

Digital Aesthetics

Giulia Andreini

giuliandreini.94@gmail.com

Renato Boccali

renato.boccali@iulm.it

The profound transformations introduced by contemporary digital technologies demand a deeper engagement with digital aesthetics, extending beyond the scope of new media aesthetics. From AI to extended realities, these media reshape human perception, enabling novel human-machine interactions and participatory experiences, creating “environments” marked by fluidity, modularity, and immateriality that challenge established aesthetic frameworks. Consequently, these technologies of sensibility call for a digital aesthetics capable of capturing the innovative dynamics of creative processes and new artistic experimentations. This issue seeks to outline a provisional map of potential pathways and research directions, prompting a critical rethinking of traditional aesthetic categories to address the transformative, immersive nature of these digital environments.

Keywords: digital aesthetics, extended realities, AI, environments.

Digital Aesthetics

Giulia Andreini

giuliandreini.94@gmail.com

Renato Boccali

renato.boccali@iulm.it

As suggested by Walter Benjamin in the famous essay on *The Work of Art in the Age of its Technological Reproducibility*¹, the emergence of new technologies such as photography and cinema brought about a rearticulation of the collective sensorium, implying a perceptive modification of the modes of fruition, introducing the spectator to new somaesthetic habits and practices. Indeed, the new syntax and pragmatics of experience prompted by these media shed light on the intrinsically historical character of human perception, underlying the reliance of the *Medium* of perception – the milieu in which sensory experience takes place – on the contingent and historically-evolving *Apparatus* – i.e. the materiality of the technical artifacts that mark a given era². This reorganisation of the perceptual environment involves a process of *innervation* – a term deriving from psychopathology – of sensory organs, through which the technical devices are incorporated into both individual and collective bodies that, in turn, *extend* themselves through and by them³. In other words, as Mauro Carbone has suggested⁴, these technical devices only succeed in becoming bodily prostheses in so far as their

¹ W. Benjamin, *The Work of Art in the Age of its Technological Reproducibility, and Other Writings on Media*, edited by M.W. Jennings, B. Doherty, Harvard University Press, Harvard 2008.

² For a detailed overview on Benjamin's understanding of media refer to A. Somaini, *Walter Benjamin's media theory and the tradition of the "media diaphana"*, in "ZMK Zeitschrift für Medien-und Kulturforschung", Verschwinden, VII/1, 2016, pp. 9-25.

³ M. McLuhan, *Understanding Media. The Extensions of Man*, Cambridge (MA) 1994. However, The origins of the extension paradigm can be traced back to the XIX century, to the work of Ernst Kapp (*Elements of a Philosophy of Technology*, english translation by L. K. Wolfe, edited by J. W. Kirkwood e L. Weatherby, Minneapolis 2018). For a detailed overview on the topic, please refer to F. Restuccia, *Per un'archeologia del paradigma dell'estensione. Ernst Kapp e la proiezione organica*, in "Polemos", II, 2020, pp. 327-345. A critical statement on this point is offered by A. De Cesaris, *Esteriorizzazione ed estensione Un confronto tra Ernst Kapp e Marshall McLuhan*, in "Lo Sguardo - Rivista di Filosofia", 36, 2023, pp. 405-420.

⁴ M. Carbone, *Da corpi con protesi a corpi come "quasi-protesi"?*, in "Ágalma: Rivista di studi culturali e di estetica", 40, 2020. This intuition is furtherly explored in M. Carbone, G. Lingua, *Toward and Anthropology of Screens. Showing and Hiding, Exposing and Protecting*, Palgrave Macmillan, London 2023.

functioning always requires a fleshly body, whose organs in turn become *quasi-prosthesis* of these technologies.

The emergence of a specific aesthetics of new media was thus foreseen by the German philosopher, while at the same time pinpointing to the new possibilities as well as to the unforeseen dangers associated with their use, summarized in the final part of the essay by identifying a double tendency: the politicization of art and the aestheticization of politics. This means that the new aesthetic forms associated with emerging technologies, in Benjamin's time as well as our own, are always deeply connected with more or less clearly identified political instances that involve a dimension of control, especially in the age of the so-called surveillance capitalism⁵.

