Cyber-Theo: Reflections on the theological roots of contemporary digital technologies

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ABSTRACT

Digital technologies that permeate our everyday lives are primarily introduced to us as "new." The advancements in Artificial Intelligence, Virtual Reality, and Augmented Reality open fresh avenues of human experience. However, the promises of digital technologies, the desires we aim to satisfy through them, the powerful imagery they cultivate, and the narratives surrounding them are far from new. In fact, they are deeply rooted in foundations shaped by religions over millennia, experienced concretely by human communities, and articulated into concepts and dogmas through theological reflection. This article aims to outline a research program to illuminate this intricate and often controversial background, and to understand how concepts and ideas from theological traditions transform throughout contemporary technological evolution, ultimately shaping the discourses and metaphors we use to describe our experiences with new technologies today. Firstly, a methodological introduction will address conceptual pairs such as continuity/discontinuity, disenchantment/re-enchantment, new/archaic. Secondly, key issues such as haptic icons, representation and presence, bilocation, resurrection, divine vision, free will, creation out of nothing, will be examined in the mirror of exemplary case studies selected from the contemporary technoscape.

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Foreword

The digital technologies that pervade our daily lives present themselves to us first and foremost as "new": the possibilities opened by Artificial Intelligence, Virtual Reality and Augmented Reality open up new horizons of human experience. However, the promises that digital technologies make us, the desires we hope to fulfil by resorting to them, the imagery they powerfully nourish, and the discourses that tell us about them, are not new at all. On the contrary, they are rooted in the ground that for millennia has been worked far and wide by religions, concretely lived by human communities in the various experiences of the sacred and formulated into concepts and dogmas by theological reflection.

This article intends to outline a research programme to shed light on this complex and often controversial background and to begin to understand what is at stake. This research programme aims to show how concepts and notions belonging to the theological tradition metamorphose in the course of contemporary technological evolution, ending up structuring the discourses and metaphors with which we nowadays narrate our experience with new technologies.

Its methodological approach is inspired by a series of key principles that I will summarise below:

A) Continuity/Discontinuity

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The general framework is offered by a broad perspective that takes the macro-historical scale into account. From an epistemological point of view, it is necessary to consider the methodologies refined in the field of twentieth-century historiography:

- the history of ideas in the Anglo-Saxon tradition, inaugurated by Lovejoy (1936),
- the history of mentalities inaugurated by the School of the Annales, interested in the longue durée (Braudel, 1958),
- the history of concepts (Begriffsgeschichte) practised in German-speaking countries (Koselleck, 2002),
- the archaeological and genealogical methods introduced by Foucault (1971; 1989a; 1989b).

In this perspective, it is crucial to take into account the continuity/discontinuity dialectics (Potts, 2019). What remains in the transition from religious experience to technological-digital experience? What changes? The use of the same term centuries later in the linguistic formulation that seeks to account for a given experience (e.g. "immersion" or "resurrection" or "avatar") may on the one hand signal a significant continuity, while on the other it may end up outlining a radically different experience. Conversely, experiences that reveal a fundamental structural analogy may be linguistically formulated with different terms (e.g. "incarnation/avatarisation" or "baptism/immersion" or "bilocation/teleportation"), which must be placed in a terminological-conceptual translation relationship.

In this regard, it will be necessary to adopt an integrated approach, both semasiological and onomasiological: i.e. considering, on the one hand, the semantic spectrum of the same term and; on the other, the terminological spectrum of the same concept.

It is therefore imperative to highlight the lines of continuity, but also the breaks and faults of discontinuity, trying to understand the variation in repetition. While it is obvious that nothing in the course of history repeats itself in the same way -- cultural, social, political, and economic contexts change over time --, no epoch is a windowless monad, devoid of relations with the epochs that precede and follow it. If this were the

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case, no understanding of the past would ever be possible, nor indeed of the future towards which we lean. Nor finally of our present, the only position from which we can try to interpret the past and future.

B) Disenchantment/Re-enchantment

To address these dialectics of continuity/discontinuity in the metamorphosis of theological reflection into technological reflection, we must inescapably address two thinkers who came up with an interpretation of the transformation of mentalities and forms of life and experience at about the same time, also taking into account the ways of conceptualising and expressing them linguistically.

First of all, the famous thesis of the disenchantment of the world, which Max Weber expounded in his analyses of modernity as a process of de-sacralisation and progressive rationalisation and intellectualization of the world, must be taken into account. This thesis is set out most clearly in the famous 1919 essay Science as a Vocation (based on a lecture given in Munich two years earlier). According to Weber, primitive human beings or contemporary "savages" know their tools and their world infinitely more adequately than Western individuals: the latter, with all their scientific knowledge and technical progress, travel by tram without having the faintest idea of how such a vehicle works; they use money, but do not know what happens to it after concluding the trading process. In Weber's words:

> "The growing process of intellectualization and rationalization does not imply a growing understanding of the conditions under which we live. It means something quite different. It is the knowledge or the conviction that if only we wished to understand them we could do so at any time. It means that in principle, then, we are not ruled by mysterious, unpredictable forces, but that, on the contrary, we can in principle control everything through calculation. That in turn means the disenchantment [Entzauberung] of the world. Unlike the savage for whom such forces existed, we no longer have

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> recourse to magic to control the spirits or pray to them. Instead, technology and calculation achieve our ends. This is the primary meaning of the process of intellectualization" (Weber, 1919, pp. 12-13).

