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Prefazione / Preface[1]

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1. A cultural semiotics of facial technologies

The conundrum of artificial faces is that there are no natural faces, yet there is no face that is not also natural. Simulacra of faces, no matter how they are created — drawing, painting, sculpting, up to the algorithmic creations of neural networks — deep down must always rely on biological faces existing somewhere, somewhen, and somehow. At the same time, each one of these biological faces presents a phenotype that is inflected by language, culture, and fashion, including the fashion of facial simulacra. Our portraits point back to natural faces, yet the latter point forward to the former. Face scholarship cannot be bound, however, to proclaim this conundrum. It must also dissect it. It must, for each case and category of facial items, outline the threshold between nature and culture, genetic transmission and language. This operation is indispensable to the semiotic approach, for which, it should not be forgotten, "reality" and "artificiality", "naturalness" and "simulacrum" are not absolute values but, on the

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contrary, contrastive results: photoreal portraits of non-existing biological faces generated by neural networks look as extremely realistic to the early 2020s viewer, but will they still do so ten or twenty years from now? The answer depends on the history of facial communication, which includes the history of facial technology, that is, the series of devices and technics through which faces are 'made', from genetic engineering to make up, from plastic surgery to digital filters.

On the one hand, obsolete 'facial technologies' can be superseded by new devices, whose outputs somehow convey an accrued feeling of realism. That usually entails a de-naturalization of the former and a naturalization of the latter. Up to the end of modernity, Renaissance portraits probably were the highest human achievement in terms of visual realism in facial representation, yet they were downgraded to mere 'art' by the invention of photography. The point of semiotics is that it looks at the meaning-making conditions that give rise to this difference. Photography eliminates the painter's semiotic mediation, it automatizes it, and enshrines it into a mechanic process. A increase in indexicality results from it. Reality looks closer in a photograph than in a painting, although mediation has not actually disappeared in the former but has been displaced to the machine and its inventors. At the same time, as Walter Benjamin first pointed out in philosophical terms, that bestows new artistic value to the previous technology: since painting can be no longer valued for its 'objective realism', it is praised more and more for its 'subjective idealism'. Benjamin's followers often neglect this truth: photography diminished the aura of paintings but increased that of painting. Indeed, if a new facial technology promises more indexicality than the previous one, that usually retroacts, emphasizing the symbolic value of the latter: after photography, in painting we do not praise technique anymore but style, and inventive capriciousness. This can give rise to the paradoxical effect that, after the invention of photography, a painted portrait can be judged as closer to the 'truth of the face' than a photograph of it, since the latter is the product of a mechanic process, whereas the former entails a subjective capacity for introspection.

That is to say that, if the naturalness or the artificiality of a face is a semiotic effect, linked to the history of facial technology, this history is neither linear nor evolutionary, but characterized by intricate paradoxes. The way in which a culture constructs the nature of a face, as well as the way in which nature underpins the cultures of the face, must be investigated with

sophisticated tools, attentive to the communicative predicament of the visage. Indeed, if the first truth about the face is that it is always together both natural and cultural, the second truth is that it is intrinsically invisible to the subject, exactly at the same time as it is offered to intersubjectivity. Nobody sees one's face ever. The invention and perfection of the mirror introduced the possibility of reflection, yet our face in the mirror is not our face; it is inverted, it is flattened, it is given a glassy appearance; not to speak of the quality of the mirror itself, opaquing, distorting, slanting the reflected image. The invisibility of the face is a consequence of its natural anatomy: natural evolution has situated the organs of vision, the eyes, exactly in the middle of the face, together with the organs of smell and taste; the ears, enabling our hearing, are not far, at the left and right side of the face. A lot of what we can perceive of the world comes from this small area of our body, from the plexus of eyes, nose, and mouth with adjacent ears, yet that is also what determines its imperceptibility, especially as concerns the vision: we can taste our own lips, and smell our own nose, yet we cannot see our own eyes, although we can close them and observe the optical spectacle of our interior darkness. The face, therefore, is the invisible place from which the world surrounding us acquires its visibility. That turns it into the source of subjectivity per excellence, the inscrutable point from which we see the reality around. That is why, in many cultures and languages, the face is not only a sur-face but also and above all an inter-face, a surface that we offer to the world and through which we receive it visually. It is a visage, etymologically connected to the idea of seeing and being seen, being visually present to the world and receiving its visual presence.

