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(Im)materiality:
Analysis of Conceptual and Historical Material Transformations
and Implications in Collection, Conservation and Management in
the Art Institutions

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Introduction

The predictions on the trends that will move the art world forward in the next decade published by *Artnews*¹ and *Artsy*² in 2020 included ecological, globalised and interdisciplinary perspectives, but most importantly, an online expansion of the market, the shift of performance art to virtual formats, and the greener and immaterial choices of artists. Specifically, the *Artnews* article stated that by early April 2020, the online sales at Sotheby's had brought in \$36 million, doubling the numbers of the same period of 2019 and that Clare McAndrew - the economist behind the annual *Art Basel and UBS Global Art Market Report* - had stated that the lockdown and the sales results were the stimulus that the art market needed to move online.³ Additionally, Marc Porter, chairman of Christie's Americas, was seeing an acceleration in online and private businesses sales and art fairs also started to migrate online. Online content was moving auction houses and galleries towards the online and virtual formats of performance art, which became increasingly more acceptable and appealing to practitioners and audiences; opera companies and theatrical events had already put in use broadcasts and online performances in the past. However, the actual experimentation with the newly available digital and virtual tools happened only during the pandemic due to the specific conditions. This allowed the expansion of these technologies' possible integrations and applications instead of only superficially using them.

Apart from the virtual and digital components, another critical aspect of the change of the current events has been the expansion in the choices of materials used by the artists. According to the *ARTnews* article, apart from green and ecological choices, and specifically, according to the curator of the General Ecology research project of the Serpentine Galleries: "this is the moment of the *most immaterial* art we

¹ The editors of ARTNews, *What's Next? 18 Trends That Will Move the Art World Forward*, in "ARTNews", 24 June 2020; <https://www.artnews.com/art-news/news/art-trends-that-move-art-world-forward-1202692078/> [last access on 20 February 2023].

² Alinca Cohen, *Predictions for Art in the 2020s*, in "Artsy", 20 December 2019; <https://www.artsy.net/article/artsy-editorial-art-2020s> [last access on 20 February 2023].

³ Robin Pogrebin, Scott Reyburn and Zachary Small, *Auction Houses Postpone Live Sales and Pivot to Online*, in "The New York Times", 19 April 2020, <https://www.nytimes.com/2020/04/19/arts/design/art-auction-houses-sales-coronavirus.html> [last access 20 February 2023].

will have” and that “there is a sense that *material should be let go*”.⁴ This change is interpreted as mainly an ecological shift, a conscious, considerate and ethical decision towards the ‘afterlife’ of materials used for artistic production. However, this could also be seen as a further continuation of the already ongoing ‘dematerialisation’ or ‘deobjectification’ of art initiated by the conceptual artists of the late 1960s and early 1970s, as well as the dispersion of the tools and media used for art production, that Lucy Lippard recollected in her *Six Years: The dematerialisation of the art object from 1966 to 1972*.⁵ Traditional materials, although still in use, are not exclusive or limiting anymore, and today anything, more or less material, more or less human or artificial, can be used as material or instrument for art. Therefore, the current digital, immersive, and hyper/im/material paradigm can be perceived as continuing both the conceptual dematerialising process and the digital, technological, computer-based development.

The authors of *Artsy*, already in December 2019, before the pandemic, among their predictions had also commented that galleries would focus “[...] on fewer fairs and enhance their online presence – predominantly with viewing rooms, or portals of the gallery website where potential buyers can see works situated in living spaces”.⁶ Meaning that they would engage with the constitution of immaterialised environments and the creation of immersive, social-media promotable viewing experiences, accommodating the ‘hunger’ of the netizens.

This consistent presence of the online, the immaterial, digital, and the expansion of media and new contexts has been an expected situation, as in the last 20 years, our society has shifted progressively but also radically towards a more fluid and blurred intersected world between the analogic and the digital. There is no longer *only* a material and artificially materialised world, but the new reality is divided into two coexisting dimensions immersed in the immaterial, intangible, and virtual while still placed on ‘terrestrial’ ground. The notion of the human being as a social animal is nowadays also characterised by its online identity, as the content, interactions, and digital expression constitute the new idea of a person. However, as usual, the ideas of software, computers, networks and factors impacting the art world are not new, as

⁴ The editors of ARTnews, “What’s Next?”, cit.

⁵ L. Lippard, *Six Years: The dematerialisation of the art object from 1966 to 1972*, Los Angeles: University of California Press, 1997.

⁶ Alinca Cohen, *Predictions for Art in the 2020s*, cit.

they were already significant in the 1990s and early 2000s. It is not a coincidence that among the terms 'online expansion', 'virtual performance' or 'new choices of material' in the *ARTnews* article, there is also a subtitle "Net Art Will Make a Comeback", referring to the burst of the mid-late 1990s. The challenges brought by the pandemic and the required adaptation to the new physical and social distancing resulted in a retake of this kind of art, pushing the scene towards a re-creation of online exhibitions, galleries, databases, and other experiments of cultural and artistic practices that were already initiated 30 years ago.

This thesis aims to address the challenges the art world faces in its new digital, virtual and immaterial identity by revisiting and contextualising them in relation to past movements and events. By connecting the current material, dematerialised and immaterial possibilities of art with the original efforts of Surrealists, Dadaists, Constructivists, the Bauhaus, Conceptualists, Postmodern, Digital, New Media, Generative artists, it is intended to provide some clarification and contextualisation to the rapid and hectic changing present art scene. Reconsidering the present cases and considering them with the bigger picture and the chronological and logical evolution, this thesis will try to provide some insights for a better understanding of whether the current artistic developments that we are experiencing are real – digital and immaterial – 'revolutions' or just 're-cycling' of past incomplete ideas and potentials. One can already see some roots in the ideas and concerns of the present and future of art in the ideas already existing since the 19th century, regarding the new globalised, increasingly more capitalistic and information-based societies, where machines and artificiality would overturn the agency of the human manufacturer, or in some of the concerns of the 20th century on modernism and postmodernism, the need of flexible, liberating and uncomfortable practices, spaces, gaps where to break the traditional oppression, but also conquer the dematerialised and immaterial new global, social, economic, technological reality.

The goal here is to understand the complexity of the specific terminology better and to see how what is considered immaterial or dematerialised is not as evident as it seems. We need to stress the importance of contextualising and locating the current practices and concerns within some relevant historical examples from Western art history. In this way, it is expected to better define the representative art of current times

in relation to others. Furthermore, to realise that there is no such thing as immaterial art, but only a spectrum, a more flexible and dissolved idea of materiality.

This thesis is divided into three sections. The first chapter is dedicated to recollecting concepts and terminology and analysing the theoretical, philosophical, sociological, economic and political background of the terms ‘materiality’ and ‘immateriality’. The second chapter focuses on cases of the 20th and 21st centuries in which the question of materiality and immateriality was relevant for the artists and movements. Examples from Marcel Duchamp to New Media Art will be included. Last, the third chapter is dedicated to the collection, curation, conservation, restoration and display of art and the impact on the material or immaterial nature of the artworks.

Chapter I – Definitions, Concepts, Theoretical Background.

Definitions are one of the most challenging parts of the art world, but these kinds of challenges have also been great motivations and fertile ground for a plurality of historical revolutionary shifts throughout history. Some fundamental concepts that have affected how humans live, behave, act, interact, create, or even die have been materiality and immateriality and how humanity perceives and relates to them. Of course, the art and cultural sectors have not been immune to the influence of these concepts, and a re-consideration of their definitions and manifestations can bring clarity and probably a different perspective of the art world's past, present and future evolution and development. As a discrete shadow, (im)materiality has been a constant nucleus, an epicentre of many artistic movements, shifts and changes in paradigms, from the material representation of divinities in religious icons to the controversial immaterial NFTs.

What do we mean by the term 'material'? And what do we mean by the term 'immaterial'? Are the nouns 'materiality' and 'immateriality' equally related to the adjectives 'material' and 'immaterial'? Is the term 'material' only an adjective or also a noun? Is it a property or an entity? What is the link between the terms material, materiality and matter? And what are their differences? Are immaterial and immateriality and form their 'opposites', and do they also correspond?

The anthropologist Daniel Miller, in the introduction of his book *Materiality*, says that there are different possible theories of things and their 'thingness' - constituent that can be called matter, material or materiality – but the condemnation of common sense as vulgar and the detachment from reality of the academic presuppositions of what is a thing, or an object has caused an absence of defensible definitions.⁷ Things become more complicated when the ideas of ephemerality, abstraction or other new technological characteristics become part of the traditional notion of 'things', modifying and defying even further the understanding and definition of what is meant by 'thingness' and what is considered material or not. Is an ephemeral image, a

⁷ D. Miller, *Introduction*, in *Materiality*, Durham: Duke University Press, 2005, pp. 1-50, here p. 7.

moment of a video, a – material- thing? In line with Miller’s line of thought, we can also ask what happens with dreams, sensations, ideologies, decay or a kiss? ⁸

The aim and strategy here is to reflect on immateriality through the quest for materiality and vice versa. Being two correlated and interdependent terms, it is inevitable to acknowledge them as hybrid, indiscernible and complicated to distinct blurred concepts. The question of materiality and its derivatives remains fundamental to most people’s stance on the world as the ideas of humanity, self, human identity or behaviour have been closely dependent on the position taken. The discourses related to the ‘material’ differ in each discipline, time and context; defining it means entering into a gaze of an amplitude of very similar meanings, but never the same, terms.

1.1 Definitions

In the case of art and culture, materials are considered the tools and instruments that the artists use to create their works, either as structure and support or as the medium of the central content of the concept expressed. The personal creative intentions of the subject influence the way these materials are applied, but the material’s substances can also determine and influence the creative process of the subject by reacting, resisting, or responding to those intentions through their agency. Additionally, in contemporary art, new elements, like people, entire contexts and environments, ideas, information, networks and other non-concrete ‘things’ are included under the umbrella of materials. Today, the materials used to create art are not limited to the restrictive nucleus of the ‘object-matter’, but they include broader and more defying elements, bringing the term ‘material’ closer to the meanings of generic ‘tool’ or ‘component’.

In the Cambridge Dictionary, the term ‘immaterial’ is defined as the ‘not important, or not relating to the subject you are thinking about’; its synonym is the word ‘incorporeal’, and its opposite word is ‘material’.⁹ For ‘material’, on the other hand, is intended both the noun that means ‘physical substance that things can be made

⁸ Ibid.

⁹ “immaterial”, *dictionary.cambridge.org*, Cambridge Dictionary Online [last access 14 April 2023].

from’, and the adjective related ‘to physical objects or money rather than emotions or the spiritual world’.¹⁰

Similarly, the Collins defines “immaterial” as something “of no real importance; inconsequential” or as “not formed of matter; incorporeal; spiritual”.¹¹ By “material” is intended the variable noun meaning “substance of which a thing is made or composed; component or constituent matter”, the “facts, notes, etc. that a finished work may be based on or derived from”, or the adjective “of, relating to, or composed of physical substance; corporeal”, in philosophy specifically is what “opposed to mental or spiritual substance” and “of or concerned with physical rather than spiritual interests”.¹² Last, “materiality” is related to the meanings of “state or quality of being material, or physical” and with “matter; substance” itself.¹³ The Thesaurus presents “incorporeal”, “nonmaterial”, “nonphysical”, “impalpable”, “intangible”, “spiritual”, “metaphysical” or “unembodied” as synonyms of “immaterial, while the synonyms for “material” are “perceptible”, “physical”, “concrete”, “corporeal”, “objective”, “real”, “carnal”, “nonspiritual” or “tangible”.¹⁴

From a first stance and also seen by the dictionaries’ definitions, the terms material and immaterial can seem straightforward and obvious in their meaning, the latter being considered ‘just’, the negation or opposite of the former. It is inevitable to assume an intrinsic duality, a distinctive opposition between these two terms, taking “immateriality” as constituted by the particles “im-” and “materiality” and implying a negation or absence of materiality. However, when looking for definitions and uses of these terms, the findings are similar but differ depending on the broader perspective of reality and its elements. The paradox of the representation of the material as having higher value, as the concrete and accurate, and of the immaterial as unreliable and inexistent, remains constant when in other cases, for example, in religious or intellectual terms, the immaterial, representing the spiritual and mental, is the one having a higher position.

¹⁰ “material”, *dictionary.cambridge.org* Cambridge Dictionary Online [last access 14 April 2023].

¹¹ “immaterial”, *collinsdictionary.com*, Collins Dictionary Online [last access 14 April 2023].

¹² “material”, *collinsdictionary.com*, Collins Dictionary Online [last access 14 April 2023].

