibilities . . . amplified through the notion of a shared environment: a situation in which participants discover their interdependence in exploring, perceiving and creating the world.

(Strauss *et al.* 2001: 3)

Already in *Liquid Views*⁷ – *Narcissus Virtual Mirror* (1992–93/2007), Strauss e Fleischmann had created a compelling avant-garde work, where the *virtual touch* played the role of an interface between digitality and corporeity, where sound and image interacted and blurred. It consisted of an artificial water platform in which, when used as a mirror, one's own portrait was reflected as in a real surface: the action of looking was accompanied by the sound of water movement. The body, its contemporary action, and its inhabitation are to be contemplated in close connection with its variant and virtual, algorithmic integrations: the data and matter of which they are made are not merely a binary series of abstract numbers but are also founding elements of devices in which to mirror and construct one's own identity in relation to that of others. This subjectivity is in co-construction with the changing world and its *systematizing devices*.

We observe the human being in their *trans-subjective* and inhabiting extension in the environment, including both the tangible, terrestrial dimension, and the digital dimension of cyber space, made up of data and information matter. During the *Cuerpo, sujeto y reflexión semiótica*⁸ congress at the University of Granada (2022), there were numerous opportunities for reflecting on the cyborg dimension. In the round table *El cuerpo Ciborg: del mito al sujeto posthumano*,⁹ presided over by Domingo Sánchez-Mesa and Nieves Rosendo, the process of *cyborgization* was considered as one of the possible ways of overcoming the dual gender, as well as approaching the establishment of a new, primarily political paradigm.

Filippo Silvestri, too, in his contribution titled “Body and mind, their lives in extension. Phenomenologies and semiotics of the new post-pandemic cyborgs”¹⁰ profiled how the new subjectivizing dynamics are necessarily and a priori cyborgs. Let us recall, for instance, artists such as Manuel de Aguas with his implant on both sides of the head designed to perceive and measure specific qualities of the environment such as atmospheric pressure and temperature, or the eyeborg Rob Spence, a filmmaker with a prosthetic eye consisting of a micro-camera inserted in the eyeball.

“In the perspective of a semiotics of text and discourse – says Fontanille (2003: 3) – the body is above all a site of meaning, and of a meaning that takes shape from the sensations and impressions that this body experiences in contact with the world”. In experiencing the inhabited, the body situates itself by occupying a place that in turn welcomes it, envelops it, expels it, and that, in any case, assumes it as cohabitant: the human–environment relationship, according to this inclusive perspective, is bilateral. Technology has since ancient times interposed itself on this connection.

3. The semiotics of living

The semiotics of living, the matter of the world and nature, of the visible and the invisible, as well as bodies of all kinds and species, also change in

contact. It is a question of appraising the receptivity of the environment from which the human being intervenes and acts, plastically and figuratively, in the interpenetration of a mutual synergy. Emerging and showing, subtending and concealing, protruding and welcoming, dichotomies of apparent extremes interpenetrate with individual and social tendencies in which these and other polarities mingle and alternate with further semiotic axes: those of narrative structures intrinsic to cultural determinisms, those of textual independence that treads unthinkable paths, those of gestures without a category because they are inchoative in poems where rhythm and harmony do not reflect norms but become confused exceptions.

The face, besides being a physiological and bodily, poetic, and alchemical *punctum*, is also the central core of today's digital society: its agentive and expressive gradients in relation to ipseity and otherness, whether living or nonliving, human or nonhuman, must be considered. It deserves to be recognized for its narrative value and embedded variant. In analyzing the face within the environment that we have just described, it is necessary to consider the topological instance, identifying internal, external, and tangential face-world relational forms and thus elaborating the trichotomous arrangement of

- the face in the face
- the face in the world
- the world in the face

Considering instead the aspectual instance, there are practices and trends that occur, over time, between the body-face-real and the body-face-artificial by means of technologies and prostheses. A kind of measurement and in some cases alteration (on incremental or decremental scalar gradients) of sensorial, aesthetic, and communicative properties on a pragmatic basis therefore takes place: this will spill over into the *typologization* of macro-areas (which stabilize and categorize, obviously simplifying, the man-machine relationship) with particular attention to the intervening thresholds. Marcello Ienca spoke of this in proxemic terms: suggesting a human-technology (and face-artificial intelligence) relationship based on cooperation rather than competitiveness, he divided the navigation space into enhancement, transformation, and recombination.