The face, hence, emerges from a double dialectics: not only that between nature and culture, but also that between giving and taking, presenting and beholding, offering and receiving. The face that we have, the face that we are, is always a mixture of biology and language, but it is also a mixture of us and the others, of how we intend to present ourselves and how we are actually interpreted. The whole ethnomethodology of the face, from Erving Goffman on, stems from this assumption. Our face is, indeed, not only a surface, and not only an interface, but also a text. It is a proposition of meaning. Such textual nature is evident in simulacra: a portrait will be perceived, read, and valued as the result of a very complex interaction between the painter's intention, the materiality of the painting, and the disposition of its viewers. Yet the face too, and not only the repre-

sented one but also the presented one, is a text, for like a text we arrange it for the world, through a mixture of intentions and spontaneity; like a text, our face is material, presenting itself as bodily surface but also as support for dentistry, cosmetics, hairdressing, piercing, tattoos, etc.; like a text, finally, this face is written (by nature, by ourselves, by society) as well as it is read, and misread in certain circumstances: whence the ancient and still extant dream of developing infallible techniques for the reading and decoding of faces, from physiognomy on.

If the face is a text at the threshold of nature and culture, subjectivity and intersubjectivity, we and the others, then the supposed 'naturalness' or 'artificiality' of it must not be gauged in absolute terms, but as resulting from an encounter of conditions and strategies, signification and communication. Faces always signify, meaning that their sense does never purely stem from intentionality, yet they also frequently communicate, and are actually the most common support for human interpersonal interaction. Hence, a semiotic study of 'artificial visages', which is also inextricably a study of 'natural faces', must essentially give rise to a reasoned typology of "modes of facial production", parallel to that typology of "modes of sign production" included by Umberto Eco as final section of its monumental "treatise of semiotics" (*Trattato di semiotica generale*, 1975).

Given this conceptual framework, the 'artificiality' of a face is, therefore, not a characteristic but a relational condition, the product of a conjunction of variables and their values. The first variable is the 'biological dependance' of a face. A face that appears as connected to a living head, and a living body, will certainly emanate a compelling sense of 'naturalness'. Yet that does not rule out that such a face might be also judged as 'artificial', for instance if it appears as transformed by thick layers of conspicuous make-up, or if it is distorted in the grimaces of an actor. And that does not rule out either that an intense reality effect might emanate from faces that are independent from living heads and bodies, as it is the case in photoreal portraits produced by neural networks. In such case, though, the disquietude induced by the facial representation will exactly result from this contrast: it does not certainly live, yet it looks alive ("uncanny valley"). The feeling of uncanny is even more intense when not only the face but also its representation is disconnected from human life: a face appears in the visual field, yet it is not related to a living body, and it is not made by a human hand either. That is the case of all those facial im-

ages that seem to emerge independently from any intentionality: "acheiropeita" icons of deities or saints, but also pareidolic visages in trunks and clouds and, more recently, selfies accidentally taken by non-human animals. These faces emerging in clouds, in trunks, in paintings, as well as from electronic devices left in nature, amuse because they challenge the basic idea that a face must be attached to a body, and that a facial representation must be connected to an intentionality. The amusement is, however, accompanied by puzzlement: who actually 'created' such faces? Chance? Transcendence? Transcendence through chance? Or algorithms that turn chance into the principle of their functioning and, as a consequence, seem to acquire a sort of transcendent 'aura'?