¹³ “materiality”, *collinsdictionary.com*, Collins Dictionary Online [last access 14 April 2023].

¹⁴ “material”, *Thesaurus.com*, [last access 14 April 2023].

In materials science, the term ‘material’ is linked to solidity, composition, and structures at macroscopic and microscopic levels. This field of science deals with solid-state physics, metallurgy, ceramics or chemistry since the characteristics of materials are multiple and can be selected or designed for an enormous variety of applications, from structural steels to computer microchips.¹⁵ In the field of culture, the idea of material is closely related to human culture. It is identified with the “tools, weapons, utensils, machines, ornaments, art, buildings, monuments, written records, religious images, clothing, and any other ponderable objects produced or used by humans.”¹⁶ Humanity’s relation to its material presence is so compact that it is considered “If all the human beings in the world ceased to exist, nonmaterial aspects of culture would cease to exist along with them. [...] Examples of material culture would still be present until they disintegrated”.¹⁷

“Immateriality” seems to be an umbrella term that includes anything imperceptible to our limited human sensorial perception, excluding further and more detailed information achieved through scientific and technological methods and tools. Immateriality becomes the synonym of invisibility, inaudibility, insipidity, intangibility, inodorousness or generally imperceptivity, although this approach seems to ignore that many existing elements are felt as immaterial, while being completely present. Elementary examples are the air we breathe, the light we see or the gravity that keeps us grounded, which are solid in their imperceptible smaller scale of molecules, atoms and other microparticles while *being* what they constitute as perceived as solid materials in the bigger scale.

1.2. On Materiality and its Challenges

Within semiotics and a ‘pro-materiality’ perspective, the anthropologists Webb Keane and Daniel Miller recognise an underlying problem behind the privilege given to humans and immateriality as subjects and entities signified and represented by material signs, as it poses an obstacle in perceiving human action and history as

¹⁵ “materials science”, *Britannica.com*, Encyclopedia Britannica [las access 14 April 2023].

¹⁶ "material culture *Britannica.com*, Encyclopedia Britannica [las access 14 April 2023].

¹⁷ Ibid.

material.¹⁸ here is always the tendency in maintaining a hierarchy of representation in a semiotic dualism: the material sign that gains autonomy as simple signifying representation and the human subject that gains authenticity as signified that always transcends the signifying effort of the material objects that represent them. Keane suggests a possible theory of signification in which materiality is integral and not subservient. He constructs an approach of tangible and sensual signs, engaged with the world not as immaterial representations but with a valuable material presence. For some, to engage with material seems the antithesis of intellectuality, and according to the feminist philosopher and physicist Karen Barad, to engage with materials as concrete and direct carriers of imprinted messages means to formulate a critique and a reaction to logocentrism as generator of meaning and significance.¹⁹ The philosophical tradition is known for its privileging preference for form over matter, design over the material, drawing over painting, the spiritual – and the mental - over the bodily, the immaterial over the material, and generally the ‘up’ over the ‘down’.

Another factor of the present times that would be important to take into consideration in the discourse is the new forms of materials, such as screens, software, data, information, the Internet, networks and other innovations that have impacted and caused unprecedented consequences in the relation and understanding of subject-object and material-immaterial. Materiality today points to the whirling complexity and entanglement of diverse factors, in which ‘material’ can also be something not physical or tangible or not have the traditional characteristics of what was considered firm and solid material ‘thing’. This new expansion of the idea of materiality has created broader and more permeable borders that allow a flux of new ideas and possibilities for further experimentations and explorations. The world appears to have replaced the material differences between firm and concrete objects with volatile and ephemeral structures.

¹⁸ D. Miller, *Introduction*, cit., pp 36-38.; W. Keane, *Signs Are Not the Grab of Meaning: On the Social Analysis of Material Things*, in *Materiality*, D. Miller (ed.), cit., pp.182-200; and W. Keane, *Signs of Recognition*, Berkley: University of California Press.

¹⁹ P. Lange-Berndt, *Introduction*, in *Materiality*, Cambridge, Massachusetts: The MIT Press, 2015, pp. 12-23, here pp.12-13; and K. Barad, *Meeting the Universe Halfway*, in *Materiality*, P. Lange-Berndt (ed.), cit., pp. 213-215.

Temporary and intangible signs on screens, data, networks, digital codes, texts and images are achieving a new identity of materiality in the new media era, where conventional and established materials are being re-considered. Today, pixels, bits, atoms or even blood, people or air can be used to transmit, create, inspire, and communicate art and culture; material has become just the element - free of restrictions - that artists can work with. This new paradigm is allowing the creation of new tools and elements representing the digital, ecological and 'metaversial era' into materials available to in the 'higher level' of creation called art.²⁰

1.3 Non-Western Views on Materiality

Meanings and approaches to art and culture multiply even further when the world's diverse geographical contexts are considered. An example of this cultural difference set apart from the artistic practices in Europe can be observed in East Asia, particularly Japan, where a distinct relationship with materials emerges. In the Japanese tradition, materials hold a profound communicative function, transcending mere utilitarian purposes. This perspective fosters a unique aesthetic appreciation for plain and seemingly 'simple' materials that remain untreated and raw. These materials are intricately woven into the fabric of Japanese culture and art, even amidst the backdrop of a high-tech immaterial culture that has come to characterise modern Japan.²¹ Some Japanese artisans and artists, following the principles of minimalism and wabi-sabi, recognise the beauty in imperfections and the natural ageing of materials. Wood, bamboo, paper, and clay, among others, are celebrated for their inherent textures, grain patterns, and subtle nuances. The deliberate omission of excessive embellishments allows these materials to shine through, embodying a sense of authenticity and purity that resonates deeply within Japanese cultural values. This appreciation for raw materials extends beyond craftsmanship and artistry: it permeates everyday life, influencing various aspects of Japanese culture. The art of tea ceremony, for instance, embodies this reverence for simplicity and harmony with nature, like the unadorned tea room, the earthy pottery used for serving tea, and the contemplative

²⁰ D. Miller, *Introduction*, cit.; W. Keane, *Signs Are Not the Grab of Meaning*, cit. pp. 183-4; and P. Lange-Berdnt, *Introduction*, cit., pp. 14, 19-20.

²¹ M. Wagner, *Material*, in *Materiality*, P. Lange-Berdnt (ed.), cit., pp. 26-30.

ritual of preparing and consuming matcha reflect the intrinsic connection between the material world and the spiritual realm.²²

Another specific example taken from the Japanese culture is the Mono-ha movement, the ‘school of things’ of the early 1970s, where artists indicated temporary discoveries of engagement with matter in the structure of daily life by expressing affective sensations from matter and expressing them in colloquial words. According to Mika Yoshitake, the term *mono* means thing, matter *and* material, and it was written in the Japanese phonetic script to distinguish it from the associations of substance or physical object of the Chinese character form.²³

Materiality and immateriality also appear to be a point of attention in most religions, as there is the underlying principle for which wisdom is related to the claim that materiality merely represents the truth and the real that lies behind it. Both for Buddhism and Hinduism, but also extended to Egyptians, Islam or Judaism, theology has addressed extensively the critique against materiality, always compared to the immaterial. Most religions have aimed to transcend the apparently inferior, material, tangible level and achieve the immaterial world’s superiority. Paradoxically, although considering materiality superficial and deficient, there is a strong faith in the process of materialisation and the need to correspond the importance of the immaterial entities, values, and meanings in a prolific material production of monumentality. According to Meskell, this issue foregrounds the attempt to control the degrees of materiality, seeing some monuments as more material than others and representing with this massivity a source of immaterial power.²⁴ However, this mission towards immateriality brings an inherent contradiction, as it is impossible to transcend the process of objectification and there is no pre-objectified culture or post-objectified transcendence. This passion for immateriality has extensively put greater pressure upon the precise symbolic ability of the material to express spiritual power, as seen in Islam and Judaism, where it is impossible to grasp what the deity is and to reproduce

²² G. Parkes and A. Loughnane, *Japanese Aesthetics*, in *The Stanford Encyclopedia of Philosophy*, N. Zalta (ed.), Winter 2018 Edition; <https://plato.stanford.edu/archives/win2018/entries/japanese-aesthetics/> [last access 30 May 2023]; and D. Richie, *Un Tratado de Estética Japonesa*, Barcelona: Alpha Decay, 2007, pp. 33, 36, 38-39.

²³ P. Lange-Berndt, *Introduction*, cit., p.14.

²⁴ D. Miller, *Introduction*, cit., pp. 15-16; and L. Meskell, *Objects in the Mirror Appear Closer Than They Are*, in *Materiality*, D. Miller (ed.), cit., pp. 51-70.

it due to its transmateriality. A mere human reproduction would reduce it to a mere fetishised idol, condemning humans to venerate mundane and ordinary ‘objects’.

Returning to the definition of material, Monika Wagner, professor of art history at Hamburg University, states that it is constituted of natural and artificial substances intended for further treatment, transformation, alteration, and shaping to create a solid material outcome. Material and matter are related to form and idea, constituting the principal elements of creative invention and information carriers. Material is a medium, and today, the media function digitally through codes that are no longer haptically graspable and have attributes of immaterial nature. As the medium has dissolved, materials are not simply detached carriers of messages and information anymore, but they are interwoven with them; the separation between medium and message is no longer distinct and artworks, as traditional material carriers of meanings are now self-referential and autonomous from their immaterial referenced subject. Because of the postmodern positions, the complementary and auxiliary physical indifferent medium has been reconsidered, and now it has become a new subject with autonomous value and a new status of ‘high’ or ‘fine’ art, as opposed to the traditional negative connotations related to the lower sphere of everyday physical life.²⁵

1.4 Tangible and Intangible

The questions on materiality touch on UNESCO definitions that refer to the synonymous terms 'tangible' and 'intangible' concerning cultural heritage. According to UNESCO, tangible heritage pertains to physical objects, artefacts, and sites, and intangible heritage encompasses something distinct from the tangible aspects. It includes living expressions and traditions inherited through generations, such as oral traditions, performing arts, social practices, rituals, festive events, and knowledge and practices concerning nature, the universe, and the skills involved in traditional crafts.²⁶

²⁵ M. Wagner, *Material*, cit., pp. 26-30.

²⁶ UNESCO, *What is Intangible Cultural Heritage?*, <https://ich.unesco.org/en/what-is-intangible-heritage-00003> [last access 12 October 2023].

The Convention's Article 2 indicates how the term 'cultural heritage' has changed considerably throughout the years.²⁷ It is no longer confined to monuments and collections of objects alone. However, it now includes a vibrant tapestry of intangible dynamic elements that are constantly evolving and require different approaches and methods for their safeguarding and preservation in contrast to the tangible ones. The differentiation between tangible and intangible heritage reflects the diversity of societies' identity and legacy.

The article of the Convention continues:

While fragile, intangible cultural heritage is an important factor in maintaining cultural diversity in the face of growing globalization. An understanding of the intangible cultural heritage of different communities helps with intercultural dialogue and encourages mutual respect for other ways of life. [...] The social and economic value of this transmission of knowledge is relevant for minority groups and for mainstream social groups within a State and is as important for developing States as for developed ones.²⁸

Considering this plurality of perspectives in definitions, it is possible to notice parallelisms and correlations between the material and immaterial dimensions. The material is related not only to the tangible and physical world but also to the idea of 'realness' and objectivity of existence and to the production of objects made to be used and consumed, therefore, to an economic value. On the other hand, immateriality is related to the non-important, the irrelevant, opposed and devalued in comparison to the realness of the material level, but also to the spiritual, metaphysical, and 'superior' levels of ideas, values, inspiration, and imagination. This last dimension is the source and starting point of any 'inferior' ordinary material element, entity and object. The dichotomies of reality and non-reality, tangibility and intangibility, are maintained due to the importance of one or the other and their comparison.

In this way, the definitions of UNESCO approach the term 'intangible' as weak, fragile and needing additional justification of its social, cultural, and economic value. It stays as a complementary element, in constant comparison to the 'obvious' and 'objectively' significant tangible 'other'. To this weak categorisation, crafts are also included as inferior and non-relevant compared to the fine arts, although they are also material and

²⁷ UNESCO, *Text of the Convention for the Safeguarding of the Intangible Cultural Heritage*, <https://ich.unesco.org/en/convention#art2> [last access 12 October 2023].

²⁸ Ibid.

tangible. Paradoxically, precedence is given to the immaterial characteristics of fine arts, such as the ‘concepts’ and intention behind the artworks, the genius and subject that create them and that ‘aura’ that usually embraces the pieces we call art and not mere “things”. The skills included and preserved by the UNESCO Heritage in relation to the crafts are almost the same, similar ones to the art world; both systems use hands, agility, attention to detail, and specific techniques, with the simple difference of prioritising the ‘immaterial’ inspiration over the ‘material’ medium used. As will be observed in the case of the Bauhaus, some are objects, and others are artworks.