Whatever exists – says Lotman (1990: 132) – is subject to the limitations of real space and time. Human history is but a particular instance of this law. Human beings are immersed in real space, the space which nature gives them. Human consciousness forms its model of the world from such constants as the rotation of the earth (the movements of the sun across the horizon), the movements of the stars, and the natural cycle of

the seasons. No less important are the physical constants of the human body, which posit certain relationships with the outside world.

The limitations to which Lotman refers imply the conscious demarcation of a circumscribed dimensionality, the basis for any analysis as a semiotic configuration. The reference to the immersive grandeur of real space denotes the position of the bodies of living beings within this context and necessarily contemplates forms, rhythms, and densities whose limits are partly unknown: the real, physical, tangible, accessible space interpenetrates and integrates with the liminal, fictitious, mythical, virtual, unintelligible space.

In the uncertainty of unpredictability, vector tensors are made up of forces and factors that influence the functional field which, together with the structural field made up of notions as well as geometries and models, gives rise to the semiotic universe of *fundamental interactions*. The spacing of the face is not limited to the material circumscription of the human, physical face, but it is from there that the generation of a complex argumentative textuality arises, branches out, and proliferates, which is unsettling and involving, but distinguishable and examinable. If, on the one hand, we accept the constitutive naturalness of human physiology and the physical apparatus in which it exists, on the other hand, we know that the steps for the definition of the natural are cultural, social, and intersubjective, and, in their multiplicity, an interpretative and generative process of meaning is involved, which actively participates in the process.

Physical naturalness brings us back to discursive naturalness; the naturalness of data signs, even algorithmic ones, is a utopia: “the mythical algorithmic disintermediation, in practice, seems to be of variable geometry” (Airoldi and Gambetta 2018: 36). Naturalness is intimately linked to neutrality, and its illusion and nonexistence from an algorithmic point of view are addressed in the text titled “On the myth of algorithmic neutrality” in *The Lab’s Quarterly*. What elements are contained or excluded in the face from a computational point of view so that algorithms can do their job, namely discern and process data? What factors enter the selective range allowing for definitions and dictionaries, historicization, and analysis in the process of discretization, and how do mathematics and geometry come into play by subjectivizing rather than objectivizing? What ethics apply to the new materiality of *dataified* signs where we sometimes refer to indexical faces of flesh and bone and sometimes instead to embedded pixels?

In this material transition, the body takes on a digital life implying settlement in an elusive shadow space, where transient movements allow for a spasmodic coming and going, where the concreteness of the real is only partially brought back into the digital presence, striated, layered, and diffused. Granting the face the meaning it occupies is not only an interpersonal

matter but also trans-personal, realized between tangible bodies and the concrete environment through new mediations, through their intangible subtle versions. The genealogy of spatial management and gestation in faces, and between faces and their dwellings, is relevant to understanding algorithmic mechanisms within a complex society and possibly counteracting affirmative pulsations by seemingly infinite progressivisms and quantitatively accumulating codified, meticulously structured knowledge. The face is an interface and has always mirrored itself in the devices at its disposal to recognize itself, to find the counterpart that corresponds to it: in the reverberation, spatiotemporal residues are created, which we attempt to probe by propitiating the critical and innovative arrangement of transversal materialities that cross its structural plane.

4. Datafication and matter in the contemporary ecosystem

Contemporary ecology is evidently hybrid, a compendium of a shared field between the analog and the digital, of matter that is body and data, embedded data, *dataified* body: it is a space that expands in the inhabited but is conformed in and with the inhabiting body.

To consider the face as a device that tells transmedia stories implies not only allowing oneself to be guided by the inchoative stimuli dictated by its surface, but also propitiating access to the deep levels and stratifications of form and content. Such storytelling is, therefore, identified, processed, clustered, archived.

(Barbotto 2022: 140)

The metaverse, a romanticized extrapolation of a digital universe, is one of the contemporary versions of the aforementioned mixed reality: transmediality emphasizes the inclusion of the thing, the object, and the matter in the sphere of the knowable and not merely in the abstraction of the distant ephemeral. If we continue to discern and polarize dimensions such as body and mind, external and internal, real and digital, and subject and object, we drastically reduce the possibilities inherent in intermediate states and the contemplation of an embedded vision, that is, the subjectivation of a thinking body that conforms synchronously in the process of materialization.