Three years later, Carl Schmitt opened the third chapter of his essay entitled Political Theology with a programmatic statement that is particularly relevant to my discourse:

> "All significant concepts of the modern theory of the state are secularized [säkularisierte] theological concepts not only because of their historical development -- in which they were transferred from theology to the theory of the state, whereby, for example, the omnipotent God became the omnipotent lawgiver -- but also because of their systematic structure, the recognition of which is necessary for a sociological consideration of these concepts. The exception in jurisprudence is analogous to the miracle in theology. Only by being aware of this analogy can we appreciate the manner in which the philosophical ideas of the state developed in the last centuries" (Schmitt, 1922, 2nd ed. 1934: 36).

Disenchantment with the world produced by rationalisation and technicalisation on the one hand; and secularisation of theological concepts on the other (Gauchet, 1985; Monod, 2002). These are, as is evident, two fundamental indications for my research programme, which at the same time raise a delicate problem: that of distinguishing between fields that are closely interrelated, yet in need of specific consideration: the magical, the sacred, the religious, and the theological.

However, the processes of disenchantment of the world and secularisation of theology must in turn be dialectically confronted with a polar opposite process: the so-called re-enchantment of the world. Since the 1960s, numerous authors have contrasted the Weberian notion of "disenchantment" with that of the "re-enchantment" of the world, observing how the process of secularisation has, by way of a backlash, ended up not by

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expelling, but rather by reactivating a constellation of phenomena of the re-sacralisation of experience (see Morin, 1962; Bauman, 1992; During 2002; Maffesoli, 2007, among others). The twentieth century has been a blossoming of de-secularisation procedures aimed at reversing the trend described by Weber: new forms of religiosity, discoveries and rediscoveries of ancient oriental or in any case "other" cultures, spiritual compensations of various kinds offered by the culture industry and consumer society, shortcuts to mystical depths within everyone's reach. The digital revolution has contributed significantly to this process.

Also, on the side of cultural anthropology, attention has been drawn to the possibility of interpreting the progressive technological domination of reality not as a process opposed to magical practices, but as their fundamental instantiation. Arguing that the "opposition between the technical and the magical is without foundation", Alfred Gell has defended a continuist conception of the relationship between technology and magic, which even subverts the traditional idea of a derivation of technology from magical practices (Gell, 1988, p. 6). On the contrary, it is magic that is sustained and nurtured by technology, as an idealised version of it, which comes to express itself in ideology and advertising strategies:

> "The propagandists, image-makers and ideologues of technological culture are its magicians, and if they do not lay claim to supernatural powers, it is only because technology itself has become so powerful that they have no need to do so. And if we no longer recognize magic explicitly, it is because technology and magic, for us, are one and the same" (Gell, 1988, p. 9).

C) New/Archaic

As early as the mid-1930s, Walter Benjamin, one of the first philosophers to recognise the philosophical implications of the then "new" media, observed how the new forms of

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modernity, to move away from the near past perceived as antiquated, ended up reactivating experiential traits of the archaic past. For instance, the descent into the Paris metro was interpreted by him as a reformulation of the descent into Hades. This idea is illustrated by Benjamin particularly effectively in a variant of the Exposé he drafted in 1935 as a concise exposition of his research project on Paris as the capital of the 19th century:

> "Corresponding to the form of the new means of production, which in the beginning is still ruled by the form of the old (Marx), are, in the social superstructure, wish images in which the new and the old interpenetrate in fantastic fashion. This interpenetration derives its fantastic character, above all, from the fact that what is old in the current of social development never clearly stands out from what is new, while the latter, in an effort to disengage from the antiquated, regenerates archaic, primordial elements. The utopian images which accompany the emergence of the new always, at the same time, reach back to the primal past. In the dream in which each epoch entertains images of its successor, the latter appears wedded to elements of primal history" (Benjamin, 1999, p. 893).

This reference to the interpenetration of the new with the primordial and archaic is a methodologically fruitful cue for the investigation I intend to undertake. As paradoxical as it may seem, one can see how the most advanced forms of image production permitted today by VR, AR and AI technologies reactivate archaic experiential modes, recovering a type of iconic experience that precedes the merely representational and referential dimension of the image understood as "image-of", to take the form rather of direct presentation or presentification.