Now we know that, in many cases, it is the mind that 'sees' faces where they are not; it is the brain that is compelled by its natural evolution to recognize faces in the environment. Yet this recent neurophysiological explanation does not eliminate the sense of wonder that artificial faces produce. It is the awe surrounding the parallel between, on the one hand, what nature creates — biological faces of individuals through the genetic reproduction of the species — and what is apparently created by nature beyond such reproduction, or by humans through the devising of simulacra. Nature seems to have emphasized the value of singularity in the biological production of human faces, with the only disquieting exception of identical tweens, yet how much of that singularity can be insufflated in the facial representations that other agencies produce? How individual can artificial faces be in comparison to the apparent singularity of 'natural' faces? And what is the cultural impact of more and more rapid advances in facial recognition technology, which seems to increasingly turn the singularity of faces into a matter for measurability, computability, and classification? Even more relevantly, as artificial intelligence is progressing in the simulation of facial singularity, will 'natural' faces too, like artworks after the invention of photography, lose their aura? Shall we be living in the uncertain epoch of a 'mechanical reproduction' of the face?

In a sense, we already are. Deep fakes and other trolling facial technologies muddy the water of facial recognition, increasingly blurring the difference between a 'natural' visage and an 'artificial' one, between the face and its simulacra. It is an uncertainty that gives rise, then, to a whole series of interesting phenomena of de- and re-naturalization. In many traditional societies and cultures, the mask was the epitome of the artificial

face, since it would be superposed to the 'real' visage and, therefore, ipso facto 'naturalize' it by its sheer existence: a mask covers a face, yet it always somehow discovers it too. It points at the visibility of what is hidden, somehow through concealing the fact that, as it was stressed earlier, nobody can see one's face and one's face must always be seen through an alien gaze, as the mask that we both intentionally and unintentionally present to it. The mass production of digital masks is adding extra intensity to ancestral human worries: what is my 'real' face? And what is the 'real' face of the others? Can I trust what I see on other peoples' faces? And will they trust mine? Is there any truth in facial simulacra, or are they always unreliable shadows of an essence that cannot be grasped? Is the face still central in human mutual understanding, or is it, and perhaps it has always been, a splendid trick of nature, the illusion that we can see the others, distinguish them, recognize them, and, most importantly, penetrate through their visible faces into their invisible minds?

2. Varieties of artificial faces

Although, as it was pointed out in the previous section, the meaning of a face is always to a certain extent unintentional (for the communicative effect of a biological face cannot be completely controlled; for the representation of a face always depends on a certain 'facial technology'), reflection on the naturality / artificiality of the face is particularly interesting in those cases in which not only the meaning of the face but also the face itself with its somatic and visual features seems to take shape without a human intentionality and beyond the domain of natural genetic reproduction. In these cases too, as it shall be seen, a pure artificiality is to be excluded, for an indexical footprint always somehow relates the face to nature, or the face to human intentionality. Yet, the human imagination of a 'pure artificial face' is a central case study, since it leads to important insights about the essence of the face in human interactions and cultures.

The idea of facial images[2] brought about by a non-human agency[3] and

2. By "facial images" here is meant, in general, all visual configurations able to evoke, in a beholder's perception, the idea of a face.

3. In this case, the definition of an agency as such, and its qualification as "non-human", is

unrelated to mere procreation is old[4]. On the one hand, as regards the visual reception (or, rather, the "invention") of such faces, human beings seem to be neurophysiologically inclined to pareidolia, that is, the tendency to recognize facelike structures in visual patterns that actually do not intentionally represent faces, like natural visual configurations (the cortex of tree-trunks or the water vapor of clouds)[5]. Such biological inclination is also linked to some cultural traces and trends: ancient sources in several cultural traditions narrate of images of faces prodigiously appearing in stones, gems, landscapes, etc[6]. They also underline the role of chance, or analogous agents, in the artistic creation of facial images. That has been emphasized even more in moder art.[7] In religions too, deities are often thought to manifest themselves through miraculous facial images, called "*acheiropoieta*"[8], without the intervention of any human agency.

not unproblematic. The determination whether human beings are free or compelled to give rise to images is a philosophical conundrum, as it is the singling out of a specifically human agency as opposed to a non-human one. For instance, in pareidolic recognitions of facial images, it is not uncomplicated to distribute the agency that creates them between, on the one hand, the material configuration that results in the visual pattern of pareidolia and, on the other hand, the human interpretation of these arranged visual stimuli in the form of a face.