The environment, the terrestrial setting, or the space we are used to referring to as our surroundings is foregrounded not as a passive social medium but as a systemic foundation in which human beings wander and establish themselves, often brutally imposing themselves on the established situation. This stabilization has brought about catastrophes and disfigurements, but it has also questioned itself as it has made way for welcome rather than domination, allowing the inhabited space to be the sustenance

with which to collaborate, rather than the pivot on which to erect illusions of infinitude. We are surrounded by data, but in turn we surround them: Massimo Leone speaks in these terms in relation to pixels:

We are surrounded by pixels. And we surround them. As soon as we wake up, we look at our e-mails, web pages, social networks in our mobile phones; we interact with the liquid crystal displays (LCDs) of household appliances in the kitchen, in the bathroom, in the car; the screens of our computers “speak” to us through patrons of pixels; as we travel, giant panels in airports and train stations tell us the times of arrivals and departures, pixel by pixel.

(Leone 2018a: 5)

It is this inter-penetrating circumstance that interests us: how we intervene in the data, how the data intervene in us, and how to unveil the mechanisms of this media co-action even though it is often concealed, compressed, and obfuscated.

Parikka’s geology of media (Crawford 2020: 32) comes close to the theoretical proposition that media are a kind of extension of the earth, rather than of the human being. And this seems even more pronounced if we consider the relationship between media and artificial intelligence established in the COVID-19 pandemic and partially maintained to the present day:

[W]e all know that AI has entered practically all domains of our lives and will continue to do so; the current crisis has only made the move to AI speedier. Universities all over the world collaborate with governments and corporations to build stronger AI units to analyze big data, to operate machines, to augment reality and create 3D learning environments. Many of these new AI applications will help in providing solutions for the challenges of the (near) future, such as controlling disease and the consequences of climate change. But all of this is not self-evident. In these new AI centers, there is sometimes an ethical committee that advises on the possible risks and benefits of specific applications.

(Eugeni and Pister 2020: 92)

In *Chaosmosis*, Guattari (1992: 15, our translation) responds negatively to the question of whether we should consider the semiotic production of mass media, information technology, telematics, and robotics as a separate entity from psychological subjectivity: “The consideration of these machinic dimensions of subjectivation leads us to insist, in our attempt to redefine it, on the heterogeneity of the components that make up the production of subjectivity.” In considering the category of the nonliving active and tensive, of the animated object and dynamic media, which assume

a performative and coactive role in the environment and experience, we introduce the conception of *thingness* as pertaining to the sphere of the living: to do so implies attributing a presential breath capable of unraveling vibration and movement in a kind of distributed transversal propulsion to any material form, even those generally considered inert. Does a stone vibrate?

The data perform a process of depersonalization, which amalgamates unitarities to form clusters and sequences, anonymous, heterogeneous, and multidimensional meanings, interpretations that create gaps and which, almost denying subjectivity, declare and datify by negation. The data perform: in the exhibition *The performing data* Fleischmann and Strauss (2011: 49) show their interactive media artworks from 1980 to 2001. “The Data Performers are involved in space-time environments which we call enterable spaces of thoughts (*begehbare Denkräume*), within which the viewer becomes the participant of an interactive plot. Inspired by Aby Warburg’s neologisms such as ‘space of thought’ (*Denkraum*) or ‘psychological containers of energy’ (*psychische Energiekonserven*), we develop aesthetics of virtual spaces of knowledge and thought.

Interactive data networks have enlivened everyday life: their interest lies in understanding mixed reality and capturing technological intermediation through media art to make users more active and reflective.

In order to transform information into knowledge, people need to make choices, compare, evaluate, and interact with others. Instead of intellectual and technical automatization for the processing of information into alleged knowledge – as computer science does – media art combines automatism of the machine with an act of uncovering of its structures. Data Performers, data mapping and visualization are used in order to give a new structure to the already existing knowledge, and, thus, to rediscover it (reference to works *Home of the Brain*, *Semantic Map*, *Media Flow*)”.