From that same passage just quoted, a further element emerges, one that is emphasised early on by Benjamin about what was considered the new media at the time (and which can and must be taken into account today in the critical reflection that our new media call us to exercise): the role played by utopia, daydreaming and collective desire, themes

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that converge in what he calls "phantasmagoria". Far from being a by-product of scientific and technological progress, at the disposal of the capitalist exploitation of the culture industry, the utopian and dreamlike dimension plays a major role in shaping the advent of the new media, not only structuring the rhetoric and ideology of the discourses that conceptualise them but also directing the very development of the technological inventions of subsequent eras (think of science fiction that prefigures future technological devices that will effectively be realised). Equally, if not even more revealing are the imaginary media, fantasised and never realised, insofar as they reveal to us utopian and dystopian universes of desire, in which technology is inextricably intertwined with magic, the sacred and the supernatural (Kluitenberg, 2006).

D) Multiculturalism and comparative history of religions

A final methodological consideration concerns the multicultural and transreligious perspective. When addressing the issue of the secularisation of theological concepts in discourses connected to new forms of technological image production, one has to ask oneself which theological tradition is being referred to in each case. As scientific-technological reflection is embedded in the Western cultural tradition, it is in some ways understandable that the main theological frame of reference is offered by Jewish-Christian theological reflection. And yet, as demonstrated by the striking case of the concept of the "avatar" -- a term that in the terminology of new technologies indicates the digital proxy that represents the user in the synthetic world, but which derives from the Sanskrit word avatāra, which designates the various incarnations of Hindu divinities, and in particular of Vishnu --, it is by no means taken for granted that the Jewish-Christian line should be considered the exclusive one. Within this same tradition, moreover, the truths of faith know a characteristic mobility and evolution, which is recorded by the history of dogmatics itself. It is therefore necessary to adopt a diachronic and comparative outlook.

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It is within the framework of this methodological framework that the following paragraphs will be inscribed. Each of them will start from a concrete case study belonging to the contemporary experience of new technologies in AI, VR and AR, to then show its roots in the dimensions of the magical, the sacred and the religious.

1. Please touch! (The Icon)

In our daily trade with the touchscreens of our smartphones and tablets, we touch hundreds of icons with our fingertips, interacting with user-friendly interfaces. If we look at the history of the term "icon" itself, we will find that this haptic way of interacting with images certainly did not originate with contemporary touchscreens but is rooted in a millennial past. The term "icon" has a history stretching back thousands of years. The Greek word eikon (which generally means "image") is in the strictest sense the sacred image in the Byzantine tradition: an image not only to be looked at with the eyes but also to be touched and kissed in the act of veneration (proskynesis), with consequent progressive consumption of the material object (Belting, 1990; Penn, 2003).

The standard museum policy -- "please do not touch the works of art" -- perfectly corresponds to the aesthetic attitude of purely optical contemplation. Let's recall that the birth of the museum as an institution is coeval with the birth of aesthetics as an autonomous discipline in the 18th century (Déotte, 1993). In opposition to such a prescription, in our interaction with the digital icons a haptic relationship with the image proper to religious veneration is recovered in a secularised form.

In his fascinating work Transmission (2007), film director Harun Farocki has edited together in a complex montage different situations belonging to various religious denominations in which the mediating relationship with the sacred passes (is transmitted, as the title itself says) through direct hand or foot contact.[1] This also applies to some memorials, as in the case of Maya Lin's Vietnam Veterans Memorial in Washington, or the Buchenwald memorial Denkmal an ein Denkmal designed by Horst Hoheisel and Andreas Knitz, which are monuments involving haptic interaction of visitors.[2]

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Maya Lin's wall is incessantly stroked and traced by visitors in a visual-motor search for the names of the victims: hands and fingers are invited to graze the surface, to palpate it. Popular rituals among visitors include the practice of stone rubbing (which consists of placing a sheet of paper over the engraved name and reproducing the letters with the help of a pencil).

The Buchenwald memorial is a metal plate placed horizontally on the ground, on which the acronym KLB (Konzentrationslager Buchenwald) and the alphabetical list of fifty-one groups of victims are inscribed. The metal is kept constantly heated to thirty-six and a half degrees Celsius, the temperature of a living human body. Visitors kneel to touch the heat emanating from the plate, at the same time making a gesture of recollection, respect and pity. The plaque, which could represent the cold cover of a buried tomb, and thus the seal of a collective grave, turns out to be surprisingly warm and alive, symbolising the memory of an absence that is not the archiving of a past that has ended, but the living presentification in the present of a vitality that never ceases to question us.

Such practices of haptic interaction with sacred or funerary images activate an embodied relationship that transcends merely optical aesthetic contemplation. Let us not forget that the very term "digital", which we usually refer to as "digit" in the sense of numerical digit, has its etymological roots in the Latin "digitus", the finger. In this sense, the icon appearing on the touch screen as a digital image to be touched with the finger can be considered as the secularised heir of the sacred icon.

2. Representation vs. Presence

A strand of research around new technologies of digital image production and fruition (especially concerning VR immersive environments) goes by the name of "presence studies" (Lombard & Ditton, 1997). The idea behind such research is that the concept of "representation" (image as an image of something or somebody, such as in the portrait which re-presents the model) is no longer adequate to understand the effect of immediate presence I experience in the immersive world concerning me and the digital entities I encounter there.