4. Literature on the topic denominates them as "chance" or "natural images", depending on whether they are thought as created by accidents involving at least to a certain extent the agency of human beings or by natural processes unaffected by human action. Both denominations are, however, far from being immune from philosophical questioning, involving the thorny issue of the definition of "chance" and the equally complex question of defining "nature". The series of problems listed in these first footnotes prove, however, the philosophical relevance of facial images that are not brought about by human agency. Perhaps, the most neutral way of calling them is "unintentional facial images", that is, images of faces that do not result from an explicit human project of representing a face. Nevertheless, as it shall be seen in the volume, this denomination too is complicated by the fact that purely intentional facial images do not probably exist, given that also natural face images, that is, the human perception of biological faces, often leads to the attribution of unintentional meaning to them. Essential literature on "chance" and "natural" images, including the facial ones, includes Ladendorf (1960), Janson (1973), Guthrie (1993), and Elkins (1999); see also Brilliant (2000) and (2007).

5. Abundant literature on the topic include Iaria *et al.* (2010); Takahashi and Watanabe (2013); Liu *et al.* (2014); Kato and Mugitani (2015); and, more recently, Palmer and Clifford (2020).

6. For a summary of the literature on the topic and further semiotic considerations on it, see Leone (2016); see also Zagoury (2019) on the Renaissance concept of "fantasia" as mental capacity for forming images from abstract visual patterns.

7. See Malone (2009) (on chance aesthetics); Eversen (2010); Molderings (2010) (on Duchamps); and Lejeune (2012); on chance in photography, see Kelsey (2015); in algorythmic art, with a semiotic perspective, see Poltronieri (2018); on the relation between chance in art and chance in biology, see Adelman (2020).

8. Medieval Greek: "ἀχειροποίητα", "made without hand"; singular "acheiropoieton"; lit-

The present volume surveys this multifarious field and extends its research to current trends in the creation of 'artificial visages': in technology, through generative adversarial networks and in robotics; in medicine, through aesthetic surgery and face transplantation; in the arts, with special attention to the provocative creation of masks as 'artificial faces' (and vice versa) by contemporary digital artists like Leonardo Selvaggio and others. Neurophysiology and cognitive psychology, visual history and digital art, artificial intelligence and plastic surgery constitute the daring cross-disciplinary perimeter of the present volume, which results from the first year of work in a major research agenda, awarded an ERC Consolidator Grant in 2018 (FACETS: Face Aesthetics in Contemporary E-Technological Societies, 1 June 2019 – 1 December 2024). Within this perimeter, a specific issue is investigated: the relation between agency and facial images.

As a vast literature indicates, the face is the most versatile interface of human interaction: most known societies simply could not function without faces. Through them, human beings manifest and perceive cognitions, emotions, and actions, being able, thus, to coordinate with each other. The centrality of the face is such that it is often attributed to non-human entities too, like animals, plants, objects, or even food[9], landscapes, and, in certain circumstances, countries and cultural heritage. Symmetrically, defacing people literally means denying their faces, debasing their humanity. Such centrality of the face is the outcome of biological evolution, as well as the product of cultural post-speciation and social contextualization. On the one hand, as Darwin already showed in a seminal essay, the facial expression of some emotions, like shame, cannot be faked; on the other hand, countless cultural devices can alter faces, from makeup to tattoo, from hairdressing to aesthetic surgery.

The social centrality of the face manifests itself also in the omnipresence of its representations. The human brain is hardwired to detect face-shaped visual patterns in the environment, as the phenomenon of pareidolia or the syndrome of Charles Bonnet indicate; at the same time, most human cultures have extensively represented the human face in multifarious contexts, with several materials, and through different tech-

erature on the relation between (face) visual recognition and (transcendent) agency attribution includes Guthrie (1993) and Kelemen (1999, 2004); see also Slingerland (2008: 395).