Today, the idea of an essential change in the way we perceive the world has become true in a way that largely exceeds Benjamin's expectations. Digital technologies have become more than just mere instruments. Rather, they have either taken the form of three-dimensional computer-generated and responsive environments, in which users interact through their bodies (like *virtual reality*) or have been deeply integrated into perceptual *milieu* and into human's bodily self, permeating and shaping his everyday experience (as AI and *augmented* or *mixed reality*). Providing us with a broad spectrum of experiences ranging from total and solitary immersion or absorption⁶, to shared digital experiences of co-presence⁷, and prosthetic enhancements of the body beyond its physical limitations and capabilities⁸, digital technologies trigger new senses of presence⁹, and of embodiment through avatars¹⁰, as well as new forms of participative actor-spectatorship¹¹.

⁵ S. Zuboff, *The Age of Surveillance Capitalism. The Fight for a Human Future at the New Frontier of Power*, PublicAffairs, New-York 2019.

⁶ For an account of immersion in digital media see J. H. Murray, *Hamlet on the Holodeck. The Future of Narrative in Cyberspace*, The Free Press, New York-London 1997 and O. Grau, *Virtual Art: From Illusion to Immersion*, The MIT Press, Boston 2003. Some phenomenological insights on immersion can instead be found in S. Geniusas, *What Is Immersion? Towards a Phenomenology of Virtual Reality*, in "Journal of Phenomenological Psychology", 53, 1, 2022, pp. 1-24.

⁷ R., Schroeder, *Being There Together and the Future of Connected Presence*, in "Presence: Teleoperators and Virtual Environments", 15, 4, 2006, pp. 438-454.

⁸ Some preliminary remarks on this topic are contained in D. Idhe, *Philosophy of Technology. An Introduction*, Paragon House Publishers, St. Paul (Minnesota) 1993; P.-P. Verbeek, *Cyborg Intentionality: Rethinking the Phenomenology of Human-Technology Relations*, in "Phenomenology and the Cognitive Sciences", 7, 3, 2008, pp. 387-395.

⁹ L. Wiesing, *Artificial Presence. Philosophical Studies in Image Theory*, Stanford University Press, Stanford 2010; M. Slater, M. V. Sanchez-Vives, *Enhancing our Lives with Immersive Virtual Reality*, in "Frontiers in Robotics and AI", 3, 74, 2016.

¹⁰ K. Kiltani, R. Groten, M. Slater, *The Sense of Embodiment in Virtual Reality*, in "Presence", 21, 4, 2012, pp. 373-387; M. Gonzales-Franco, T. C. Peck, *Avatar Embodiment. Towards a Standardized Questionnaire*, in "Frontiers in Robotics and AI", 5, 2018.

¹¹ M. Ljungar-Chapelon, *Actor-Spectator in a Virtual Reality Arts Play*, Doctoral Thesis, University of Gothenburg 2009; C. Bishop, *Artificial Hells: Participatory Art and the Politics of Spectatorship*, Verso, London-New York 2012.

For these reasons, it has become urgently necessary to reflect on the question of a digital aesthetic that, in turn, exceeds a simple new media aesthetics. While the latter focuses on new media forms, seizing their specificities and the experiential implications they produce in the spectator, the interest of digital aesthetics lies instead in the experiences produced by digital technologies according to a circularity that more directly implies the human-machine interaction and the “inhabitational” modification of the relationship with the ambient world. Thanks to the presence of adaptive interfaces, the machine is increasingly capable of interacting with humans; but, in doing so, it also actively retroacts on them. This results in adaptive changes for the human being of a perceptual, behavioral, cognitive, but also physical kind to the point that one can now speak of “coevolution”, since it is a joint process of mutual influence and “selection”, also affecting the social sphere¹².