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In the Western cultural tradition, the conflict between the two models -- presence and representation -- goes back to the theological discussions about the mere representational function of icons, and the real presence of the body and blood of Christ in the Eucharist.

As far as the representationalist paradigm is concerned, it emerged as a doctrinal solution to the exhausting Byzantine debates between iconophiles and iconoclasts as early as the 8th century, culminating (though not definitively) in the Second Council of Nicaea in 787 CE (Price, 2018). The horos (definition) of the Holy Synod established the preservation and defence of the reproduction in painted images of Christ, the Virgin Mary, angels and saints. Holy images made by human hands are mere pictures devoid of divine presence (if they possessed it, they would be divine in themselves, thus provoking a polytheistic multiplication of deities): they may be the object of reverence and veneration (proskynesis) as representations referring to the divine prototypes, but not in themselves the object of true worship (latreia), which is reserved exclusively for the divine prototypes.

In opposition to this representationalist paradigm, a presentialist paradigm coexists in the Christian tradition itself: according to the Catholic Church and other Christian confessions, during the consecration the rite of the Eucharist is performed by "transubstantiation" (a term introduced by the 1215 Fourth Lateran Council), that is the transformation of the substances of bread and wine into the body and blood of Christ, which are considered to be not just symbolically or metaphorically or representationally, but "really" present in the flesh.

A particularly effective way of being present in immersive worlds is to assume an avatar. We embody ourselves into an avatar, as a digital proxy through which we enter the artificial simulated worlds, do things there, and interact with other subjects in a synthetic polis (Schroeder, 2002; Pinotti, 2020; 2023).

As a surrogate or representative of the subject's identity, the practice of the avatar is at the same time old and new. The very term "avatar" belongs to the ancient Hindu tradition: the Sanskrit word avatāra designates the terrestrial descent of a divinity, mostly Vishnu, who decides to temporarily interfere with earthly affairs when these perturb the cosmic order and so takes on an appearance visible to humans. The specific

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forms which the deity can embody vary according to the circumstances: for instance, Vishnu can appear as a fish, a tortoise, a boar, a man-lion, a dwarf, or the Buddha. Every single avatāra constitutes a partial manifestation of the deity it renders visible. Once the assigned task is accomplished, the avatāra merges back into its deity (Hacker, 1960; Kinsley, 1987).

As studies in the comparative history of religions have shown, far from being an exclusive Hinduist doctrine, the essential process performed by the avatāra (making visible and perceptible the invisible divinity) can be found in various creeds: suffice it to think of the "incarnation" of God in Christ (Parrinder, 1997; Sheth, 2002). In the 1920s, Gandhi's disciple Vengal Chakkarai spoke of Jesus as an avatar in an attempt to prove the convergence of Christianity and Hinduism (Chakkarai, 1926).

The adoption of avatars in the various meta-verses increasingly raises important ethical, criminological and legal issues. More and more cases of verbal and "physical" aggression and harassment against avatars happen (Sales, 2024). On the one hand, some say "it's just an image" and laugh about it. On the other, some claim that the level of embodiment is such that every action directed at my avatar is as if it were actually directed at myself. Consequently, ethical and legal implications in VR should be addressed in the same way they are in RR (Real Reality) (Cheong, 2022).

3. Bilocation

The experience of feeling present in the immersive environment (especially when wearing a virtual reality headset) is often characterised by the expression "being there". We are in our room, comfortably seated in our gamer chair, and at the same time, we are travelling at crazy speed on a rollercoaster in a VR video game. Or we are in a room at the Fondazione Prada in Milan and simultaneously trying to illegally cross the border between the Mexican desert and the US together with a group of South American migrants in Alejandro Inárritu's acclaimed Carne y Arena.[3]

The teleportation phenomenon causes an interesting conflict in the user between the cognitive and perceptual levels and visceral psychophysical reactions. As much as I

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know perfectly well that I am physically in a place, my body behaves as if I were somewhere else because the audiovisual system transmits to me a set of complex perceptual information related to the place to which the VR technology has transported me. Thus, my deictic centre is doubled (I end up being in two different "heres") which prompt me to conflicting reactions. This is a case that can be counted among the examples of cognitive impenetrability of perception.

Let us see how one of the pioneers of VR, MIT scientist Marvin Minsky, envisioned this form of bilocation in his seminal 1980 paper Telepresence.

> "You don a comfortable jacket lined with sensors and muscle-like motors. Each motion of your arm, hand, and fingers is reproduced at another place by mobile, mechanical hands. Light, dexterous, and strong, these hands have their own sensors through which you see and feel what is happening. Using this instrument, you can "work" in another room, in another city, in another country, or on another planet. Your remote presence possesses the strength of a giant or the delicacy of a surgeon. Heat or pain is translated into informative but tolerable sensation. Your dangerous job becomes safe and pleasant" (Minsky, 1980, p. 45).