9. See Leone (Forthcoming) *On the Face*, and Stano (2020) in the present volume.

niques, from the funerary masks of ancient Egypt until the hyper-realistic portraits of present-day digital art. Depicting the face, moreover, plays a primary role in religions, with Christianity setting the long-term influential tradition of a deity that shows itself through a human face whereas other traditions, like Judaism or Islam, strictly regulate the representation of the human countenance so as to avoid blasphemy.

Within this complex trans-historical and trans-cultural framework, the abovementioned project (FACETS, Year 01) has essentially revolved around a straightforward hypothesis: since the face is so central in human behavior, facial images that are considered as produced by a non-human agency receive a special aura throughout history and cultures, as if they were endowed with extraordinary powers. Furthermore, since in many societies the face is read as the most important manifestation of interiority, 'non man-made' images of faces are attributed a status of authenticity and earnestness, as if they were the sincerest expression of some otherwise invisible agencies. So as to test this hypothesis, the project has cross-fertilized several methodologies.

First, it has focused on the phenomenon of face cognition known as "pareidolia": the cognitive capacity to detect faces in a confused visual environment has been selected as adaptive by natural evolution (individuals endowed with such ability could, for instance, perceive faces or muzzles of predators hiding behind a bush); hence, such capacity is now part of the visual cognition of all human beings and is activated in particular psychological and contextual circumstances: seeing faces in trunks or in clouds is a common phenomenon, which precisely derives from such evolution. Further neurophysiological evidence, then, such as that provided by patients suffering from the so-called "Bonnet syndrome", points at the existence of a specific brain module for the detection of faces in the environment: individuals that are visually deprived (because of senile blindness, for instance), start to spontaneously create visual stimuli within their minds, often in the shape of abnormal faces. The project has sought to relate such neurophysiological evidence with the socio-cultural issue of 'non man-made' facial images: since human beings seem to be inclined to 'see faces in nature', what is the status that they attribute to such 'spontaneous facial images'? Do they consider them as stemming from a sort of intentionality?

A second facet of the project has related this question to the cross-cultural tradition of 'natural images'. In many visual traditions, ancient sourc-

es report episodes of facial images that prodigiously appear in nature, and not only in trunks and clouds, like in pareidolia, but also in stones and gems. Pliny the Elder relates several such episodes in his *Natural History*, thus initiating a reflection that will then involve, in the following centuries, several scholars, mostly theologians and philosophers, but also artists and literati: is nature, or a mysterious force called "chance", able to create images, and specifically artistic images of faces? In this domain too, what was at stake was to understand in what way spontaneity in the creation of facial images is associated to a specific aura, to an authenticity that man-made facial images lack.

The epitome of this anthropological trend is represented by the tradition of "acheoiropoietai" images, as Christianity denominates those images of the face of Jesus that are considered as miraculous qua created not by artists but by a transcendent agency. The third facet of the project has enquired about them. Some, such as the Veil of Veronica or the Shroud of Turin, are thought of as facial prints of the real face of Jesus and, therefore, worshipped as relics; others, like the mandylion of Edessa, stem from a legend that attributes to Jesus himself the initiative of creating his own miraculous self-portrait, for example by simply wiping his visage with a towel. Similar episodes are present in other religious traditions (e.g., in Shia Islam, referring to the bleeding face of Husain, or in Buddhism): they all witness to a cultural trend that bestows a particular aura, and special powers, to facial images that emanate directly from transcendence: on the one hand, the mandylion is believed across the centuries to exert a magical power (deterring enemies, for instance); on the other hand, non-man-made facial images emerge as portraits of human beings as well, so as to mark their divine or semi-divine nature (as in the narratives of the miraculously made portraits of some Christian saints, such as Ignatius of Loyola).