1.5 Immateriality, Hypermateriality, Neomateriality

To define immateriality, according to both the art historians Christina Grammatikopoulou and Petra Lange-Berndt, it is convenient to go through a short genealogy of the formation of the concepts of materiality, dematerialisation, immateriality, inter-, trans-, hyper- and neomateriality. Art theorists of the past fifty years have found many different terms to describe the new conditions that emerged from the digitisation of artistic and cultural practices. The favoured terms have been ‘immateriality’, ‘dematerialisation’ and ‘hypermateriality’, being the first the most used, coherent with the constant diminishment of matter. Grammatikopoulou notices that the term “immaterial art” is as generic as the term “material art” as they can be applied to many different artworks and genres under the same category.²⁹ Consequently, the term “immaterial”, even if relevant and designated to the extensive changes in contemporary times, should not be taken in the strict sense, as even the new kinds of art objects, or *non-objects*, do still have material elements – even when is matter of the computer hardware, the infinitesimally small particles or the human body. Immateriality should not be used as an alternative to emptiness but as a new state of matter, a fluidity, a dissolution where the artwork from a static and solid object becomes a creative *process* and intention. This discourse describes the new approach to the objects that become artworks and the shift of attention from purely visual

²⁹ Ch. Grammatikopoulou, *Shades of the immaterial: Different approaches to the 'non-object'*, in *interartive.org*, 2012; <https://interartive.org/2012/02/shades-of-the-immaterial> [last access 14 March 2023]; P. Lange-Berndt, *Introduction*, cit., p. 19; and pp. 176-78; and L. Lippard, *Six years*, cit.

elements to other senses and processes. Immaterial art includes sound, tangible experiences and communicative moments.

Therefore, when discussing art, it becomes necessary to acknowledge the interplay between the material and immaterial components of what we identify as artworks and their creation process. Artworks have typically been physical objects crafted from materials that undergo a transformation, ranging from subtle to profound alterations, resulting in something different that often carries additional layers of meanings, ideas, messages, or intentions. These intangible elements, along with the subject's inspiration, talent, and creativity, have constituted the immaterial dimension of art. They coalesce with the physical elements and give them additional significance, depth, and identity while also shaping the expression of their artists.

However, it is important to recognise that these immaterial elements cannot exist in 'immaterialised' isolation; they rely on tangible and physical references to manifest and become relevant. Without a medium, a physical channel, they would remain empty, inexistent, abstract and devoid of any transmitted meaning. Therefore, artworks are the outcome of the intricate interweaving of materiality and immateriality, where the manipulation of physical materials is enriched and given purpose by the intangible aspects, and the immaterial elements are materialised and realised through physical mediums.

Even when the emphasis may not be on the material and tangible outcomes or the materialisation of some concept, the underlying reference remains attached to the material dimension. Even when the intention is to negate the material production of any object or to focus on the absence of any material manifestation, the reference remains the possibility of materialisation. Take, for instance, the performative and conceptual arts, where no object is created in traditional terms, yet the experience for artists and audience is embodied, tangible and sensorially perceptible. Even the artistic process's mental, imaginative, or subconscious aspects can ultimately be traced back to the synopsis of neurological activity. In essence, the connection to the material world persists even when artists aim to transcend this physicality; they cannot escape its influence, as the very act of creation and perception is inherently tied to physical existence.

It is noticeable how the abolition of the limits of material objects has opened the artistic world to new possibilities, liberating it from the established paths of circulation and traditional projections. The “de-objectification” of art matter created opportunities for new polyphonic perceptions where artists are free to play with ephemerality, fluidity and relativity, redefining the entire aesthetic awareness of both artists and receptors.³⁰ Immateriality is not precisely a discovery, technique or medium, but a new approach of already existing structures, objects and meanings, an expansion of systems and connections. The presence of the object becomes irrelevant and is viewed as a changing dynamic element full of possible profiles and identities.³¹

1.6 Alternatives to Immateriality

Taking a different direction, the philosopher Bernard Stiegler defends that ‘hypermateriality’ defines more accurately the new ‘status’ of materiality than ‘immaterial’, which describes the evanescent states of matter, or ‘dematerialisation’, that does not exist. Hypermatter defines better the complex nature of information where it is no longer possible to distinguish matter from form and where information is a sequence of states of matter produced by devices that are devoid of the meaning of separation between form and matter.³² Hypermateriality is a term that describes the current contemporary reality where everything can be turned into a computation or digital information - artworks and products included. Instead of thinking about eliminating materiality from the original tangible and concretely defined reality, we enter into a process where the confines are blurred, and the initial matter is dissolved and expanded into a plurality of “states”, material in more or less density. Some of these states can be called ‘more’ im-material than others, depending on the level and depth of abstraction and detachment of any specified and concrete entity (ideas, concepts, feelings). But, as said by Stiegler, “as long as matter exists, we are within the realm of the hypermaterial”.³³

³⁰ Ch. Grammatikopoulou, *Shades of the immaterial*, cit.; J. Burnham, *Notes on Art and Information Processing*, in *Software - Information Technology: Its New Meaning for Art*, New York: Jewish Museum, 1970, pp.10-14.

³¹ Ibid.

³² B. Stiegler, *On the Need for a Hyper-Materialist Epistemology*, Lecture notes, Translated by D. Ross, Nanjing, 2018.

³³ Ch. Grammatikopoulou, *Shades of the immaterial*, cit.

The new media art theoretician Christiane Paul contrasts hypermateriality to describe the form of everyday reality where material appliances transform everything into information and subject it to endless transformation. While Stiegler's term focuses on sequences of states rather than affective aspects of materials that are shaped by data and reflect humans and their environments, Paul proposes the concept 'neomateriality' to describe the embeddedness of the digital in objects, images, and structures encountered daily and the changing relationship between subjects and their materiality cause by this merger. The infiltration of technologies in almost all aspects of human life, including art making, has brought humanity to a condition described by the terms 'post-digital' and 'post-Internet' for the artworks and objects that are conceptually and physically shaped by the Internet and digital processes yet manifested in material forms. Computers cannot perceive these forms without layers of abstraction, and the codes that make computers execute operations do not required anymore to be readable by humans.³⁴

Representing the "immaterial" voice, and in opposition to the expansive dynamic of Stiegler's hypermateriality, the philosopher Jean-François Lyotard argues that immaterial is, in reality, matter, matter that is subjected to interactions and other conceptual processes. Lyotard's position is based on the perspective that accomplished scientific progress is reaching a better understanding and knowledge of the nature of the so-called objects. Their resulting analytical decomposition makes them a complex constitution of agglomerates of tiny packets of energy and ungraspable particles, making them perceptible on the human scale. In this sense, traditional matter does not exist, and the only thing that does is energy; there are no longer such things as materials nor objects in the old sense, resistant to processes and possible conceptual shifts, but only immateriality.³⁵

³⁴ Ch. Paul, *From Immateriality to Neomateriality: Art and the Conditions of Digital Materiality*, in *21st International Symposium on Electronic Art (ISEA2015)*, conference proceedings (Vancouver, Canada, 14 – 19 August 2015), <https://isea-archives.siggraph.org/symposium/isea2015-21st-international-symposium-on-electronic-art/> [last access 24 April 2023].

³⁵ Ch. Grammatikopoulou, *Shades of the immaterial*, cit.; B. Blistène, *A Conversation with Jean-François Lyotard*, in *Flash Art: Two Decades of History*, G. Politi and H. Kontova (eds.), Cambridge, Massachusetts: The MIT Press, 1 January 1990, pp.129-131.

1.7. Dematerialisation and Deobjectification

Representing the ‘dematerialising’ voice, John Chandler and Lucy Lippard, in their article *The Dematerialization of Art* published in 1968, identified this term with the so-called ultra-conceptual art that “emphasises the thinking process almost exclusively” and “may result in the object becoming obsolete”.³⁶ By “dematerialisation” Jacob Lillemose, art curator, lecturer and writer, clarifies that is highlighted the idea of energy that designates an act, a conceptual process of distancing from matter, meaning that the artwork can still have material substance. This concept is used to describe the process where matter is almost absent and that “may result” and is “almost” because, as seen in the case of the artworks that Lippard refers to, these objects are not necessarily completely dematerialised.³⁷ Commented by Lillemose, criticised by Terry Atkinson³⁸, in accordance also to Stiegler’s positions, and confirmed by Lippard herself in the preface of *Six Years*, the choice of the term ‘dematerialisation’ has been accompanied by much uncertainty and considered an inaccurate and incorrect term in relation to the artistic tendencies described in her work. However, Lippard justifies her choice as necessary ‘for lack of a better [one]’ and continues to refer to the process as a deemphasis on material aspects like uniqueness, permanence and decorative attractiveness.³⁹

Critics like Ursula Meyer have talked about ‘the abolition of the art-object’ and the ‘de-objectification of the object’⁴⁰; Jack Burnham termed the new kinds of works as ‘un-objects’⁴¹, while Terry Cohn presented a ‘post-objective perspective’⁴². However, these critics do not engage in discussions about the ‘residual’ materiality, and they separate the old from the new completely. They talk in conviction about the

³⁶ J. Chandler and L. Lippard, *The Dematerialization of Art*, in *Art International*, 12:2, February 1968, pp. 31-36.

³⁷ J. Lillemose, *Conceptual Transformations of Art: From Dematerialization of the Object to Immateriality in Networks*, in *Curating Immateriality: the Work of the Curator in the Age of Network Systems*, J. Krysa (ed.), New York: Autonomedia, 2006, pp.113-4, 128.

³⁸ Jacob Lillemose, *Conceptual Transformations of Art*, cit.

³⁹ L. Lippard, *Six Years*, cit., p. 5.

⁴⁰ U. Meyer, *De-Objectification of the Object*, in *Arts Magazine*, Summer 1969, pp. 20-22.

⁴¹ Jack Burnham, *Systems Esthetics*, in *Artforum*, Vol. 7, No. 1, September 1968, <https://www.artforum.com/features/systems-esthetics-201372/> [last access 20 July 2023].

⁴² T. Cohn, *Conceptualizing Conceptual Art: A Post-Object Perspective*, in *Art Papers*, July-August 2000, pp. 14-19.

notion of an art *ex object* rendering the material dimension just superfluous, maintaining the underestimation and dismissal of the value given to the material agency of the artworks.

However, in accordance also with Lillemose, it is interesting to notice how through the dematerialising movement, instead of reaching the expected abolition or dismissal of materiality, the outcome was an extensive reconsideration of multiple materialit(ies) and how they go beyond their restrictive connection to the objects. We see the expansion, the dissolution of the meaning and the options of what is considered 'material' - meant as medium or component - of the artistic creation. Material and matter stop being just solid, dense, and restricted elements controlled and handled by the human genius, and they now include soft, hybrid, intangible, and imperceptible elements that can embrace a new status of agency. Consequently, objects also started transforming, becoming something different, more permeable, and aligned to their constituents. The idea and definition of "object" became unavoidably mutable and inconsistent. Humans, subjects now accept and integrate the agency of non-subjects and objects, including characteristics such as ephemerality, malleability, indefinability, obscurity, imperceptibility or intangibility to the realm of materiality of their object production.

This interpretation of dematerialisation signifies a 'return' to - or engagement with - the reality of material multiplicity. By setting materiality free from the object confinements, conceptual art - as the main instigator of the dematerialising processes - at least in theory - connects to an un-idealised and non-transcendental dimension of reality. According to Lillemose, this happens because it emphasises the social, economic and cultural aspects and exposes them to alternative conceptualisation guided by principles and values of heterogeneity, irrationality, openness and destabilisation.⁴³

Taking a linguistic approach, the prefix 'de-' in the term dematerialisation refers to a conceptual approach to materiality, not in the sense of transcendental direction, but interpreted by Lillemose as an aesthetic of open interdependence

⁴³ J. Lillemose, *Conceptual Transformations of Art*, cit., pp. 116-17.

between the conceptual and the material. Setting materiality free from the object allows us to perceive it as a potential predisposed to continuous conceptual recording, reorganisation, redistribution, recontextualisation and reinterpretation. Instead of attaching materiality to specific and finite forms, media or institutions, conceptualists place materiality in a broad and horizontal aesthetic field – multi-, inter- and post-media, where it is transformed into virtuality that is constantly actualised – but never completely realised – in the abstractions of the particular works.