More than forty years later, presenting Meta, Mark Zuckerberg would resort to the same imagery: "Isn't that the ultimate promise of technology? To be together with anyone, to be able to teleport anywhere, and to create and experience anything? [...] We move beyond what's possible today, beyond the constraints of screens, beyond the limits of distance and physics, and towards a future where everyone can be present with each other".[4]

The promise of being in two places at once is the secularised version of the miracle of bilocation, which many religions attribute to sages, saints and holy men, such as Pythagoras, Apollonius of Tyana, and Saint Francis of Assisi (Pinotti, 2022; Eire, 2023, pp. 171-251). The yoga tradition is also familiar with this phenomenon, as described in the autobiography of yogi Paramahansa Yogananda, who attributed this ability to his

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guru Sri Yukteswar. The Master has to go to Calcutta to attend business and asks that on his return he be picked up at the station at 9 am. But the business holds him up longer than expected, so he sends a telepathic message to Yogananda, warning that he will arrive an hour later. Not satisfied with the effectiveness of the warning, he decides to materialise before the pupil: "As I still stared mutely, Sri Yukteswar went on, 'This is not an apparition, but my flesh and blood form. I have been divinely commanded to give you this experience, rare to achieve on Earth. Meet me at the station'" (Yogananda, 1946, p. 115).

The strategies of bilocation can be implemented not only in the teleportation made possible by VR but also in the improperly called "hologrammatic" forms made available by AR technologies. Such practices of augmented bilocation have relevant political implications today, delineating new forms of public subjectivity: think, for example, of the possibility of participating in the form of holograms in protest demonstrations that the authorities have banned from being conducted in person (this was the case of the demonstration against the promulgation of a national security law dubbed "Ley Mordaza" -Gag Law- organised by the group No Somos Delito in Madrid in 2015); or of how political figures (among others, the Indian Prime Minister Modi and Turkish Prime Minister Erdogan, and French presidential candidate Mélenchon) have bilocated or even multi-located in different places to run their rallies.[5]

If bilocation in virtual reality is primarily a translation in space, VR is also used as a kind of time machine: many natural history museums, for instance, adopt VR applications to bring extinct dinosaurs back to life, in a sort of Jurassic Park effect.[6]

4. Resurrection

The idea of bringing dinosaurs back to life introduces us to a further step, that of the resurrection of the dead in VR environments (Conte, 2020).

In 2016, a South Korean woman, Jang, lost her seven-year-old daughter Nayeon to an incurable disease. Through virtual reality, the mother was able to "meet" her daughter, or rather, a faithful electronic reproduction of her, in a simulated world specially made

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for a television documentary entitled I Met You by Munhwa Broadcasting.[7] Jang begins to interact with her missing daughter, admittedly with all the limitations of today's virtual reality, but also with all the opportunities that this technology now offers (such as to recreate a realistic environment and characters in a very faithful manner). A miracle happens in I Met You: the mother can almost touch the little girl's hands again, see her running in the meadow, peeping out of the trees, meeting her again when it was impossible to do so anymore. And there is even a moment when the sky changes colour, cloaked in virtual stars, and mother and daughter sit together to blow out the candles of the child's birthday cake. While this happens in Jang's visor, with relatives able to observe the woman's perspective from external monitors, the emotions come out of the digital realm. The mother evidently gives in to the suspension of disbelief, reacting as if she really had the child in front of her. And the people immediately outside share that emotional motion, blurring the line between simulation and real life.

If we move into the field of Augmented Reality, and in particular into the field of so-called holograms, we come across real resurrections of dead people. This is the case, for example, with Michael Jackson and Tupac Shakur, who -- as veritable instantiations of the novel Lazarus -- were resurrected from the dead so that they could participate in a live concert.[8]

On the Artificial Intelligence side, algorithmic applications offer the possibility of animating old photos of deceased people, simulating facial and eye movements (as in the case of the Deep Nostalgia app).[9] The photographic image has traditionally been connected with the representation of death. Susan Sontag (1973) has emphasised this structural link, explicitly referring to photographic images as "melancholy objects". Today, thanks to AI algorithmic manipulation, the remediation of the static photographic image into a mobile and physiognomically expressive image gives it a new and unprecedented vitality, removing it from the realm of the dead. The famous and controversial question of the animation of the inanimate, one of the themes dear to cultural anthropology that is being brought back into the centre of debate today, finds a particular inflexion here.

The interest shown by the aforementioned applications in VR, AR and AI in the experience of death and its reconfiguration in the digital image in the form of

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resurrection or (re)animation seems to constitute an evident technological variation of the transcultural motif of the desire to defeat the mortality of the body and overcome the limits of the finiteness of the flesh: a motif which can be found in many religions, from Zoroastrianism to Judaism, from Islam to Christianity.

Let us recall in this regard that, according to the opinion of many visual anthropologists and image theorists, the very origin of image-making must be traced back to the need to react to the offence of death and the disappearance of the body, a reaction that is expressed in the creation of a material substitute (precisely the image as a memorial of a present absence) (Debray, 1992; Belting, 2001).