The most daring aspect of the project has revolved around the hypothesis that this anthropological connection between the communicative centrality of the face and the special status of non-man-made facial images does not cease with the advent of modern science and secularization but is somehow transferred to other domains. In present-day societies too, indeed, self-emerging facial images also exist, in several contexts. They continue to play an important role in sacred pareidolia, with the proliferation of stories (especially in social networks) of people who claim to

have seen the face of Jesus (or, alternatively, that of Satan), prodigiously emerging in a cloud, or from a rock, or even on top of a burned toast.

The connection between non-human agency and facial representation, however, unexpectedly surfaces also in non-strictly religious domains. One of them is quite bizarre but deserves farther investigation mainly because of its implications in terms of social psychology: the web is peppered with 'selfies' that were supposedly taken by non-human animals; although in most circumstances these images are circulated out of merriment, and imputed to fortuitous circumstances, they are often received as if they were really the product of a non-human intentionality attributed to such or such animal species.

A fourth facet, then, has allowed the project to prolong the traditional philosophical reflection on both the supposed figurative agency of nature and the relation between animals and machines. Indeed, nowadays the spontaneous creation of images is attributed not only to animals, as in the case of 'casual selfies', but also to devices. Whereas the ability to cognitively deal with images is often used as shibboleth to distinguish between humans and algorithms (for instance, in the "captcha test"), this distinction is more and more challenged by advancements in artificial intelligence. Since 2018, generative adversarial networks have been given the task of creating from scratch facial images that do not correspond to any ontologically present faces. The realism of these 'artificial faces' is quite impressive, and often induces human observers to adopt a rhetoric of awe: machines too are attributed the uncanny ability to create images of faces, with such a level of realism that seems to match that of nature itself. Recent experiments with the animation of these 'artificial portraits" add a further level of complexity to the issue of their social reception.

Digital technology, however, is not the only one to aim at the creation of 'artificial faces'. In the domain of plastic surgery too, the face has been the object of constant inquiry about the possibility to recreate (reconstructive surgery) or create (aesthetic surgery) parts of it that are damaged or undesired, up to the first experiments with face transplantation. In the extremely controversial domain of genetic engineering, moreover, the 'face' of animals has already been artificially reproduced, and there is at least the theoretical possibility (thus far unexplored for ethical and legal reasons) to genetically 'copy' the human face.

That is exactly what some present-day artists seek to achieve, although

with the completely opposite purpose of criticizing trends in the current bio-politics of the face. Italian artist Leonardo Selvaggio, for instance, creates masks reproducing his own countenance, which can be worn so as to throw off attempts at automatically 'read' someone's face. It has to be underlined, indeed, that the long-term tradition that imagines facial images non made by human hand is paralleled by a symmetric tradition seeking to bring about an equally non-mediated interpretation of the human face. This tradition, that starts with Aristotle's physiognomy, passes through Lombroso's criminal face typology, and continues nowadays with reductionist approaches to the face as well as with the large-scale introduction of face recognition software, does not dream of a face that spontaneously emerges from nature but rather of a face that spontaneously returns to nature, giving up its meaning without any hermeneutic philter or ambiguity.

3. The present volume.

The present volume contains articles that stem, first, from research of FACETS team members; second, from the kick-off meeting of the ERC project at the Polish Institute of Advanced Studies, Warsaw, on January 28, 2020, with the participation of members of FACETS' Advisory Board; and third, from articles received by the journal in response to an open call for papers. All articles included in the collection have been selected and edited through a rigorous process of double–blind peer reviewing.