1.8. Materiality and Agency of the Object

Another aspect to note about materiality and matter is their additional relation to things and objects external to the subject, which construct the necessary context for creating meaning and understanding of the world's existence. These are commonly called 'things', neutral and general terms that include all the 'other' entities, non-human and non-subjects. These can be natural, present, previous, and independent of human existence, or artificial, humanmade constituents of culture better defined by the term 'objects'. An object, usually in philosophy referring to anything opposed and complementing the subject, is a human creation, a solid substance result of a material 'production'. These artefacts represent human activity, the way humanity and its culture exist not only theoretically and immaterially through ideas, concepts and values but also materially through objects that assume the role of traces of the human presence in the natural and tangible world. When perceived from the future, these traces can be perceived as remains of the past, as seen in the example of ruins and archaeological sites. When located in the present time, these objects and broader physical creations (from small utensils to complete urban areas) can determine behaviour, movements, activities, feelings, and beliefs and generally influence the development of the human identity. They can even influence the present practices and views on the conservation and restoration of cultural heritage that will be seen in the following chapters.

However, the expansion of the term materiality by scientific and artistic means also challenged the idea of the object as a solid and concrete entity. We live in an era where specific points and objects are no longer 'sure' and concrete. Since the last century, scientific research foundations have transformed with the development of

relativity and quantum physics theories and views. These ground-breaking theories challenged and, in many ways, dissolved the long-standing stability traditionally associated with the concepts of matter, materials, and objects. The once well-defined, predictable understanding of the physical world has been replaced by a more complex and dynamic perspective, where uncertainty plays a fundamental role. The evolving understanding of matter as energy and non-solid, dynamic elements relative to certain contexts, relations and conditions has also led to a significant shift in the concept of materiality. Depending on the interactions between its components, matter can take different forms, blurring the lines between the material and immaterial. It pushes the notion of materiality towards a more fluid and 'immaterial' state, challenging the traditional notions of solidity and static condition. This shift is also found in the art world, as matter disconnects from the object and the object from the artwork. Compared with other objects, an artwork was traditionally intended as something different, carrying an immaterial, transcendental or hypermaterial element: a concept, inspiration, a message that would provide additional relevance and meaning. Duchamp was one of the initiators of these challenges, as he focused on playing with the relations between art, the objects and that 'something' that made those objects artworks. He was able to perceive artworks as art *objects* and included the 'other objects', the already made 'non-art' objects, into the realm of the *artworks* by decontextualising and recontextualising them, adding discrete interventions of the creative hand of the artistic 'genius', just linguistically de- and re-semanticising them. Removing the label of 'art' from 'art objects' is akin to removing a pair of 'filtered glasses' that elevate ordinary material compositions - often deemed mundane objects - into a realm of heightened significance. These transformed objects become art objects, achieving unique and discerning attention. They transcend their original materiality by adding further layers of meaning, value, symbolism, deliberate alterations, and conscious artistic intention. Their purpose goes beyond mere existence; they serve as conduits for expression and communication or as embodiments of specific intended characteristics. These artistic creations have the power to convey the personal sentiments of the creator to a more abstract, collective audience guided by a somewhat vague direction.

With the detachment of the artworks from their material and objectual entities, the artist focuses on the element that transforms an ordinary object and a material into

an artwork, which is the creative intention, the process and the concepts that characterised those artefacts. The artwork is not seen as a simple object or a piece of personal or historical value but as information, a materialised process, and a possible - but not necessary - manifestation of a feeling, impulse and subtle intention. Jack Burnham also confirms this, as he stated that the “cultural obsession with the art *object* (italics by me) is slowly disappearing. [...] This shifts from the direct shaping of matter to a concern for organising quantities of energy and information”.⁴⁴ The artwork is considered not a material result. However, a process in constant mental and physical movement and alterations is not ‘material’ in the sense of being stable, tangible, static-immobile, and ‘concrete’. We see how the art object, the artwork, the artefact called ‘art’, incorporates a crucial and essential element: the immaterial.

Dematerialisation can distance art from matter conceptually by maintaining the tangible and physical reference of the artwork but reducing its importance or by completely removing the physical element and keeping it as immaterial as possible, digitally or performative and decaying. On the other hand, immaterial is not a process or element but a *condition* where the matter is absent or challenged- imperceptible.

In an effort to transcend the dualism between subjects and objects, the philosopher Bruno Latour and the anthropologist Alfred Gell focused on the concept of agency. By agency, it means the ability to act, react and produce a particular effect on other entities, characteristics usually given to subjects as active bodies against objects and materials considered passive and subjected to intervention and control. For Latour to overcome the dualism, reality must be perceived as a world consisting entirely of hybridity, which is impossible to disaggregate or detach. As material entities have consequences on people and exist externally and independent from human presence, they can be addressed as agential, able to cause effects: human beings and non-humans are not entirely separated, but they have inherent causality relations.⁴⁵ For Gell, on the other hand, in his book *Art and Agency*, aesthetics and art are based on a theory of effects that subjects and their agency produces on other subjects. The

⁴⁴ J. Burnham, *Beyond Modern Sculpture*, New York: George Braziller, 1968, pp. 369-70.

⁴⁵ see B. Latour, *Pandora's Hope, An essay on the reality of science studies*. Cambridge: Harvard University Press, 1999; D. Miller, *Introduction*, cit., pp. 3, 11-14.

creative products, the artworks or any material expression of humans' thoughts, beliefs, concepts or feelings become a 'distributed mind' of not merely passive and isolated elements but able to influence back upon the minds and behaviour of subjects.⁴⁶

Similarly, Hegel in his work and system of thought suggested that there cannot be a fundamental separation between humanity and materiality.⁴⁷ Everything that humans arise from the material reflection upon themselves, and these materialisations and outcomes are considered to be part of the human identity and existence. Human beings do not exist isolated and segregated from the environment, and the objects and elements – natural or artificial – that they inhabit, but these elements are first created and produced, and then they interfere and influence the self-perception and presence of humans in the world. It is impossible to know the identity of humans and to become something concrete and defined without comprehending the 'material mirror', the historical world materially created through past cultures and civilisations to which present societies also interfere. However, humans alienate themselves from the created elements that constitute their environment through the process of 'objectification': the transformation of the relation with the objects perceived as secondary and subordinate. The perception that humanity exists prior to what it creates is mistaken, as the only thing that is prior is the specific process of objectification that gives form and generates the apparent total autonomy of subjects and objects.⁴⁸ This is what Miller calls the "humility of things", considered a powerful characteristic that determines the importance of objects, not because they are evident while physically constraining and enabling the subject, but because they can do so without conscious awareness. The less evident they are to humans, the more powerfully they can influence and determine human actions and behaviour, as they set the scene and normative attitudes without being perceived as challenging. The capacity of objects is precisely to fade out of focus, remaining peripheral and appearing inconsequential yet significantly determinant to human behaviour and identity.⁴⁹

⁴⁶ see A. Gell, *Art and Agency: An anthropological theory*, Oxford: Oxford University Press, 1998

⁴⁷ D. Miller, *Introduction*, cit., pp.8-9, G. Hegel, *Phenomenology of Spirit*, A. V. Miller (trans.), Oxford: Oxford University Press, 1977, 271, 415, 522, 540.

⁴⁸ D. Miller, *Introduction*, cit., p. 2.

⁴⁹ *Ibid.*, p. 5 – 6.

1.9. Postmodernism, Marxist Material and Immaterial Labour

The debate around materiality and immateriality was fuelled by the philosopher Jean-François Lyotard and the curator Thierry Chaput in their show *Les Immatériaux* at the Centre Pompidou, Paris, in 1985. The exhibition displayed artworks, things, and materials, such as plants or artificial skin, alongside the most advanced computer technology of the time, with images and texts. Physical substances, odours or sounds were fused with mass media, and the intention was to question traditional dualisms and to come up with languages and practices adequate to the new situation.⁵⁰ The specific case will be further discussed in the second chapter.

The Marxist theory is equally influential and relevant to the discourse as a philosophy that rests upon the basis of praxis and a foundation in the attitude towards materiality. According to the Marxist theory, humanity is viewed as the result of the human capacity to transform the material world through production, mirroring their creation. Capitalism is condemned for interrupting this cycle by which humans create objects with the role of understanding their identity and the meaning of their existence. In this context, the proletariat was reduced to a mere thing, stripped of its personhood and detached from humanity by the denial of its material self-definition and transformation. The recognition of the materiality of humans prevents its reification into purified objects absent of any independence and self-recognition. Precisely, in dialectical thought, proper materialism recognises the relation of culture with the process of material production that expresses humanity as an entire entity with its externalising energy. It is not the possession of objects that determines the well-being of humans, but the possibility of self-creation – materially – in an identity and society that is created through self-appropriation.⁵¹

In capitalistic production, there is a distinction between the objectified labour of the past-dead labour - the externalised and materialised outcome in the space as things - and the present-living labour that exists in time as a possibility or potential to become materialised in the future. The first is materially constituted, while the second

⁵⁰ P. Lange-Berndt, *Introduction*, cit., p. 14.

⁵¹ D. Miller, *Introduction*, cit., p. 2 and M. Rowlands, *A Materialist Approach to Materiality*, in *Materiality*, D. Miller, cit., pp. 72-77.

has yet to achieve any material form and composition.⁵² Under this context, we see a specific value given to materiality and immaterial potential— as it has not yet been materialised – for to the self-definition of human beings and their creations or productions.

The concept of immateriality can be related to the socio-political and economic Marxist concept of ‘immaterial labour’ that aims at the redefinition of labour in the age of the general intellect, where the production of value depends on a socialised labour power that exceeds the spaces and times traditionally designated as ‘work’. This tendency is identified as an expansion of the market for ‘information-rich’ commodities, overcoming the material object-centred production. Immaterial labour is also described as that effort that produces a relation that can transform subjectivity and works as a process punctuated by singular moments named events. Immaterial does not mean ‘less than material’ and is not something ‘new’, but it refers to what Gilles Deleuze already called ‘incorporeal’⁵³, where mind and body are two expressions of the same substance, the incorporeal refers to the plane of events and transformations that affect the mind but also interfere with the process of composition that affect the relations between bodies and their transformations.

The term immaterial is also employed regarding the Italian autonomous Marxist field as a response to the transformations undergone by labour in the post-Fordist or networked societies. By “immaterial”, it means the new form of social relations, communication networks and information systems, and it is also found as related to those new processes that socially cannot be measured quantitatively by money but reside in the value of relations affections, modes of expressions, and forms of life. According to Matteo Pasquinelli, professor of philosophy of science, this general immaterial intellect can be expressed in negative-totalitarian forms or positive-cooperative forms.⁵⁴ According to Marina Vishmidt, writer and critic occupied mainly

⁵² K. Marx, *Grundrisse*, M. Nicolaus (trans.), Harmondsworth: Penguin, 1973, 271-2; D. Rahtz, *Indifference of Material in the Work of Carl Andre and Robert Smithson*, in *Materiality*, cit., pp. 67-71; and T. Terranova, *Of Sense and Sensibility: Immaterial Labour in Open Systems*, in *Curating Immateriality*, cit., pp. 27 – 34.

⁵³ D. Smith, J. Protevi, and D. Voss, *Gilles Deleuze*, in *The Stanford Encyclopedia of Philosophy*, E. N. Zalta and U. Nodelman (eds.), Summer 2023 <https://plato.stanford.edu/archives/sum2023/entries/deleuze> [last access 20 July 2023].

⁵⁴ M. Pasquinelli, *Cultural Labour and Immaterial Machines*, in *Curating Immateriality*, cit., pp. 267-274

with questions around art, labour, and value when the products or artworks produced are less material and immaterial, it becomes more challenging to apply the laws of value characterised by past modes of production.⁵⁵ Nowadays, the site of value production in the art market has expanded to include what was once deemed peripheral to production – affects, social behaviour, and ability to process information – which refers to the abstract as axiomatic and based on information rather than objects anchoring the exchange relation. Immateriality signals the value from the object to the process, and the symbolic analysis can be perceived as a semiotic shift: an art object is delineated by its position in a network of economic relations, the art system, not the matter of thing it may constitute. Vishmidt continues talking about the apparent gap between qualities of ephemerality and immobility, be it ‘immaterial labour’ or the ‘de-materialisation of the art object’, also understood under the sign of capital and its metabolic rhythms. The term ‘abstract, subjective potential’ used by Marx can be pursued in art production and considered a conceptual thread linking transformation in production processes. These processes can allude to ‘immaterial labour’ or be covered by conceptual art and its contemporary iterations in digital, software, and ‘media’ art, but are always perceived as capitalisation of cognitive process and co-operation.⁵⁶

Additionally, according to the French philosopher Jacques Rancière, there is a profound connection between art and work, with this relationship being shaped by what he terms the "distribution of the sensible." Rancière's ideas are rooted in his book *The Politics of Aesthetics: The Distribution of the Sensible*, where he explores the role of art in shaping our perception of reality and how it influences our understanding of what is sensible and what is not. The "distribution of the sensible" refers to how societies organise and regulate what is perceptible, visible, and understandable, as well as what is deemed insensible, invisible, and beyond comprehension. Rancière argues that this distribution results from the political order and social hierarchies. In this context, art plays a pivotal role in challenging or

⁵⁵ M. Vishmidt, *Twilight of the Widgets: Notes on Immateriality and Value*, in *Curating Immateriality*, cit., pp. 39-40; and J. Krysa, *Introduction*, in *Curating Immateriality*, cit., p. 11; M. Lazzarato, 1996 “Immaterial Labour” in *Radical Thought in Italy: A Potential Politics*, P. Virno and M. Hardt (eds.) Minneapolis: University of Minnesota Press, p. 137.