5. The Eye of God

If we consider recent developments in photography, we realise that the 360-degree view inherent in immersive virtual reality environments has pervasively infected even simple smartphones. As the "panorama" function shows, there is a strong urge to go beyond the limits imposed by the frame: we want to see and capture more; indeed, we want to see and capture everything (pan), emancipating ourselves from the constraints of a partial perception of reality.

The reference to the optical device of the panorama -- a term derived from the Greek and composed of pan, "all", and horama, "view" -- transports us to the second half of the 18th century in Scotland: 19 June 1787 is the date engraved on the patent registered by the painter Robert Barker with the French title Nature à coup d'oeil, a 360-degree view of the artist's home town, Edinburgh.[10]

Technically speaking, the panorama consists of an enormous circular box, a kind of rotunda offering a very long field of view of an urban or natural landscape. The spectators, walking in circles on platforms placed at various heights, can gradually appreciate different portions of the depicted scene, while feeling at the centre of the experience (Oettermann, 1980).

From a genealogical perspective, the direct successors of 19th-century panoramas seem to be the virtual reality spaces accessible through the so-called CAVE (Cave Automatic

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Virtual Environment) technology: an immersive VR environment where projectors are directed all around a room-sized cube so that the users can dive into a 360-degree iconic landscape (Manjrekar et al, 2014).[11]

Also, AI algorithms have taken up and re-launched this challenge. Using for example the "Outpainting" function in DALL-E, thanks to text-to-image prompts I can provide information on the era, geographical and cultural environment of the famous Girl with a Pearl Earring painted around 1665 by Vermeer: I can consequently broaden the visual field, see more and discover what the room in which the Netherlandish artist immortalised her was like.[12]

The desire for a total optical device, capable of capturing reality without residue, is accompanied by the fantasy of an equally total visual perception. And therefore superhuman. In Jewish culture, the ability to see everything is reserved to the Lord: "The eyes of the Lord are everywhere, keeping watch on the wicked and the good" (Proverbs 15:3). And: "He views the ends of the earth and sees everything under the heavens" (Job 28:24).

For its part, Greek culture elaborated in its mythology the conception of a subject capable of transcending the limits of the human visual field, embodying this fantasy in the figure of the giant Argos Panoptes (the one who sees everything), endowed with multiple eyes arranged over his entire body (according to Apollodorus, The Library II.1.4) or around his head (according to Ovid, Metamorphoses I. 625).

The desire to be able to go beyond the natural limits of human vision -- an ability that is also referred to by the controversial term "remote viewing" -- does not only concern space (seeing everything without having to succumb to the partiality of the visual angle located) but also time (Brown, 2006). In this case, this desire is embodied in fantasies of clairvoyance.

We owe Peirce the traditional conception of the photographic image as an "index" (as a sign that constitutes the effect of a cause):

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> "Photographs, especially instantaneous photographs, are very instructive because we know that they are in certain respects exactly like the objects they represent. But this resemblance is due to the photographs having been produced under such circumstances that they were physically forced to correspond point by point to nature. In that aspect, then, they belong to the second class of signs, those by physical connection" (Peirce, 1960, 2.281: 159).

The presence of an object in front of the lens determines the modification of the action exerted by light waves on photosensitive support. This constitutes precisely photography as, as the very etymon of the term tells us, "writing of light". This relationship applies to analogue as well as digital photographs. The fact of being the effect that follows a cause in time founds the character of being past of the photographic image. Even when I take a selfie of myself, in fact, no matter how close in time it is, the image of my face that the selfie took a few seconds ago returns to me will always be younger than how I look at it now.

Nevertheless, in his famous book Camera Lucida Barthes has emphasised how photography ends up leaning towards future time, which is eventually the very time of my own death: "It is because each photograph always contains this imperious sign of my future death that each one, however attached it seems to be to the excited world of the living, challenges each of us" (Barthes, 1980, p. 97).

If we look at recent applications of AI to the practices of so-called post-photography, we can see how they seem to have taken Barthes' suggestion literally. Artificial intelligence applied to photographic technology allows me to have an image of the future, a sort of inverted indexing, similar to clairvoyance or prophecy: one uploads one's selfie directly from the smartphone onto FaceApp, and the algorithm in a flash shows me a photographic image of what I will look like in ten/twenty/thirty years.[13]

We speak here of post-photography: but in this case, which anticipates a future to come, should we not perhaps more appropriately speak of a pre-photography?

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6. Free Will

Bandersnatch is a controversial interactive film released in 2018 and inspired by the popular dystopian TV series Black Mirror: at narratively crucial moments in the plot, the viewers are confronted with the opportunity to choose how to direct the narrative unfolding by responding with an ACCEPT/REFUSE to a question posed to them by the film.[14]

Thanks to the evolution of the so-called Web 2.0, the introduction of not only passive but also active and interactive possibilities in digital environments has aroused great enthusiasm. Alvin Toffler (1980) introduced the concept of prosumer (combining producer and consumer) to allude to a radical redefinition of the traditional roles of producer and consumer, author and user. Interactivity promises the user emancipation from the tyranny of the author, the sole holder of the meaning of the work (be it pictorial, photographic, musical or filmic): in the context of a participatory culture, the interactive user intervenes directly on the work, modifying its development, deciding its developments, activating or deactivating certain options, making it happen in one way or another.