The volume comprises eight sections. The first one, entitled "The Institution of the Face", interrogates the general philosophical issues concerning the genesis of the face as crucial plexus of human existence and identity. Nathalie Roelens (*Animal Faces: The Question of the Gaze*) tackles this fundamental question from the point of view of the multiple relations between head, face, eyes, and gaze, as well as within the thorny dialectic between the human face and the animal 'non-face'; Marco Viola (*Le espressioni facciali e i confini della semiotica*) takes as a point of departure the state of the art of the cognitive science of the facial expressions of emotions but enters a fruitful dialogue with semiotics and Eco's determination of its 'inferior frontier' with biology, the threshold of biosemiotics; Alfonso Di Prospero (*Senso, strutture e contesto: L'espressione del volto e il punto di vista in prima persona*) combines the approach of Gestalt theory to facial ex-

pressions of emotions with the philosophical insights offered by Levinas' *Totalité et infini* ("Totality and Infinity"); Alessandro De Cesaris and Gabriele Vissio (*Rappresentazione ed espressione: Note storico-critiche sull'estetica del volto digitale*) cast a historical and critical gaze on the passage of the face from being an object of aesthetic canonization in the arts to being a target of statistic normativity in the new digital technologies of the face.

The second section, entitled "Masks", investigates from different angles the device that, in many human cultures, is considered as the artificial face per antonomasia, that is, the mask, the facial image that covers and simultaneously discovers the image of the face underneath. Remo Gramigna (*Le forme della maschera: Aspetti semiotici della manipolazione del volto e della plasticità dell'apparenza*) offers a general introduction to the semiotics of the mask in relation to crucial themes in the study of signification, such as the dialectic between appearance and lie, simulation and dissimulation; Federico Biggio and Victoria Dos Santos (*Elusive Masks: A Semiotic Approach of Contemporary Acts of Masking*) focus on how this ancestral device is acquiring new meaning and functions in the controversial confrontation with the possibility of a digital, automatic, and often repressive reading of the face; Marilia Jardim (*On Niqabs and Surgical Masks: A Trajectory of Covered Faces*) concentrates on the semiotic issue of the masking of the face through a thought-provoking and timely comparison between two controversial devices of 'facial technology', the Niqab as garment of the dressing code of an ethno-religious minority in the west and the medical face mask as increasingly debated item of the COVID-19 new 'normality'; Mattia Thibault and Oğuz "Oz" Buruk (*Transhuman Faces in the Transurban City: Facial Recognition, Identity, Resistance*) adopt a hybrid approach, between semiotics and design, to observe how the contradictory status of the masked face develops through new paths in the paradoxical structure of the contemporary city; Gabriele Marino (*Il ghigno di Aphex e altre maschere: Volti del transumano in musica*) delves into the multimodal and multisensorial transformations of the mask, with particular emphasis on its aesthetic and semiotic status in the visual, acoustic, and synesthetic experiments of present-day music.

The third section, entitled with a pun "Artifaces", explores the transition from the mask to the arts, through the attribution of a specific aesthetic value to facial constructions; Inna Merkoulova (*Le visage transhumain en littérature d'un point de vue sémiotique*) adopts a semiotic frame of

reading to study the emergence of transhuman faces in literary texts of the world literature; Gianluca Cuozzo (*Il volto come "palinsesto alla rovescia" da Annibale Carracci a Sherlock Holmes*) dissects the complex historical and philosophical nexus of the face conceived as palimpsest, as surface to be decoded so as to grasp, through the theories of physiognomy or the techniques of painting, its inner mystery; Silvia Barbotto (*Artificial Face and Transhumanism in Contemporary Art*) meanders through the multifarious paths of contemporary art, where the ancient myth of the autopoietic face emerges with new energy and through novel techniques; Cristina Voto (*Opacizzare il volto artificiale attraverso le arti digitali: Errori, deformità, materia, intersoggettività*) reflects on the normativity of facial representations in the new problematic context of digital representation and art, where the technical error and the idea of deviance acquire a new status and intertwine in unprecedented ways.

The fourth section, entitled "Simulacra" covers the thematic areas of facial technologies at play in the area of ambiguity between presentation and representation, face and mask, nudity and identity; Enzo D'Armenio (*La gestione digitale del sé: Immagini e prestazioni identitarie sui social network*) semiotically studies some of the most crucial simulacra of the face of the present time, those used to build up digital identities in social networks; Elsa Soro (*Tinder is Facebook: Unravelling Facial (Dia)Logic Seduction Strategies in Online Dating Sites*) disentangles the semiotics of simulacra in their seductive predicament, within those fundamental digital arenas of the contemporary face that are the apps and networks of dating; Eleonora Chiais (*Make Up, Make Sense: Appunti sul trucco tra ieri e oggi*) investigates make-up both as a central semiotic concept in the history of 'face-making', and as a practice that, stretching back to antiquity, is currently revolutionized by the increasing digitalization of the face.