⁵⁶M. Vishmidt, *Twilight of the Widgets*, cit., pp. 39-40.

reinforcing the established sensible distribution. It can either uphold or disrupt the status quo, making the invisible visible and giving voice to the silenced.

The connection between art and work lies in the idea of "mechanical activity" or "labour," which can be understood as the process of artistic creation itself. For Rancière, the act of creating art is not merely an individual expression or an isolated event. However, it is interwoven with the collective sensibility of a particular form of life or societal context and the very materials an artist chooses to work with and manipulate are influenced by this prevailing "distribution of the sensible." In this context, the materiality of art becomes significant. Art, as an expression of sensuous forming activity, involves the artist's engagement with physical materials and their transformation through creative labour. Their choices, techniques, and intentions intersect with the existing "distribution of the sensible," reflecting or challenging societal norms and hierarchies.⁵⁷

⁵⁷ D. Rahtz, *Indifference of Material in the Work of Carl Andre and Robert Smithson, 2012*, in *Materiality*, cit., pp. 67-71; Excerpts in L. Lippard, *Six Years*, cit., p. 47; J. Rancière. *The Politics of Aesthetics: The Distribution of the Sensible*, New York: Continuum, 2004, pp. 42-45

Chapter 2 – Cases of (im)material art and focuses on the material agency of art

This chapter examines pivotal cases of artists and artworks, exploring the concepts of materiality and immateriality. The goal is to illuminate the interplay between matter and materiality across diverse contexts and historical periods. The notion of matter consistently holds a significant position, challenging, motivating, or inspiring individuals, including artists, theorists, intellectuals, and scientists.

The exploration begins with the contributions of Dadaism and Surrealism, specifically how Marcel Duchamp and Man Ray altered perspectives, changing the relation between the artist, the materials and the art object.

The chapter then continues with the Truth to Materials, Russian Constructivism, and the Bauhaus movement, exploring their pragmatic approaches to materials, celebrating the value of craft-centered manufacturing processes, and reevaluating the differences between art, craft, and design creative processes.

A critical analysis follows, examining conceptual artists' dematerializing efforts, including examples such as Bill Bollinger, Bruce Nauman, Mel Bochner and Eva Hesse. They challenge traditional definitions of 'material objects' and materiality through unconventional experimentations, aiming to transcend previous limitations and reinforce the importance of material aspects.

The chapter then navigates the Media and Digital Arts, observing the evolving role of the creator and creation and providing analysis of Christiane Paul, Lev Manovic or Philip Galanter. Examples of Post-Digital Art and Generative Art, natural and artificial, are discussed to understand interactions between the human subject, machine, and the resulting, material or immaterial, outcomes. The chapter explores how materiality issues persist under neo-, hyper-, or meta-conditions.

2.1 Dadaist and Surrealist De- and Rematerialization: Duchamp, Man Ray

Dada, the nihilistic and antiaesthetic polycentric movement that flourished in Zürich, desired to reject traditional modes of artistic creation and worked in collage, photomontage, and found-object constructions. The Zürich group, for example, was concerned primarily with issues surrounding the war, while the New York-based group was focused on mocking the established art. Its nihilistic and antirationalistic critiques of society and its unrestrained attacks against all formal artistic conventions found no immediate inheritors, but the preoccupation with the bizarre, irrational, and fantastic bore fruit in the Surrealist movement, the Abstract Expressionists and Conceptual artists.⁵⁸ The Dada-like activities were engaged by artists as Marcel Duchamp and Man Ray, well known for revolutionising and challenging the idea of art object and shifting the paradigm of art from a productive process to a selective one. Duchamp was not defined anymore by its technique, skills and materials used but by its choices and intention. This challenging approach to traditional concepts and ideas brought him to compose his famous readymades, a term used in the United States to describe ordinary manufactured objects, distinguished from handmade ones, that the artist decided to select, modify, and exhibit as artworks. The interventions could be as simple as just repositioning, titling or signing them, and he would select pieces based on their ‘visual indifference’, as they were created for other useful purposes as opposed to the ‘useless’ works of art. By removing their functional identity and displaying them in a way and context that made them untouchable and admirable to the audience, found objects would become worthy of aesthetic consideration.⁵⁹

It was André Breton and Paul Éluard, the Surrealist leaders, that in their *Dictionnaire Abrégé du Surréalisme* (Fig. 1), defined a readymade as “an ordinary object raised to the dignity of a work of art by the mere choice of an artist”.⁶⁰ The liberation of the constraints of which objects and which properties are qualified to be called ‘art’ instigated a diversification of the ‘art objects’ in a way that by the time of the Surrealist Exhibition of Object of 1936, the range of sub-classifications included

⁵⁸ “Dada”, *britannica.com*, Encyclopedia Britannica; <https://www.britannica.com/art/Dada> [last access 20 December 2023].

⁵⁹ MoMA, “Marcel Duchamp”, *moma.org*; <https://www.moma.org/artists/1634> [last Access 20 July 2023]

⁶⁰ A. Breton and P. Eluard, *Dictionnaire Abrégé du Surréalisme*, Paris: Galerie des Beaux-Arts, 1938, p. 23

found objects (objets-trouvés), readymade objects, perturbed objects, mathematical objects, natural objects, interpreted natural objects, incorporated natural objects, Oceanic objects, American objects, and – of course, Surrealist objects.⁶¹ This variety and plurality of subgenres, instigated by the liberating force of the artists' intentions, will be seen later also in the fluid and hybrid cases of conceptual art, new media and digital arts.



Figure 1. André Breton and Paul Eluard, *Dictionnaire Abrégé du Surréalisme*, 1938. p. 23

2.1.1 Marcel Duchamp

Marcel Duchamp, as said, was considered part of the Dadaist ‘anti-art’ approach and would ‘create’ art not only from found objects but also from materials that were not usually considered to have an ‘art function’. The identity of these objects

⁶¹ Ch. Cramer and K. Grant, "Surrealist Exhibitions," in *Smarthistory.org*, 8 April 2020; <https://smarthistory.org/surrealist-exhibitions/> [last access 11 August 2023]

and materials would depend on their own ‘history’, indicated by physical traces and recognisable marks of the usability of the previous user consumer and the decision of the artist.⁶² Here, new attention is given to the material side of the potential art object, as its tangible, physical, decaying element is not ignored but is incorporated into the identity of the artwork: art becomes part of the terrestrial finite and mortal world ceasing to be only a symbol of eternal representation, adverse to decay and death. It makes for an ulterior dimension of human existence. This materiality, chosen and displayed in specific ways, would follow in the new dignified status of the previously considered meaningless and mundane object, challenging the traditional opposition between art and what was not considered art. Ordinary functional objects were not worth such distinguished and supporting contextualisation; they were not given special treatment, names or interpretations. The intentional designation and relocation, minimal alteration and consideration of new materials and characteristics built a new path for the artistic and creative process, revolutionary for the 20th-century art scene. Conceptual artists continued the Duchampian tradition of challenging the limits of art and the role of the artist by selecting even more complex objects and materials and by distancing even further the artist from the material object: the artwork, instead of being chosen, like for Duchamp, is reduced to the choice itself, intention, without any need of realisation; and the artist, instead of being the prime and unique author, is a witness, a facilitator, a mediator for the realisation of the artwork. The art ‘object’ becomes a process rather than a singular material outcome, and in some cases, the notion of agency becomes central, as the artwork itself achieves a new status, not anymore as just passive and inert, but capable of materialisation and realisation of the artist idea.⁶³

The appreciation of the ordinary and mundane and the liberation of which materials and objects could be artistic can be observed in Duchamp’s *Large Glass with Dust Motes* (Fig. 2) photographed by Man Ray in *Dust Breeding* (Fig. 3). The documentation was taken with a two-hour-long exposure to capture the complex

⁶² Tate, “Found Object”. [tate.org.uk](https://www.tate.org.uk); <https://www.tate.org.uk/art/art-terms/f/found-object> [last access 30 July 2023]

⁶³ E. Schellekens, *Conceptual Art*, in *The Stanford Encyclopedia of Philosophy* E. N. Zalta and U. Nodelman (eds.) Fall 2022; <https://plato.stanford.edu/archives/fall2022/entries/conceptual-art/> [last access 30 July 2023]

texture and diversity of materials that were modified by the dust atop the glass surface resulting in an image resembling of a desertic landscape.⁶⁴ *Large Glass* (Fig. 4) was the result of the intentional choice of the artist in leaving the piece collecting dust for a year. Duchamp ‘allowed’ dust to do the work, letting the particles’ act’ by gradually compiling on the surface and altering the piece into a work of art. In this case, the artist’s role was to be ‘purposeful inactive’ and let dust – amorphous and metamorphic - transform the work by shaping and reaching new forms on the original surface. Dust, associated with the lowest things, the broken, the discarded, the formless, is appreciated here as a reminder of the inert and passive present of the ignored. Duchamp later wiped the initial glass almost entirely clean, leaving the specific cone section covered with dust and affixing it permanently to the surface with diluted cement. Dust, that indifferent, unnoticed mark of dirt and decay, became an artistic medium worth of importance and name in the title of both Duchamp’s and Ray’s works.



Figure 2. Julian Wasser, *Marcel Duchamp standing with The Large Gass, Duchamp Retrospective*, Pasadena Art Museum, 1963, Vintage gelatine silver print, 22.9 x 34.3 cm. Source Artsy.

⁶⁴ The Met, “Dust Breeding”, [metmuseum.org](https://www.metmuseum.org/art/collection/search/271420); <https://www.metmuseum.org/art/collection/search/271420> [last access 30 July 2023].



Figure 3. Man Ray, *Dust Breeding*. 1920, printed ca. 1967, Gelatin silver print, 23.9 x 30.4 cm, The Metropolitan Museum of Art. © 2023 Artists Right Society (ARS), New York.



Figure 4. Richard Hamilton working on the reconstruction of Marcel Duchamp's *The Large Glass*, 1965-6.

2.1.2 Man Ray

In Man Ray, we can find another example of an artist's intention to define the artwork while challenging its material coherence and dependency on a concrete object, choosing to destroy and recreate it repeatedly times, and slightly changing its name. In

this case, we find a different kind of readymade. Here, the readymade is the artwork's identity that remains and keeps its continuity although being materialized, destroyed, deobjectified and re-objectified many times. The artwork's identity is detached from its material and object form and can maintain its existence through the years and alterations; the artist's choice goes beyond the physical materialization. *Object to be Destroyed* (*Objet à détruire*) is an artwork created initially in 1923 consisting of a combination of a metronome and a photograph of an eye attached to the swinging arm with a paperclip. The Qualité Excelsior company originally manufactured the metronome, an ordinary household mass-produced object, probably second-hand and slightly modified. He used it to regulate his painting rhythm and to create the illusion that there was an audience observing his work, but: "One day I did not accept the metronome's verdict, the silence was unbearable, and since I had called it, with a certain premonition, *Object of Destruction*, I smashed it to pieces".⁶⁵

In 1933, after many exhibition requests, he decided to remake the artwork, but this time incorporating the photograph of the eye of the photographer Lee Miller, who had left him and for what he wrote in a publication of the magazine *The Quarter*:

Legend, cut out the eye from a photograph of one who has been loved but is seen no more. Attach the eye to the pendulum of a metronome and regulate the weight to suit the tempo desired. Keep doing to the limit of endurance. With a hammer well-aimed, try to destroy the whole at a single blow.⁶⁶

However, the story of this object did not finish there. As it was lost during the German invasion of Paris in 1940, a replica was made in 1945 under the title *Lost Object* for an exhibition at the Julien Levy Gallery in New York but printed by mistake as *Last Object*. Against the idealistic request and against Ray's anticipation, the artwork was 'again' destroyed in 1957 by a group of students at the Galerie de l'Institut in Paris in a Dada exhibition. Finally, in 1958, Man Ray decided to remake the *Object to be Destroyed* again, but this time under the title *Indestructible Object* (Fig. 5), and in 1965, collaborating with the artist Daniel Spoerri, made an edition of one

⁶⁵ Tate, "Indestructible Object", *tate.org.uk*; <https://www.tate.org.uk/art/artworks/man-ray-indestructible-object-t07614> [last access 30 July 2023]; A. Schwarz, *Man Ray: The Rigour of Imagination*, London: Thames and Hudson, Inc., 1977, pp. 205-6, p. 218.