(Fleischmann and Strauss 2011: 53)

The sphere of digital data seems to have expanded and gained ground in the space of meaning, penetrating the forms of everyday life, and revealing itself to be matter as well as concept and event: automation transcends the industrial and military sphere, and artificial intelligence reaches all contemporary spheres. Data and the digital information society are increasing exponentially and magnifying their scale, so much so that they are considered by some to be the fifth element, a new manifestation of the mass-energy aggregate: according to physicist Vopson of the University of Portsmouth, “currently, we produce ~1021 digital bits of information annually on Earth. Assuming a 20% annual growth rate, we estimate that

after ~350 years from now, the number of bits produced will exceed the number of all atoms on Earth” (Vopson 2021).¹¹

In his latest publication he proposed an experimental protocol to test the validity and consistency of the mass-energy-information triad by proving both the information conjecture, that is, the observability of information matter in the universe and the existence of information as the fifth state of matter in the universe. Building on the principle of Landauer, who as early as 1961 claimed that bits had a precise physical consistency and associated energy, and combining Shannon’s information theory with the laws of thermodynamics, the author extends these insights to the principle of M/E/I equivalence, that is, matter/energy/information.

Of course, to think that a piece of limestone has the same substance as an artefact made of cotton, a concrete structure, an electroacoustic transducer, a light sensor or a set of data and big data, and that in turn all these elements are subjectivized to the extent that they play a coactive and proactive role, is a risky step as well as a simplistic attitude. Digitality, as an instance of *modalizing*, a medium of interactive processes, a resilient approach that adapts an original package of signs into a conventionally adequate new script, is certainly a mechanism of invention. Its history can be dated in fairly recent terms: a few dozen years have been enough to allow it to pervade our daily lives. In this discreteness there is an incessant *cymatic* translation, from the text to a new format of itself and again from the new text to the semiosphere of interpreters; at the same time digitalization has allowed *transversality* to prosper more easily, enabling a horizontal inclusion of the users: interpretants and producers become the foreground of the sphere of digitality englobed in one identity, the prosumer. The act of enunciation is increasingly digitalized in its production, reception, and, of course, during the transition where a meaningful field takes shape, with its own consistency characterized by flowing waves captured by structural mechanisms known, in general terms, as medias. It is of great importance to recapitulate the role of the media which, as the etymology of the word itself points out, consists in offering a platform of mediation that, it should be noted, is always filtered, politicized, and, in a single word, semiotized not merely by individuals but by large corporations.

It is inevitable to contemplate our contemporary entangled field as a contorted but extremely organized (also) digital one, where a continuous encoding and recoding takes place, where authority is partially dissolved but where even the identity procedure (construction, narration, sharing) is somehow disintegrated, distorted by new characteristics in the process of definition and understanding. Its material constitution and the contact of the *enveloped* body-faces with their interaction devices, the energetic and therefore material conformation of the binary codes, their remains, their disappearances, the visual but also epidermical and synthetical impact of

a virtual body-face with a flesh body-face, the highly prolonged use of certain cervical muscles when using technological apparatuses essential to making digitality live, are, among others, some potential topics for new research. The digital domain, which now seems to be going hand in hand with the analog world, does not require separate or preferential treatment but instead becomes the warp of a weft with which it constitutes an inevitable weaving of our contemporary and future times: the face is, ipso facto, an intense conglomerate of both. To consider space as an agent and digital data as coauthors of this agency, we need to understand their exponential growth, their functioning within digital citizenship, their massive energetic constitution, and their extractive nature.

5. *Dwelling in-between*

Each set of molecules has its own construct of natural frequencies depending on their structure, materials, and delimiting peripheries. In music, for example, the normal modes, and therefore the natural frequencies that emerge from the vibration of instruments, are called harmonics. And this makes us notice how the normal and the natural seem to belong to a similar semiospheric circumscription, which interpenetrates the artificial aspect. The matter, therefore, the materials that come into contact with each other, propose a semiosis attractive to interpretation. The artificiality of the face and the interaction between matter and flesh, analogical or digital, tangible or intangible, lead us to think of material pluralism as a substantial need of the human being: Jacques Fontanille's studies of the semiotics of the body have thoroughly examined this field, and by combining his suggestions with insights from the domain of art, a syntactically readable narrative landscape of the face can be constructed. The ways in which some artistic proposals have interacted with various degrees of artificiality in both a performative and a representative way are possible topics to be analyzed: portrait depictions, olfactory/sound essences, make-up, masks, prostheses, from the embodied face to the digitized face, from the creation of stochastic virtual identities to bots and cyborgs. And in part we will do so. However, it is necessary to understand how the artificial face moves beyond the artistic sphere and is instead diffusely installed in everyday life until it reaches isomorphic pervasiveness in artificial intelligence, which stimulates us to ask ourselves the following questions: how do art and artificiality interact in the contemporary world and how did they do so in the past? How are artificial faces articulated? What kind of relationships is formed when faces and other materials come into contact? What type of materials are those? Is the digital world also endowed with material that dialogues with the face? Is the virtual face also a material face? In this chapter we answer these questions using ethnographic, inferential-abductive, and