Yet, to fully understand what digital aesthetics means, one needs to define the limits of what the word “digital” means. Although frequently used as a synonym for “virtual”, digital is a concept in its own right, albeit one that is in dialogue with the former. A brief reconstruction of the history of virtuality would indeed show that it predates the advent of technology, making it irreducible to the mere digital as common sense would suggest¹³. Frequently employed as a synonym for “numeric”, the term “digital” is instead intrinsically associated with the process of converting analog magnitudes into numerical form according to a predefined code – a process deeply embedded in technological mediation. Furthermore, the ambiguity of this term warrants its reconsideration in favor of more precise concepts, as it encompasses at least three distinct dimensions¹⁴. First, it refers to the process through which analog entities are translated into digital forms. Second, it denotes the shared representational code that governs this translation. Finally, it signifies the resulting objectified form: the numerical representation, which constitutes the definitive criterion distinguishing new media from old. The term “digital” thus intrinsically relies on the process of Analog to Digital Conversion (ADC), through which analog phenomena are encoded into a digital format through a *binary code*, consisting of zeros and ones – an expression originated in the 1940s to define the computational logic of the first digital computers. The specificity of “new” media would thus consist in their in-depth reliance on computation both for means of production and archiving. The ontological implications of the digital have been explored since the 1980s, giving rise, especially at the end of XX century¹⁵, to the

¹² P. Dumouchel, L. Damiano, *Living with Robots*, Trans. by Malcolm DeBevoise, Harvard University Press, Cambridge, MA 2017.

¹³ M. Vitali Rosati, *S'orienter dans le virtuel*, Hermann, Paris 2012.

¹⁴ L. Manovich, *The Language of New Media*, The MIT Press, Boston 2002.

¹⁵ E., Fredkin, *Introduction to Digital Philosophy*, in “International Journal of Theoretical Physics”, 42, 2, 2003. A more in-depth account of the birth of digital philosophy can be found in G. O. Longo, A. Vaccaro, *Bit Bang. La nascita della*
3

first philosophies of the digital, building on the premise, rooted in the binary logic developed by Leibniz, that information could be envisioned as the foundational principle of reality. Such an assumption risks paving the way to a deterministic worldview, likening the universe to a computer, excluding contingency and embracing the myth of infinite computability, reshaping human cognition and metaphors for understanding reality. Thus, while the ontological and epistemological implications of the digital have been extensively explored, its aesthetic dimensions – along with the possibilities they open up within this reconfigured worldview – remain comparatively underexplored. Philosophical aesthetics is affected by these shifts in the common sensorium and is forced to question many of the traditional concepts such as space, time, and matter in order to find new ways of thinking about the processes of simulation, algorithmicity, and automatic generation – reflected in the participatory experience of the user as a true co-creator. Indeed, the technologies of sensibility¹⁶, call for a rethinking of innovative ways in which creative processes and new forms of artistic experimentation are realized. The definition of techno-aesthetics proposed by Simondon to describe the continuous spectrum between technique and aesthetics already referred to an *aisthesis*¹⁷ that was closely aligned with productive action and which now finds a further form of articulation in digital aesthetics. And this is precisely because of the institution of new forms of interaction between man, machine and data, creating an “environment” characterised by fluidity, modularity and immateriality. Therefore, this issue aims to draw a provisional map of possible paths and work directions for digital aesthetics, without claiming to be exhaustive. Although many aspects remain to be framed and questioned, this first attempt intends to demonstrate the urge for aesthetic as a discipline to face the challenges posed by digital media, prompting a critical reflection, if not even a renewal, of its main categories. Great support in this direction comes from the heritage of the lively discussions held during the Summer School on Lake Como, from 29 May to 1 June 2023, at the prestigious venue of the Alessandro Volta Foundation in Como, under the direction of Maddalena Mazzocut-Mis. This gathering an opportunity to outline research axes by offering an active space for discussion that generated possibilities for problematic focus for both faculty and Ph.D. students. The present issue thus welcomes some of those suggestions which have blossomed and borne new fruit over the past year. At the same time, the large number of submissions we received led us to select additional texts

filosofia digitale, Maggioli Editore, Apogeo Education, Rimini 2013. For a first overview of the main issues of digital philosophy see L. Taddio, G. Giacomini (eds.), *Filosofia del digitale*, Mimesis, Milano-Udine 2020.