The fifth section, "Avatars", comprises articles in which artificial faces do not only cover or hide the supposedly biological visage, and not simply represent it with a reality effect, but aim at replacing it in specific communicative contexts; in the section, Bruno Surace (*Semiotica dell'*Uncanny Valley) dissects — from a semiotic point of view and through a multitude of examples from present-day visual culture — the key notion of "uncanny valley"; Gianmarco Giuliana (*Il volto nei giochi digitali: Funzioni e valori*) investigates the new meanings of the face in the avatars of digital gaming, a central semiotic arena of contemporary face-making; Lorena Rojas Par-

ma and Humberto Valdivieso (*Poética del avatar: Realidad e ilusión en la cultura digital*) widen the horizon of the reflection on the subject, imagining a poetics of the avatar in the digital culture.

The sixth section, "Computational Faces", contains articles that focus on the new status that facial images are acquiring in the world of digital big data, where faces are composed and decomposed through binary digits in enormous bundles of information; in the section, Maria Giulia Dondero (*Composition and Decomposition in Artistic Portraits, Scientific Photography, and Deep Fake Videos*) carries out an ambitious semiotic comparison of various (pre- and post-digital) genres of face representation, reaching important conclusions about the formal language of present-day digital face-making; Ana Peraica (*Stolen Faces: Remarks on Agency and Personal Identity in Computation Photography*) explores the worries of face digitalization through the lenses of horror dystopias imagining a 'theft of the face'; Everardo Reyes (*Face Value: Analyzing and Visualizing Facial Data*) provides a rigorous semiotic introduction to devices and techniques for the computational study of the face.

The seventh section, "Iconic Faces", is centered on trends that, in society, lead to the construction of facial value, often through the attribution of it to objects, characters, or even landscapes that are therefore bestowed a specific aura, emerging from the visual context and imposing themselves as key items of social attention; Simona Stano (*Facing Food: Pareidolia, Iconism, and Meaning*) explores the ways in which the neurophysiological and cognitive phenomenon of pareidolia plays a role in the construction of 'iconic faces' out of apparently insignificant visual settings (the famous "face of Jesus on a toast"); Antonio Santangelo (*Volti simbolici: Per una teoria sociosemiotica del volto*) takes as a point of departure the semiotic analysis of some particularly charismatic faces in present-day cinema so as to propose a general socio-semiotic theory of face valorization; Dario Dellino (*Il viso e la sua ambivalenza segnica: Tra idolo e icona*) proposes to investigate the balance between indexical and iconic functioning of the face through the dialectics between idol and icon, traditionally crucial in contexts of religious face-making and valorization; Gabriella Rava (*Il volto della memoria e la memoria del volto: Il caso Bobby Sands*) deals with iconic faces in the field of conflict, trauma, and construction of memory through the monumental display of faces in the urban landscape.

The eight section, "Theophanies", concludes the volume with two

contributions on the mechanisms of face determination in the religious sphere, where many of the most crucial anthropological mechanisms of face construction and deconstruction, composition and decomposition, representation and effacement have been experimented long before the digital age; two extremes are explored; on the one hand, Ugo Volli (*Invisibile, espressivo e necessario: Metafore del volto divino nella Bibbia ebraica*) deals with the lexicon, the semantics, and the metaphor of the face in the Hebrew Bible; on the other hand, José Enrique Finol and Massimo Leone (*La Corposfera divina: La Trinidad trifacial y tricorporal. Contribución a una TeoSemiótica*) dwell on the paradoxical multiplication and merging of faces in pictorial representations of the Christian Trinity.

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