⁶⁶ M. Ray, *Object of Destruction*, in "This Quarter: Surrealist Number", vol. 5, No. 1, September 1932, p.55.

hundred *Indestructible Objects*, shifting ultimately the ephemeral and destructible initial end intended 20-30 years before.⁶⁷



Figure 5. Man Ray, *Indestructible Object*, 1923, remade 1933, editioned replica 1965, wooden metronome and photograph, black and white, on paper, unconfirmed 215 x 110 x 115 mm, Tate Collection, Man Ray Trust/ADAGP, Paris and DACS, London 2023

⁶⁷ Tate, "Indestructible Object, cit.

2.2 True and Crafted Materialisation

2.2.1 Tatlin

When discussing raising the status and value of objects initiated by Duchamp and the Surrealists, one should mention those who raised the value of materials. An early example related to religious icons and the assemblage is the Russian Constructivist Vladimir Tatlin. Central to the birth of the so-described ‘Constructivist laboratory’, with Russian cubo-futurist influences, Tatlin began creating objects poised between sculpture and architecture, deviating from the traditional and clearly defined forms of painting and sculpture. Initially, he was trained as an icon painter but soon abandoned the traditional pictorial commitment as he was interested in the materials he used: metal, glass, and wood. Wanting to bend art to modern purposes, he believed artists’ materials should be implemented following their capacities, exploring their best potential and applications.

This attitude is characteristic of the ethic of “truth to materials”, an approach running throughout the history of architecture and modern sculpture centred around the idea that materials should be shown appropriately: the most practical materials were selected with no intention of hiding them. Tatlin’s training as an icon painter probably taught him how unusual materials could be introduced in art making while carrying the value corresponding to the represented entities or ideas. However, his encounter with Picasso’s collages in 1913 in the studio of the artist in Paris was what opened the way to his assemblage works, the impact that is reflected in his mixed-media reliefs, composed of industrial materials such as glass, metal, plaster, and wood.

Tatlin experimented with tradition and modernity, reusing materials and contexts of icons and merging them with cubist and futurist techniques. *Corner Counter-Relief* (Fig. 6) is an abstract volumetric and spatial composition and continuation of the Nonobjectivity idea of Kazimir Malevich, where he abandoned the traditional ‘painting plane’ and brought nonobjective constructions into two inclined panes.⁶⁸ The materials show their abilities, representing opposed yet inseparable

⁶⁸ M. Taroutina, *Toward a New Icon: Kazimir Malevich, Vladimir Tatlin, and the Cult of Nonobjectivity*, in *The Icon and the Square*, M. Taroutina (ed.), University Park, Pennsylvania: The Pennsylvania State University Press, 2019, pp. 179 -

notions such as flexibility, rigidity, freedom and tension.⁶⁹ It evokes the dynamism of modernity, with intersecting overlapping lines moving in different directions and creating rhythm and tension, all while establishing a unique relationship to the surrounding environment: the artwork expands centrifugally. An important element in Tatlin's strategy is the dissociation of his Counter-reliefs from traditional painting and sculpture by erecting them in the corner of a room that showed his traditional iconographic education, as these were the places where religious icons would be placed – and still art - traditionally displayed in Russian and Orthodox households.⁷⁰



Fig. 6. Vladimir Tatlin, *Corner Counter-Relief (with Cables)*, 1914, copper, wood. 71 x 118. St. Petersburg, The State Russian Museum

On the line of ‘truth to materials’, the importance and the attention on the relation to materials was stated by the writer, philosopher and art critic, John Ruskin

⁶⁹ The Virtual Russian Museum, “Corner Counter-Relief”, [rusemuseumvrm.ru, https://rusemuseumvrm.ru/data/collections/sculpture/20/tatlin_ve_uglovoy_kontrelief_1914](https://rusemuseumvrm.ru/data/collections/sculpture/20/tatlin_ve_uglovoy_kontrelief_1914) [last access 20 October 2023]

⁷⁰ The Art Story, “Vladimir Tatlin”, [theartstory.org, https://www.theartstory.org/artist/tatlin-vladimir/](https://www.theartstory.org/artist/tatlin-vladimir/) [last Access 20 October]

who in *Stones of Venice* made an imperative for artists and craftspeople to ‘honour’ their materials:

The workman has not done his duty, and is not working on safe principles, unless he [...] honours the materials with which he is working [...] If he is working in marble, he should insist upon and exhibit its transparency and solidity; if in iron, its strength and tenacity; if in gold, its ductility [...].⁷¹

This insistence on the honour, truth and honesty of materials arose in the 19th century as a reaction to the proliferation of low-quality, mass-produced manufactured goods. Duchamp chose to incorporate them into the artistic realm, making the mundane and simple a valuable artistic element. The Bauhaus was another significant case where Ruskin's request was almost met, as they focused on the essence and the collaboration between disciplines, enriching the whole realm of creativity and creation. Ruskin's effort, echoing the voice of the architect and art critic Gottfried Semper (1803 -1879), focused on calling the falsified use of materials “illegitimate and debased” and stressed the importance of returning to the honest use of materials always constant in the realm of the crafts..⁷²

2.2.2 The Bauhaus

For the case of the Bauhaus, part of the curriculum and body of docents was dedicated to the approach of carefully designed objects by artists purposely trained to identify the “essence” of modernity: the “total work of art” of modernity was controlled, following the ideology of the composer Richard Wagner's *Gesamtkunstwerk* (total artwork) and committing to crafting all details with no space for chance. The agency of the artist was ostensibly yet unsuccessfully rejected at the Bauhaus; the agency of the object was deliberate and fundamental: in a world of few possessions and maximum mobility, each object had to be fully effective.⁷³ In Gell terms, the Bauhaus intended objects as active agents, able to engage the acquiescence

⁷¹ J. Ruskin, *The Stones of Venice, Volume II*, New York, Chicago: National Library Association 2009, pp. 395

⁷² Ibid.

⁷³ A. Payne, *The Agency of Objects: From Semper to the Bauhaus and Beyond*, in *Dust and Data. Traces of the Bauhaus Across 100 Years*, Ines Weizman (ed.), Leipzig: Spector Books, 2019, pp. 24-41 here pp. 36-37

of individuals among the networks of intentionalities - although the Bauhaus insisted on this object-material agency - by detaching it from the maker and by creating a solid and functional permeating production structure, it ended up imposing a strong and supremely controlling maker in the background.⁷⁴

The contact with materials was a foundational principle for the Bauhaus education. In their Preliminary Course, Johannes Itten - replaced later by László Moholy-Nagy - and Josef Albers placed sensorial encounters in the centre of their educational models and developed exercises designed to challenge students with the sensitive handling of raw materials such as wood, glass, fibre, paper, and metal resembling, in structure and methodology, the experiences of Tatlin. For the professors of the Bauhaus, it was crucial to achieve a deep understanding of the behaviour of these materials, although they made a distinction between ‘matter’ and ‘material’. Matter studies focused on exploring the surface texture of various materials by combinations. In contrast, material studies were restricted to a single material in order to discover its essence.⁷⁵ Anni Albers (Fig. 9 and 10), a leading figure of the Bauhaus and pioneer of the modernist textile and abstract art, made significant innovations in the fields of functional materials and strongly advocated the importance of the direct relation and understanding of materiality for the human creators and artisans. For her, civilization had estranged men from materials and their original form, and due to the introduction of machinery and engineered production, the individual was rarely involved anymore in the processes of shaping these elements, sometimes getting to know only the finished product.⁷⁶ In “Work with Material” of 1944 she was writing:

[...] We must come down to earth from the cloud where we live in vagueness and experience the most real thing there is: material. [...] If we want to get from materials the sense of directness, the adventure of being close to the stuff the world is made of, we have to go back to the material itself, to its original state, and from there on partake in its stages of change. [...] Material, unformed or unshaped matter, is the field where authority blocks independent experimentation less than in many other fields, and for this reason it seems well fitted to become the training ground for invention and free speculation. [...]

⁷⁴ Ibid. p 38-39

⁷⁵ The Getty Research Institute, “Matter and Materials”, *Getty.edu*, https://www.getty.edu/research/exhibitions_events/exhibitions/bauhaus/new_artist/matter_materials/ [last access 28 September 2023]

⁷⁶ A. Albers, *Work with Material*, in “College Art Journal”, vol. 3, no. 2, 1944, pp. 52-3; <https://doi.org/10.2307/772462> [last access 26 October 2023]

Crafts, understood as conventions of treating materials, introduce another factor: traditions of operation which embody set laws. [...] ⁷⁷

Here, We see parallelism with the observations made by Semper or by the philosopher and critical theorist Walter Benjamin when the latter said: “Technology of reproduction detaches the reproduced object from the sphere of tradition. By replicating the work many times over, it substitutes a mass existence for a unique existence.” ⁷⁸.



Figure 9. Anni Albers, *Ancient Writing*. 1936, Rayon, linen, cotton and jute, 59 x 43 3/4 in. (149.9 x 111.1 cm), Smithsonian American Art Museum, Josef and Anni Albers Foundation.

Figure 10, Anni Albers, Photo from Josef and Anni Albers Foundation.

The school of Bauhaus tried to apply this ‘return to the material and the craft’ and taught ‘truth to materials’ as a central principle, believing that materials should be used in the most honest way possible, not modifying their nature and exposing, rather than hiding, even the supportive materials. The Bauhaus officially opened in April 1919, setting forth the vision of the architect Walter Gropius (Fig.11) of a utopian craft

⁷⁷ Ibid.

⁷⁸ W. Benjamin, *The Work of Art in the Age of Its Technological Reproducibility*, in *Walter Benjamin: Selected Writings*, H. Eiland and M. W. Hennings (eds.), vol. 4, 1938–1940, Cambridge, MA: Harvard University Press, Belknap Press, 2002, p. 254.

association and a new model of education that would combine architecture, sculpture, and painting into a single creative expression. The curriculum was craft-based; masters and students combined the know-how of traditional craftspeople with contemporary machine processes to create modernist pieces. Students would attend specialized workshops in metalworking, cabinetmaking, weaving, pottery, typography, and wall painting so they would become capable of creating useful and beautiful objects appropriate to the new modern system of living.⁷⁹

In the words of Gropius:

*Architects, sculptors, painters, we all must return to the crafts! For there is no such thing as ‘art by profession.’ There is no essential difference between the artist and the craftsman. The artist is an exalted craftsman. Merciful heaven, in rare moments of illumination beyond man’s will, may allow art to unconsciously blossom from the work of his hand, but the foundations of craft are indispensable to every artist. This is the original source of creative design.*⁸⁰ (Fig. 12)

Although in 1923, Gropius would have to reposition the goals of the Bauhaus due to the impractical initial aim, the emphasis was sustained on craft could be seen in the popular cabinetmaking workshop under the direction of the architect and designer Marcel Breuer, who was seeking the dematerialization of conventional forms to their minimal – material – existence; the textile workshop, under the direction of the textile artist Gunta Stölzl, created abstract textiles, encouraging experimentation with unorthodox materials, including cellophane, fibreglass, and metal; and the metalworking workshop, headed by Moholy-Nagy after Paul Klee, the most successful in developing prototypes for mass production.⁸¹

⁷⁹ A. Griffith Winton, *The Bauhaus, 1919–1933*, in *Heilbrunn Timeline of Art History*. New York: The Metropolitan Museum of Art, 2000; http://www.metmuseum.org/toah/hd/bauh/hd_bauh.htm [last access 28 September 2023].

⁸⁰ W. Gropius, *Programm des Staatlichen Bauhauses in Weimar*, trans. Katherine Rochester (Weimar: Staatliche Bauhaus, April 1919), n.p. (German translation: *Bau der Zukunft*) in The Getty Research Institute, “History of the Bauhaus”, [get.edu, https://www.getty.edu/research/exhibitions_events/exhibitions/bauhaus/new_artist/history/](https://www.getty.edu/research/exhibitions_events/exhibitions/bauhaus/new_artist/history/); and in Josef & Anni Albers Foundation, <https://www.albersfoundation.org/alberses/biography> [last access 28 September 2023].