¹⁶ P. Montani, *Tecnologie della sensibilità. Estetica e immaginazione interattiva*, Cortina, Milano 2014.

¹⁷ G. Simondon, *Sur la techno-esthétique*, in *Les papiers du Collège International de Philosophie*, 12, 1982, [online: https://monoskop.org/images/4/44/Simondon_Gilbert_Sur_la techno-esthetique_et_Reflexions_prealables_a_une_refonte_de_l_enseignement.pdf].

that contribute to outlining an issue focusing on three main axes: Digital, Extended Realities, Artificial Intelligence.

The first section is devoted to the exploration of the “Digital”. In *Digital Nihilism and Digital Humanism. An Aesthetic Genealogy*, Andrea Mecacci seeks to draw a genealogy of the values that emerged with the explosion of digital culture in the 1990s, identifying two main factions: the nihilists and the humanists. Mapping this debate reveals polarizations that might be traced back to the Platonic and Aristotelian opposition around the understanding of the image and, consequently, the question of *mimesis*. Instead, Elena Tavani draws attention to a fundamental phenomenon of the digital age: the representation of the self through the techno-social phenomenon of the selfie as a “gestural image”. Starting from an analysis of the technologies of the self proposed by Foucault, the essay *The Selfie and the Low-Resolution Self: Beyond Foucault’s Technologies of the Self* focuses on the “low-resolution self” resulting from the selfie, by identifying a new ethos of coexistence and connectivity. As such, the author prompts to move the focus from a technology to an ecology of the self. In *Building Bridges: The Importance of Bringing Together the Empirical Sciences & the Humanities*, Rebekah M. Rodriguez-Boerwinkle and Eva Specker propose a broad reflection on how reality is mediated through digital aesthetics, emphasising the importance of collaboration between the empirical (social) sciences and the humanities. To this end, the authors advocate an interdisciplinary approach applied to digital art and the question of authorship in the digital age, complicated by AI-generated art and digital media. Similarly, Laura Aimo’s article *What is My Value? Digital Questions in Aesthetic Education: the Case of Videogames* highlights the pedagogical issues related to the digital experience, focusing on the digital ecosystem to which young people are increasingly exposed at an early age, carrying ethical and political implications. The aim is to examine the perception of values that the massive consumption of these digital simulations entails in order to propose an aesthetic education that provides young people with tools to become aware of the video game experience and its potential to be cultivated and preserved. The last paper in the section, entitled *The Mockumentary: History of a Deception. Perception, Image Consciousness, and Narrative Engagement*, delves into the concept of narrative engagement of perception to analyze the mockumentary genre, within the evolving landscape of digital media. In the contribution, Florjer Gjepali argues that mockumentaries engage audiences through narrative rather than perceptual deception. This perspective, presented within the volume's broader context, highlights how digital storytelling challenges the boundaries between reality and fiction in contemporary visual culture.

A second part of the issue explores the experiential changes brought about by the already not-so-new digital technologies, which are gradually enlivening a digital *Lebenswelt* pervaded by a wide range