argumentative-narrative methodologies based on a selection of the numerous bibliographies/videographies existing in the semiotic and literary fields.

To deny the spurious entity of digital experience and corporeality would procrastinate the necessary and indeed urgent reflection on the *in-between*, on the evolution and crystallization of this hybrid reality. Homi Bhabha speaks of inter-mediality (*in-between*) as an internal difference, a vivential edge, an interstitial intimacy: “It is an intimacy that questions binary divisions through which such spheres of social experience are often spatially opposed” (Bhabha 1994: 13). We would be dealing with an *other* space: “by exploring this Third Space, we may elude politics of polarity and emerge as the others of our selves” (Bhabha 1994: 39).

Besides, the intermediate space, as the place of non-dual being, is at the heart of many philosophies and cultures across the centuries: in “Being. Approaches to non-duality”,¹² Jean Klein (1989), a musicologist and doctor of the modern Advaita Vedanta school, brings together the writings of various authors who reflect on the consistency of non-duality and refer to consciousness as instantaneous and direct perception of the self and thus of the world, syncretism between knower and known object, between perception and perceived thing.

The simultaneity achieved in interstitial positioning is still mediated and semiotized, but performative competence and presential disposition contribute to the immersive grasping of knowledge. Now, the point is not to seek consciousness in the alternate dimension of digitality, and especially AI, but rather to set up ethical philosophical mechanisms whereby consciousness as a subjectivizing entity manifests itself transversally, embedding itself in the matter. In Chapter 5 of his book *AI and Consciousness* (2015: 117–150), Murray asks whether the aspiration of AI to resemble human intelligence is also reflected in the possible tendency of AI to achieve a state of consciousness and brings the reflection back mainly to the plane of the body and the transhuman extension of life. *Vitalists of matter* seek to recover this forgotten union with the beginning of progress understood as intensive production and tend to recognize the stratification of living in matter, in its multiple and sometimes ineffable forms of life, predisposing the liberation from the anthropocentric posture and approaching a – almost animistic – transversality of living: “I think it is both possible and desirable to experiment with the idea of an impersonal agency integral to materiality as such, a vitality distinct from human or divine purposiveness” (Bennett 2010: 125).

6. Conclusions

The twenty-first century is characterized by the predominant presence of a new increase in digital space, which is also the gateway and receptacle of a new materiality: under the long-standing influence of a capitalist

system attracted by privatization, one can imagine how the races for the privatization of this space and this new materiality are conspicuous: the artistic ensemble IOCOSE spoke about this during the presentation titled “Lip-synched Stardust”¹³ at the Academy of Fine Arts and Design of the University of Ljubljana. The ethereality that is thus often attributed to AI omits, erroneously, both the *soft* and the *hard*¹⁴ apparatus made of heavy materials and minerals, the founding elements of privatizing, sometimes authoritarian and violent geopolitics: the creation, movement, and archiving of this corporeity would, according to Vopson (2021), constitute an informational catastrophe. Jane Bennett, opting for the intrinsic vitality of matter, asks:

How would political responses to public problems change were we to take seriously the vitality of (nonhuman) bodies? By “vitality” I mean the capacity of things – edibles, commodities, storms, metals – not only to impede or block the will and designs of humans but also to act as quasi agents or forces with trajectories, propensities, or tendencies of their own.