⁸¹ A. Griffith Winton, “The Bauhaus, 1919–1933.” cit.

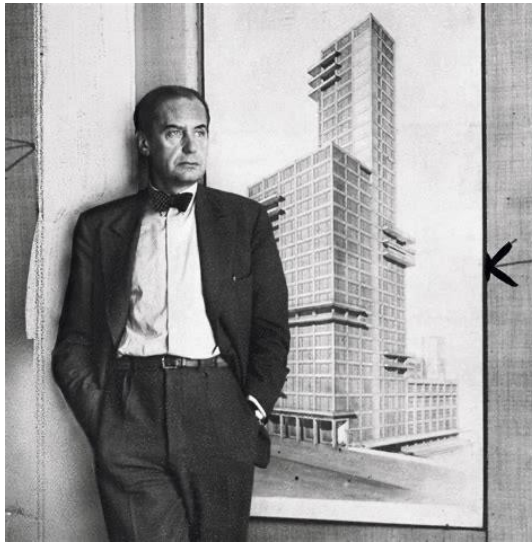


Figure 11. Walter Gropius, AP (Bauhaus Archiv Berlin, Walter Gropius VEGAP)

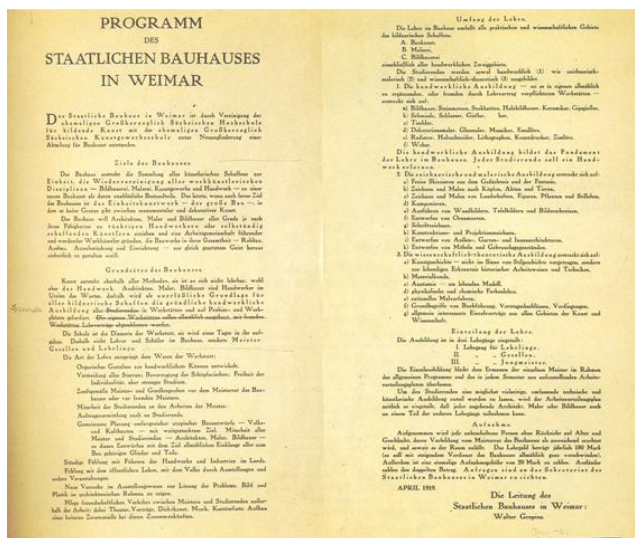


Figure 12. Manifesto and Program of the Bauhaus, April 1919. Bauhaus Archive Berlin. Photo: Markus Hawlik.

Alina Payne, Professor of History of Art and Architecture at Harvard University, very interestingly connects in her paper “The Agency of Objects: From Semper to the Bauhaus and Beyond” the Bauhaus concern on materiality and craftsmanship to their predecessors. At the time of the Great Exhibition of 1851 (Fig. 13) in London, Semper sensed an emerging crisis of ‘big data’, the excess of visual information of objects and new potential relationships between them. In his post-1851 writings, he questioned and critically reflected on the issues arising in the new era of

the Industrial Revolution and the new horizons of diversity of the more globalised world, and fabrication and fabricator became his two primary coordinates of analysis. The theme of the Great Exhibition was “Manufacturing”, understood as the focus on the object and the machinery required for its fabrication, the new and old materials, and the possible outcomes that could be achieved with their use and the new industrial processes. This is precisely the source of alienation and estrangement detected later by Anni Albers, for which Semper also showcased the importance of the return to crafting. Concerned about the disconnection between form and making, he stressed the fundamental role of the maker and the human body wielding tools, working materials and representing itself, and recognised the viewer detached from the crafted object and estranged maker as critical participants and fundamental links between the object and the viewer/user. Like the Bauhaus project of rethinking the very basis of artistic creation, Semper confronted four issues with profound nerve endings: materiality, agency, migration or mobility of objects, and the vast amount of data.⁸²

After the time of the Great Exhibition of 1851 and Semper’s preoccupations, the 1910s and 1920s correspondingly saw an explosion of objects as subjects, sites of intense exploration foregrounded in art, architecture and film, for Cubists, Dadaists, in the context of the Bauhaus, the Soviet revolutionary art, and magazines such as *Vesch/Object/Gegenstand* (thing/object) and *G*. The Bauhaus, then, experienced as well the contradictions embedded in Semper’s model which posited two levels of agency: the maker’s (the maker’s hand) and the object’s (affecting both the maker and the viewer). The reciprocity of this agency was considered an inherent problem, as the constant back-and-forth between the making and the increasingly complex materials was assumed to be an evolutionary process. Along with the questions of Semper, the dogmatic aspects, the top-down mode, the enmities, and exclusions common to the Bauhaus ecosystem were manifestations of concerns, insecurity, and fear of instability in the broader social, economic, politic, and industrial context, common also to other professionals and practitioners.⁸³

The Bauhaus became the site of the collision of two utopian impulses: the impulse to see the object as an economic embodiment or commodity and the impulse

⁸² A. Payne, *The Agency of Objects*, cit., pp. 25-27.

⁸³ *Ibid.*, p. 34.

to preserve artistic (the fabricator's) agency in a world of mass production and standardization.⁸⁴ All this could be seen in the failure of the project of Gropius in merging art and technology, as researcher and architecture theorist Robin Schuldenfrei stresses the fact that the Bauhaus did not manage to reinvent products, or to massively produced accessible and achievable craft-made essential objects for all, but it remained committed to re-designing the types of representative objects that the bourgeoisie would be enticed to buy, only introducing new modern forms and only occasionally new materials.⁸⁵ (Fig. 14) As their goods were and remained prohibitively expensive, they were never consumed neither accessible to the masses. In doing so, Schuldenfrei comments that the Bauhaus appealed to the authority (or agency) of traditional objects retained through their relationship to a tradition and the context of established social rituals, as described by Benjamin.



Figure 13. J. McNeven (artist), William Simpson (lithographer), The transept from the Grand Entrance, Souvenir of the Great Exhibition. 1851, Print, Colour lithograph, 31.5cm x 46.9cm, United Kingdom, Victoria & Albert Collection

⁸⁴ Ibid., p. 36

⁸⁵ R. Schuldenfrei, *The Irreproducibility of the Bauhaus Object*, in *Bauhaus Construct. Fashioning Identity, Discourse and Modernism*, eds. J. Saletnik and R. Schuldenfrei, New York – London: Routledge, 2009, pp. 37-60, here p. 42.



Figure 14. Marianne Brandt, *Teapot*. 1924, Nickel silver and ebony, 17.8 x 22.8 cm, 8.3cm, 5.4 x 8 cm, New York, USA, Bauhaus Metal Workshop, Germany (Manufacturer), Phyllis B. Lambert Fund, MoMA Collection.

The critique of *Schuldenfrei* concludes with a reminder of the initial goal of Gropius, which was to emphasise both art and technology and their relation. The realistic outcome of the utopic idea of a double agency would have been the production of expensive non-mass objects understood - in identity and status - closer to the unique and authentic works of art. Safeguarding the autonomous authority, the tradition and resistance to being taken up and appropriated by the masses made these objects art status. The factory mass reproduction would have succeeded only through losing aura, authority, and the partly reciprocal agency creator-object. The aspiration of the Bauhaus to produce good design for the masses brought the school to an alignment with industrial production, but it resulted in the individual Bauhaus objects in works of art.⁸⁶

Here, we find an additional implication of the liberation of the art forms from their traditional references and elements. This time, we see how reconsidering the importance and role of matter and materials blurred the limits between the fine and applied arts, becoming a bridge between the functionality and modularity familiar to architecture and design and becoming part of the possible constituents of the arts. This can be considered a further step towards the liberating path initiated by Dadaists and Duchamp, who incorporated functional and applied materials into the artistic mediums.

⁸⁶ *Schuldenfrei*, *The Irreproducibility of the Bauhaus Object*, cit. pp. 53-54.

2.3 Conceptual Dematerialization

A crucial moment in the dissolution of the idea and perception of materiality and the importance attributed to objects was Conceptual Art. This movement was part of the tendency to abandon the unique, permanent, and profitable luxury item of art, the 'material things' considered art, that was replaced by the immaterial, the inconsistent, the mouldable or the potentially externalised, or not materialised and embodied in the artist or the audience.

In the free-for-all era of Conceptual art of democratic implications, unfettered by the object status and proliferating artistic imaginations, some artists were concerned with intellectual distinctions of representation and relations. In contrast, others mainly relied on the object as a receptacle of meaning and expression.

Lippard wrote on *Six Years*:

The Conceptual mediums had an inexpensive, ephemeral, unintimidating character (video, performance, photography, narrative, text, actions) that encouraged also women to participate, to move through this crack in the art world's walls. With the inclusion and introduction of young women artists, with Conceptual art also new subjects and approaches appeared: narrative, role-playing, guise and disguise, body and beauty issues; a focus on fragmentation, interrelationships, autobiography, performance, daily life and feminist politics. Examples: Lee Lozano, Yoko Ono, Martha Wilson, Christine Kozlov, Yvonne Rainer, Eleanor Antin, Adrian Piper.⁸⁷

The emphasis was on the idea, the concept and the processes around, for and about art. Influenced by the increment of new media of communication and transmission of information, the traditional established object became obsolete, insufficient to contain the vast potential range of information that could be expressed through the artistic medium. Subjects and concerns started to be better represented by written proposals, photographs, documents, maps, film and video, or the artists' bodies. As with everything surrounding it, the medium was no longer limited to the static, secure and finite solidity but was seen as emergent, ephemeral, anti-formal and unpredictable. The result was a kind of art that challenged the attention and demanded the viewer's participation, seeking alternatives regarding the space and context of the art galleries and the whole art system.

⁸⁷ L. Lippard, *Introduction*, in *Six Years*, cit., pp. x – xii.

Already in the late 1950s and early 1960s, Minimalism, context-conscious, non-objectual and post-Duchampian, released the idea of materiality with the elimination and opposition to the traditional connotations of the object, focusing on knowledge, mathematics, logic and essential unmanipulated materials. In the late 1960s and early 1970s, reacting to the industrialised geometry and the bulk chosen by Minimal Art, some artists liberated their works from structures, the idea of permanence or any boundaries, and experimented with temporary ‘scatter pieces’, indoors, outdoors, non-rigid and ephemeral substances such as sawdust, loose pigments, flour, snow or natural elements.⁸⁸

Other artists were more concerned with focusing on how materials determined the form and outcome of their work, instead of imposed and predefined and logical systems, through the aggrupation of non-fine or ephemeral materials such as time, space, nonvisual systems, situations, unrecorded experiences or unspoken ideas.⁸⁹ Here will be presented examples of artworks from different conceptual artists that show the new attention given to materiality, for example, in the qualities of ordinary and mundane things, the intermediary, dematerialised, but not completely material or immaterial, status and condition of dematerialising processes, or the immaterialised result of the artistic process.

2.3.1 Ordinary Materiality: Donald Burgy, Mel Bochner, Jannis Kounellis

An exciting approach to dematerialising art, or ‘artification’ of ordinary materials, is the case of artists choosing to work, study, document, and engage with simple materials and things and create artistic value in their compositions from their material characteristics. For example, Donald Burgy works with descriptive scientific documentation of selected objects. Precisely, his *Rock Series #1-5* (Fig. 15) of 1968 consists of maps, charts, and photographs portraying the mineral content, crystal structure, geological history and immediate surroundings of five rocks he found and as he clearly describes in September 1968, on *Rock #5*:

⁸⁸ N. Stangos, *Conceptual Art*, in *Concepts of Modern Art*, N. Stangos, London: Thames & Hudson, 1994, pp. 258-59.

⁸⁹ L. Lippard, *Introduction*, cit. p. 5.