of “Extended Realities”. The aesthetic implications of this digital techno-scape are firstly addressed in the contribution *Towards an Experience-Based Aesthetics of Virtual Reality: A Case Study on Fear*. Challenging the mainstream portrayal of the VR experience as hyper-emotional, Federica Cavaletti urges the need to ground digital aesthetics in user experience through an “experience-based aesthetics”, that aligns theoretical claims with user interactions. Evoking the Waltonian notion of “quasi-emotions” to capture the peculiar emotional engagement elicited by VR, and highlighting the role of familiarity in shaping aesthetic experiences, the study call for a decentering of the idea of VR as mere an emotional amplifier and advocate for an aesthetic education through a democratisation of audience engagement. In *For a mixed reality Aesthetics. Marina Abramović and the immersive philosophy*, Alberto Simonetti delves into this aesthetic transformation, by examining how the triadic relationship between the artist, the artwork, and the audience is rearticulated by mixed realities. Looking at the most recent phase of Marina Abrahamovic’s work, the author discusses the relevance of the Serbian artist's work in expanding the field of presence by intertwining the physical appearance with the digitally processed one, thus prompting a true “philosophical” immersion.

The last section addresses instead the issue of AI in relation to aesthetics, both by mobilising classical concepts and by tracing their possible reshaping within the new technoscientific horizon. Anna e Francesca Ballatore’s contribution offers a first recognition of the transformations that artistic creation has undergone in the age of rationality and computational calculation. Through the phenomenological lens, *Artificial “intelligence” and the ontology of art: A phenomenological inquiry* challenges the notion of “artificial intelligence” by considering the work of art not only as a physical object but more as a manifestation exhibiting an existential meaning. From this viewpoint, then, the ontological implications of AI for the relationship between art and Truth can be identified. The question of whether synthographies (AI-generated images) represent a new frontier for the visual arts is also discussed in *Text-to-image technologies. The Aesthetic implications of AI-generated images*. In this contribution, Lorenzo Manera outlines the aesthetic implications of the European Artificial Intelligence Act, as it implicitly interprets generative AI within the paradigm of copying and technical reproducibility. Instead, the scholar urges the need to face the challenges of AI-generated content that combines autographic and allographic elements and to develop new aesthetic frameworks to address its implications for creativity, authenticity, and the evolving relationship between humans and technology in art. With the same aim, in *Inverted Ekphrasis and Hallucinating Stochastic Parrots: Deleuzean Insights into AI and Art in Daily Life* Jakub Mácha and Lenka Lee argue for a retrieval of Deleuzean philosophy, integrating art into daily life, for the understanding of the functioning of LLM (Large Language Models). By relying on the notion of style, language, and creative repetition,

Deleuze's thinking can indeed lead to a new understanding of these models which, despite being "stochastic parrots", still display a creative potential linked to an "inverted ekphrasis", since they can generate new outputs by iteratively repeating and varying learned patterns. In contrast, the following article *Exploring the intersection of art, human creativity, and AI*, focuses on the irreducibility of artistic production to computational creativity. Indeed, Ilaria Giorgetti contends that the symbolic value produced by art and culture cannot be engineered by computational processes and that the very idea of creativity cannot be reduced to a simple learning and reshuffling of data. When it comes to musical composition, AI can imitate artistic forms and assist creators, but it appears to lack human traits such as emotion, intentionality, and the inner ability to imbue works with symbolic meaning or a unique perspective. Thus, even though the new algorithmic technologies provide powerful tools for music composition, ultimately they cannot completely replace the human intake in the creative process. Also with a focus on the musical domain, the final article in this section, *Beyond the Algorithm: AI, Music, and Intentionality*, explores the impact of AI on music. In discussing its evolution from historical mechanical instruments to modern generative AI, Alessandra Corbelli raises significant concerns about authorship, originality, creativity, and ethical issues in AI-produced music. In fact, current AI limitations include a lack of emotional depth and human intentionality, essential for artistic authenticity. Therefore, while AI can assist and innovate, its works lack true creativity and autonomy. As a result, musicians remain essential for refining AI outputs and preserving music's cultural and emotional essence, emphasizing the centrality of human agency in art.

Although having explored different pathways connected to digital aesthetics, many aspects still remain to be questioned. Nonetheless, a philosophical investigation into digital aesthetics has already proven its complexity, prompting us to reflect on the role of the digital not only as a tool, but also as a cultural and artistic space where new forms of expression, participation, and perception can emerge.