(Bennett 2010: 10)

To understand their trajectories, we must understand their movements, and to do so, we have to take a step forward: we can no longer consider the data we consume and generate as continuities lost in the cosmos. Instead, we are dealing with practices whose existence is an attempt at quantification that renders the abstract categorizable, that creates object bodies with magnitude; we are handling collective agglomerations stored in enormous centers of *virtualized* and, in some ways, already *actualized* if still latent meaning. How does the process by which information bubbles are formed work? Algorithms are the linguistic processes that underpin the functioning of artificial intelligence: they are computer developments dictated by human programming and based on a binary code whose intricate combinations give rise to complex problem-solving processes. Bits are the basis, bits are data, and following the logic just adopted, data are matter and energy.

The innovation of recent years thus lies in thinking of the information system as part of the ecosystem as well, thereby recognizing the material experience of data. At the same time, a major change is taking place concerning the origin of the instructions dictated to machines, which can now act *retroactively*¹⁵ and process information whose instructions are internally self-generated: this cumulative process conveyed by recursive neural networks is endowed with memory and is the basis of *deep learning*. In acquiring the capacity for mnemonics, as well as for classification (as in the case of supervised learning) and pattern analysis (as in the case of unsupervised learning), the machine equips itself with predictive mastery and thus

co-constructs the arguments on which it is prompted: although on the one hand this constitutes great functional potential that we witness as a daily occurrence, on the other hand there are also numerous ambiguities and possible degenerations. The fact remains that we are increasingly turning to computational knowledge to construct models in which human intervention is then almost peripheral or, in any case, posthumous.

Similarities and contrasts between intelligences based on human and artificial neural networks, characterized mainly by retroaction and automatism, are a topic for reflection. It is necessary for us to consider data as multilevel aggregations whose value, besides being numerical with binary composition (at the basis of any algorithm there is a postulate based on +1, -1) is also and above all a social and cultural value. In fact, in order to arrive at such a label, the data must take an elaborate route, which often involves new forms of extractivism. This phenomenon is the thematic focus of Aksioma's "Tactics & practice: new extractivism" talk series¹⁶ in which researcher and artist Vladan Joler models and visualizes various elements of the new engines of extractivism, enumerating, explaining, and graphically representing them. The narrative path he proposes, which is rather dysphoric and alarming, sees the gravitational force as the starting point from which to establish a relationship with the environment, which is then fueled by social forces marked by the "new colonization": algorithms are the transversal skills that order and determine the prescriptive modalizations based on the modal value of power (what can and cannot be done). Interfaces constitute the mediation between the visible and the invisible; data are extracted, studied, sold, and aggregated into new bodies inhabiting new territories: everything we create conforms an extracted and collected content into an information bubble of great potential but enslaving, made up of fractals and new waste currently ingested.

This reflection therefore has to do with the openness of the world, with eco-systemic action and performativity, and with the disposition and dedication of the body. The physical-algorithmic face is the result of this hybrid becoming, the encounter of the environment and human-non-human interaction. In *Other Possible Dwellings. Nomadological Architecture*¹⁷ the researcher Laura Rodriguez affirms that, despite the conflict generated by immersion in this dualism of parallel societies (real and virtual), the technological subject is a participant in its own transformation and in the places it inhabits, marking a real architectural breach between the two worlds from the point of view of habitability.

"The technological subject, also known as the neo-nomad, makes use of technology to transcend time and space through the use of bodily extensions or interfaces that extend the limits of the senses and connection and interaction with other spaces or subjects. He is a subject

for which the concept of habitability no longer means being physically in one place or another, insofar as the new human-computer relations developed in today's society have transfigured its concept, giving rise to changes in the relations between the local and the global, between places and spaces. [. . .] Architectures must begin to be designed taking into account multiplicity, the invisible space of the immaterial and its flows of connection, the cyberspace that constitutes the virtual city. The need for an architecture of interfaces and nodes makes the development of a rhizomatic structure essential”.