Kevin Kelly (2016) has emphasized interactivity as a pivotal force shaping the foreseeable future. He argues that within the next three decades, anything lacking intense interactivity will be deemed deficient. Touch screens, smart devices, home automation, interactive TV shows, and adaptive AI-generated video games offer glimpses into the transformative nature of our daily experiences. The emergence of electronic media has further entrenched the concept of interactivity. From their inception, electronic media have been labelled "interactive", distinguishing them from analogue devices. Interactivity encompasses the responsiveness of electronic interfaces to user input and the users' ability to manipulate or generate content, dictating their interaction with media and devices.

With the rise of VR, AR, and AI, interactivity extends into new domains. These technologies offer lifelike sensorimotor experiences, engage users in participatory creative processes like virtual storytelling, involve interactions with avatars (whether human proxies or AI-driven characters), enhance procedurally generated open-world

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environments in video games, integrate into text-to-image and image-to-text models in AI-based programs, and AI digital assistance (Ryan, 2001; Pizzi, Scarpi & Pantano, 2021).

However, these interactions are governed by technical constraints that inevitably shape users' experiences. Consequently, while interactivity may empower users, it can also limit their freedom and manipulate their interactions within digital environments, raising philosophical questions about the nature of free will and the dynamics between producers and consumers. The discourse on interactivity within the realm of new digital technologies revives age-old philosophical inquiries into the extent of user emancipation, the redefinition of producer and consumer roles, and the nuanced balance between freedom and structural constraints. It could be argued that the freedom granted to users by interactive environments is, on closer inspection, nothing more than a form of conditional freedom: we do indeed have a choice, but within a set of options pre-determined by the programmer: whether there are two, ten, ten thousand or ten million possibilities, the mere fact that they are of a finite number and that they are hetero-directed (we do not set them ourselves, but receive them from others, from the programme designer), means that our freedom of self-determination is constitutively constrained.

This scenario reformulates in the context of the new technologies an ancient theological dilemma: that of free will, that is, of the possibility of human beings to self-determine in a world that, being created by an eternal, omniscient and omnipotent God, unfolds in a chain of causes and effects that have always been known to the divine mind, and perhaps predetermined in every minute detail by the Creator (Timpe, 2014). Among the many chapters in the history of this question, we recall the Protestant debate around the issue of determinism and predestination (Levering, 2011).

7. Creation "ex nihilo"

This Person does not exist is a project launched in 2019 by Philip Wang.[15] Every time I click on the website link, what I am presented with is the image of an ever-new face, which irresistibly presents itself to me as a convincing photographic portrait of an

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individual, and not as a generic image of a human being. And yet, this person -- as the title states -- does not exist in real life, therefore no referential correlation between the picture and reality is to be assessed.

The project is based on a dataset of thousands of photos of real people: the adversarial generative network ends up generating a perfectly photorealistic image but of a non-existent subject. What was mentioned above concerning the indexical nature of the photographic image undergoes a further strain in this algorithmic manipulation. In post-photography supported by Artificial Intelligence, we can obtain a para-photographic image (i.e. one that has the effect of being a photograph but actually is not), which appears to be a portrait of a flesh-and-blood individual, without this individual ever having existed, thus without ever really having been in front of the lens.

The algorithm thus seems to unhinge the very notion of "index". If, however, we consider that algorithmic procedures sift through a dataset of thousands of real photographic portraits on the net on a statistical basis, we can legitimately wonder if the index is not really cancelled, but rather renegotiated: the person whose portrait this algorithmic image returns to us does not exist, but the thousands of people whose photographic portraits uploaded on the net have made the elaboration of that algorithmic portrait possible do exist: one could argue that this process ensures a sort of indirect and mediated indexicality.

Leaving the question of indexicality open, what happens here suggests an attempt to overturn the millenary model that conceives the image as a mimetic representation of a model that precedes it in existence, according to the formulation outlined by Plato in Book X of the Republic and then infinitely varied over the following centuries. The invention of photography in the 19th century began to undermine this paradigm at its foundations: when we say "This fact happened, we have the picture of it", thus relying on the photograph of the event as its definitive certification, we ask the image to attest to the event itself, and we end up no longer believing in events of which no images are given to prove them as having actually happened. If, therefore, one could previously say "No image if there is no reality that that image represents", now the relationship is reversed: "No reality if there is no image that represents it".

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Exploiting, and at the same time taking to their extreme consequence the reflections inaugurated by Walter Benjamin on the technical reproducibility of the image, in his Digression on photography noted the progressive advance of a third type of entity, irreducible to both individual and universal entities: the series, established by reproduction, in particular that afforded by the photographic apparatus (Anders, 1956, pp. 189-183). Thanks to this medium reality becomes the reproduction of its images (reality is produced by reproduction). To illustrate this axiom, Anders (1956) offers the example of tourists who, systematically armed with a camera, obsessively "take" pictures of everything they see on their travels: just as they do not photograph what they see (because what they see, they see only to photograph it; and what they photograph, they photograph only to have it), so what they photograph is not "real" for them. "Real" is for them instead the photographic reproduction. What indeed matters for these tourists is not being there, experiencing the place visited in the present of the journey, but having been there. And having taken that place back home in the form of an image.

Anders (1956) made these observations in the mid-1950s: we can only note how much this condition has been radicalised in the meantime with the pervasive diffusion of digital devices for the production and reproduction of images. Post-photography, which creates photographic portraits without the people who appear in the image ever having existed, takes this process to its extreme consequences.

In the case of Wang's algorithmic project, we see a kind of "retroscopic" projection from the indexical effect to its cause, which ends up being the effect of that effect. The concatenation of the inference would sound more or less as follows: we have a face represented photographically; if there is such a photographic portrait, there must necessarily be the real subject who made that image possible, producing it as the effect of the causation that occurred by the presence of that subject in front of the lens. We cannot escape the automatism of accepting the image-reality referential relation and believing in the actual existence of the model somewhere in the real world.

This post-photographic effect offers an algorithmic reformulation of the notion of creation "out of nothing" (ex ouk onton in Greek, ex nihilo in Latin), based on the Second Book of Maccabees (7:28): "God did not create them from things that already existed". This doctrine was explicitly established in the 2nd century, among

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others by Theophilus of Antioch in his Apologia ad Autolycum (I.4 and II.4), and became a fundamental principle of Christian theology in the following century (May, 1978). Theophilus combines this doctrine with the conception of the creation of man in the "image and likeness" of God as expressed in the book of Genesis (1:26, see Lorberbaum, 2015).

> "The power of God is revealed by his making whatever he wishes out of the non-existent, just as the ability to give life and motion belongs to no one but God alone. For a man makes an image but cannot give reason or breath or sensation to what he makes, while God has this power greater than his: the ability to make a being that is rational, breathing, and capable of sensation" (Theophilus of Antioch, 1970, p. 27).

Wang's project instils in the observer the belief in the existence of the model from the algorithmic production of his photographic portrait.

In conclusion, what I have outlined in the previous paragraphs is a research programme that combines the history of ideas, concepts and mentalities with the history and theory of digital-image-production technologies. Dreams, desires, promises of happiness, and aspirations to the superhuman dimension are structural components of human sensibilities that have been handled by various forms of religious experience for centuries. Revolutions in the field of technology and media take up this complex inheritance and reformulate it in intricate continuity/discontinuity dialectics. The Mass is therefore not ended.

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Footnotes

1 : For more information see https://www.harunfarocki.de/installations/2000s/2007/transmission.html.↩

2 : For more information about the Vietnam Veterans Memorial see https://www.nps.gov/vive/index.htm, and about the Denkmal an ein Denkmal: https://www.buchenwald.de/en/geschichte/historischer-ort/gedenkstaette/denkmal-appellplatz.↩

3 : For more information about Carne y Arena see https://phi.ca/en/carne-y-arena/.↩

4 : For Zuckerberg's video Introducing Meta see https://www.youtube.com/watch?v=pjNI9K1D_xo&t=133s.↩

5 : For more information about No Somos Delito see https://www.youtube.com/watch?v=Vp-VU4tkzSY&t=1s; about Modi see https://www.youtube.com/watch?v=ltiRHQ-sDKQ; about Erdogan see https://www.youtube.com/watch?v=e0hJEupOv-g; and, about Mélenchon see https://www.youtube.com/watch?v=E-wB_pAid0I.↩

6 : For an example see https://www.youtube.com/watch?v=p86gh2HEsp0.↩

7 : A video is found at https://www.youtube.com/watch?v=uflTK8c4w0c.↩

8 : A video of Michael Jackson appearance is in: https://www.youtube.com/watch?v=jDRTghGZ7XU, and of Tupac in: https://www.youtube.com/watch?v=uJE8pfPfVRo.↩

9 : For more information see https://www.youtube.com/watch?v=WJ7Jn1Zp58o&list=PLZt_Mk4_rOvMkPbWhZ7LjpJ0cR0lx_NwU&index=2.↩

10 : For more information see https://vimeo.com/401749704.↩

11 : For more information see https://www.youtube.com/watch?v=-Sf6bJjwSCE.↩

12 : For more information see https://openai.com/index/dall-e-introducing-outpainting/.↩

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13 : For more information see: https://www.faceapp.com/.↩

14 : For more information see: https://www.youtube.com/watch?v=7wnRi3Sclm8.↩

15 : For more information see: https://thispersondoesnotexist.com/.↩

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