(Rodríguez 126, our translation)

In the hybrid and contemporary environment, the participating bodies, living and nonliving, are constituted in otherness through the topology of the limit that is both extension and retraction, that has a diffuse perimeter because it is the semantic seat of both intrinsic facts and writings and of propulsive and receptive tendencies: that is, it is on the threshold of the limit, in the conflict that is generated in it, that hybridity develops. The thing, the object, the nonliving opens its boundaries to cover dimensions that were previously excluded and solitary in that virtuality, so present on the screens, but so distant as consistency and material existence: the tendency to have exiled the data that we create and that, at this point in the evolution of artificial intelligence, are self-created from the most innovative algorithmic formulas has generated a sort of social and environmental psychosis of a schizophrenic kind. The solidified boundary is now fading, integrating in both senses. Reflecting on the semantic depth of digital space, including through the study and visibility of material backgrounds as well as through the analysis of the underlying transpersonal and sociopolitical dynamics, implies a new awareness of common sense, a propitious gateway to the humanistic and artistic spheres. Contemporary bodies move between hybrid dialogic tensions whose decentralization from anthropocentrism is necessary to fertilize the integration and cooperation of physical-analog and digital-algorithmic experiences and to facilitate, therefore, a critical but cooperative habitability in the *meaningful consciousness* of new ecosystems in the making.

Notes

- 1 This chapter results from a project that has received funding from the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation program (Grant Agreement No 819649-FACETS; PI: Massimo LEONE).
- 2 The etymology of the word “*method*” comes from the Greek language as a composition of *μετά* (meta) and *ὁδός* (odos, path).
- 3 Original text: “Toda sintaxis figurativa se apoya en la interacción entre materia y energía, y los equilibrios estables o inestables de dicha interacción producen figuras identificables. Desde el momento en que los objetos son tratados

- como cuerpos en interacción, y no solamente como formas abstractas, integrados además en una sintaxis figurativa, la interacción entre materia y energía adquiere el aspecto de una interacción entre movimientos de unos y envolturas de otros” Fontanille (2008: 226).
- 4 Veiled by a kind of mystery intrinsic to its very nature, “arcane” also means occult and scenario of the playing field of making (*Ars + Khano*).
 - 5 Original text: “L’alchimista era chiamato ‘artefice’, questa scienza era comunemente definita la ‘Grande Arte’ e il processo alchemico, l’opus, assumeva il nome di ‘Grande Opera’. . . . Proprio come l’opus, il processo dell’arte trova simultaneamente il proprio esito e la propria configurazione a più livelli: a quello fisico dei materiali trattati, a quello visivo e armonico delle forme, e quello ideale dello spirito, infine a quello ‘sapienziale’ dei complessi e numerosi significati, ricondotti anch’essi alla perfetta unità iconologica dell’allegoria.”
 - 6 Deleuze, *El arte como acto de resistencia*, videoconference available in web: www.youtube.com/watch?v=Cq_zP4LSyik. Last consult 5 of September 2023)
 - 7 <https://youtu.be/bjq13wyjhA8> (Last consult 5 of September 2023)
 - 8 *Body, subject and semiotic reflection*. <https://congresos.ugr.es/aes2022/>
 - 9 *The cyborg body: from myth to post-human subject*.
 - 10 Original title: “Il corpo e la mente, le loro vite in estensione. Fenomenologie e semiotiche dei nuovi cyborg post-pandemici”.
 - 11 Possible integration for further study: “Each day on Earth we generate 500 million tweets, 294 billion emails, 4 million gigabytes of Facebook data, 65 billion WhatsApp messages and 720,000 hours of new content added daily on YouTube. In 2018, the total amount of data created, captured, copied and consumed in the world was 33 zettabytes (ZB) – the equivalent of 33 trillion gigabytes. This grew to 59ZB in 2020 and is predicted to reach a mind-boggling 175ZB by 2025. One zettabyte is 8,000,000,000,000,000,000,000 bits. To help visualize these numbers, let’s imagine that each bit is a £1 coin, which is around 3mm (0.1 inches) thick. One ZB made up of a stack of coins would be 2,550 lightyears” (Vopson (2021).
 - 12 Original title: “Essere. Accostamenti alla non dualità”.
 - 13 <https://aksioma.org/lip-synched-stardust>
 - 14 Please refer to the chapter titled “The Mineral Layer” in *Atlas of AI. Power, Politics, and the Planetary Costs of Artificial Intelligence* by Kate Crawford (2020) for more details.
 - 15 Retroaction is often used in physics, but it can apply to any dynamic system that is capable of actively considering the results produced by itself and thus possibly altering its future, even prompting systemic changes.
 - 16 <https://aksioma.org/new.extractivism.exhibition>
 - 17 Original title: “Otros habitares posibles. Arquitectura nomadológica”.