Documentation of selected physical aspects of a rock; its location in, and its conditions of, time and space”, including, among others “daily weather map and charts (on several resolution levels, continental, U.S.A., local surface observations); electro beam x-ray photographs; electron microscopy; location photographs and maps (on several resolution levels – satellites, airplanes, walking); mass spectrographic analysis; petrographic analysis and photographs; weight and density data, etc.⁹⁰

Documentation is used to extend the identity of the subject beyond its immediate appearance, ‘acculturating’ it and bringing it into a framework of communicable knowledge, and so becoming a cultural and artistic object.⁹¹

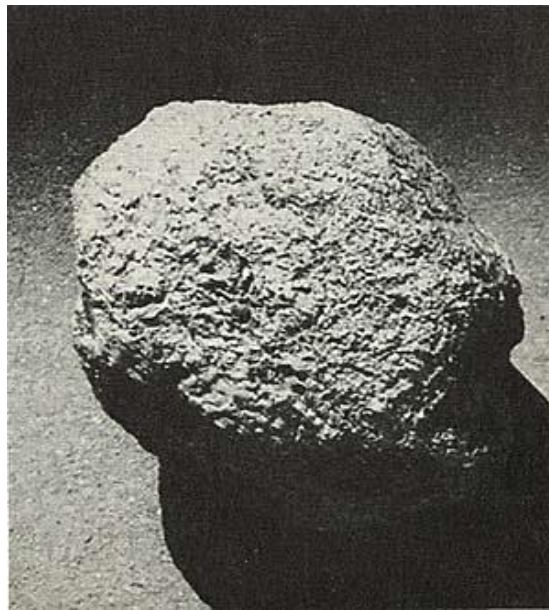


Figure 15. Donald Burgy, From *Rock Series #1*. 1968, source Lucy Lippard

The case of Mel Bochner is another subtle and discrete, almost minimal, ‘contaminated’ and ‘humble’ approach towards materiality. In *Axiom of Indifference* (1973) (Fig. 16), various counting systems of philosophical propositions were illustrated by combining modest and ordinary materials like pebbles, pennies, masking tape, or chalk, with linguistic and numeric elements by hand. Again, materiality, even if combined and used to express mental and superior counting

⁹⁰ L. Lippard, *Six Years*, cit. p. 51.

⁹¹ R. J. Horvitz, *Donald Burgy: Participating in the Universe*, in “Artforum”, Vol. 13, No. 1, September 1974; <https://www.artforum.com/print/197407/donald-burgy-participating-in-the-universe-37348> [last access 28 September 2023].

systems and propositions, is not entirely extradited or only transformed in intentions, concepts or printed words. Bochner's materials included paper, masking tape, chalk, and matches, but rather than referencing the humble status of Arte Povera's materials, he was more focused on the feeling of vulnerability of such elements (Fig. 17 and 18). The art historian Mark Godfrey states: "Bochner never denied the materiality of his works, and this is another reason why he resisted labels like 'dematerialisation' or 'conceptual art'. It was precisely the materiality of the work that counted [...], but the materials would be expedient and provisional".⁹² Godfrey continues marking how Bochner's attention was addressing the provisional, fragile materiality that embodied doubt and hesitancy in making anything permanent and monumental; an approach that intertwined the acknowledgement of a post-Holocaust cultural and epistemological landscape where any certainty was shattered.⁹³

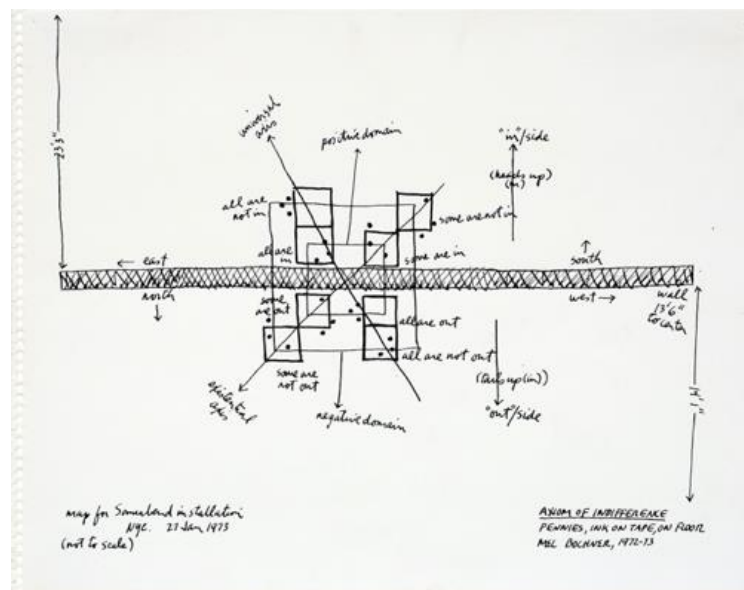


Figure 17. Mel Bochner, *Axiom of Indifference*. 1973, Ink on paper, 11 x 14 in, Mel Bochner Archive.

⁹² R. Khazam, "Understanding Material vs. Immaterial in Conceptual and Digital Art", *cit.* pp. 30

⁹³ Mark Godfrey, *Abstraction and the Holocaust*, New Haven: Yale University Press, 2007; from Rahma Khazam: Understanding Material vs. Immaterial in Conceptual and Digital Art, *cit.*, pp. 30

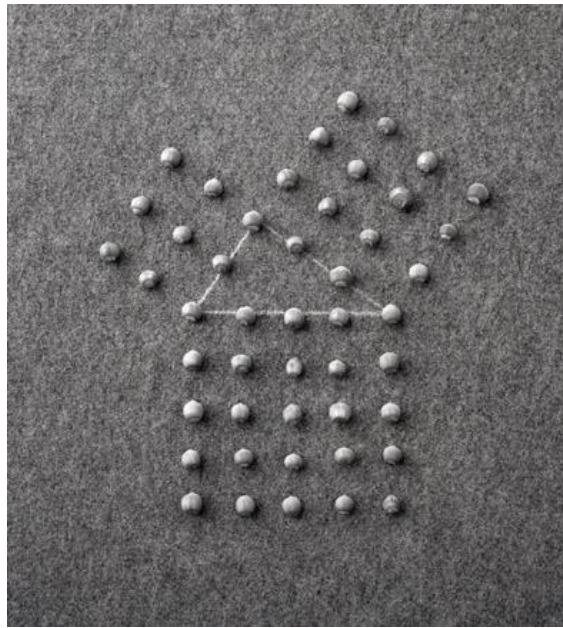


Figure 18. Mel Bochner, *Meditation on the Theorem of Pythagoras*. 1972, Hazelnuts and chalk on floor, 17 x 16 in, Mel Bochner Archive.

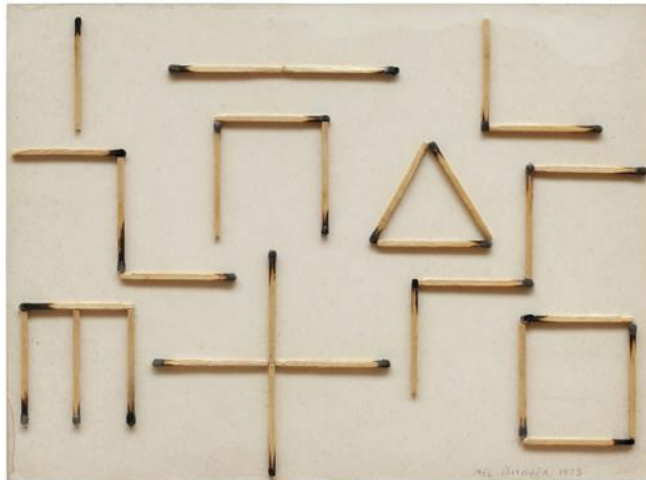


Figure 19. Mel Bochner, *Counting Transitive (1-4)*. 1973, Burnt matchsticks glued to board, 9 x 12.125 in. Mel Bochner Archive.

The just-mentioned Arte Povera ('poor art') – a term coined by the curator Germano Celant - of the late 1960s in Turin, Italy, followed the Duchampian and 'truth to material' line and focused on the creation of sculptural languages through the use of humble, non-previous and impermanent materials such as soil, rags or twigs, going against and disrupting the idea of commodification of art. Apart from materials, they

also often repurposed found objects, supporting the return to simple objects and messages, giving importance to the traces of nature and industry in the material objects, and bringing the ‘ethereal’ perception of art to the ‘meaningless’ and the ‘every day’.⁹⁴ The movement reflected the rich, intricate ways of traditional ‘high’ art and sought to embrace the natural world and direct experience.

Jannis Kounellis, for example, was known for his use of lowly, earthly materials such as coal, jute bags, steel, piles of stones, and recycled materials, such as bed frames, doorways, and windows, but also using life animals, questioning the traditionally pristine, sterile environments of the galleries and transforming art into a breathing entity – terrestrial (Fig. 20).⁹⁵ He created a new ‘vocabulary of materials’, incorporating ‘dirty’ and ‘real life’ elements and persisting in the revolutionizing nature of the movement, he left almost all the pieces untitled, opening and liberating also the strict interpretation and the ‘sacred’ meaning that usually accompany and constrict the works of art.⁹⁶



Figure 20. Jannis Kounellis, *No Title, coal and acrylics*, Museum of Contemporary Art, Bourdeaux 1990

⁹⁴ L. Lippard, *Six Years*, cit., pp. 30; MoMA, “Arte Povera”, *moma.org*, <https://www.moma.org/collection/terms/arte-povera> [last access 22 October 2023].

⁹⁵ Guggenheim Bilbao, “Jannis Kounellis”, *Guggenheim-bilbao.eus*, <https://www.guggenheim-bilbao.eus/en/the-collection/artists/jannis-kounellis> [last access 22 October 2023].

⁹⁶ H. Stoliás, *Arte Povera artist Jannis Kounellis has died*, aged 80, in “The Art Newspaper”, 17 February 2017, <https://www.theartnewspaper.com/2017/02/17/arte-povera-artist-jannis-kounellis-has-died-aged-80> [last access 02 October 2023]; Guggenheim Museum, “Jannis Kounellis Biography”, *guggenheimcollection.org*, https://web.archive.org/web/20071011071342/http://www.guggenheimcollection.org/site/artist_bio_80.html [last access 02 October 2023].

2.3.2 Industrial Dematerialisation. Eva Hesse, Lynda Benglis

Focusing on a new kind of materiality and its characteristics, the anti-form sculptors Eva Hesse and Lynda Benglis also embraced change and organic processes as part of their artistic methods. They worked from the ‘material-centred’ principle that form should derive from the inherent qualities of the chosen material, usually creating minimal sculptures. This differed from the earlier minimalists who imposed order and structure on their materials, confining them to fixed geometrical shapes.⁹⁷

Professionally trained as an abstract painter and commercial designer, Eva Hesse regarded painting not as a two-dimensional surface but as an object on the wall to be extended into the space (similar to Tatlin’s approach). She mimicked the organic vulnerability of the human body as a tentative or ephemeral life of its own, its material density enlivened by some invisible momentum. Her works can be defined as poetic, three-dimensional montages, employing industrial latex as a medium due to its immediacy, which, once hardened, she hung on the wall and ceiling using wires. She handled this material like house paint, brushing layer upon layer, with irregular, ragged at the edges like deckled paper.

Her work *Contingent* (Fig. 21) from 1969 is a clear example of her employment of multiple forms of similar shapes organized together in grids or clusters, retaining forms of minimalism and modularity but using unconventional materials. Hesse was among the first artists of the 1960s to experiment with the fluid contours of the organic world of nature. Some observers see references to the female body, other expressions of wit, whimsy, and a sense of spontaneous invention with casually found or ‘everyday’ objects. In *Repetition Nineteen III* (Fig. 22), one can see cylindrical structures of fibreglass, another industrial material that Hesse, like other conceptual artists, experimented with in her later work. The process of repetition and subtle variation speaks to her contact with Minimalism, but she imbues each form with a hand-sculpted individuality.⁹⁸

⁹⁷ Tate, “Anti-Form”, *tate.org*, <https://www.tate.org.uk/art/art-terms/a/anti-form> [last access 14 October 2023].

⁹⁸ N. Blumberg, "Eva Hesse". *britannica.com*, Encyclopedia Britannica, 25 May. 2023; <https://www.britannica.com/biography/Eva-Hesse> [last access 14 October 2023].



Figure 21. *Contingent*, 1969. The National Gallery of Australia. The Estate of Eva Hesse, Courtesy Hauser & Wirth Purchased 1973.



Figure 22. Eva Hesse, *Repetition Nineteen III*, 1968, sculptural units made of fiberglass and polyester resin. Collection of the Museum of Modern Art, New York.

On the other side, Lynda Benglis (Fig. 23) invented a new format that resembled paintings but occupied the space of sculpture. After moving from Louisiana to New York in 1964 and training as a painter in the Abstract Expressionist vein, where she admired the gestural style, she experimented with new, more extravagant ends, employing materials in acid hues and recording the behaviour of fluid substances in action. She extended Pollock's famous drips technique into three dimensions, spilling liquid rubber directly on the floor and experimenting with wax. Her works retain movement, a 'frozen' state of fluidity challenging gravity, time and materiality. (Fig. 24)



Figure 23. Lynda Benglis, Installation view, Courtesy NEON from Cycladic Museum Exhibition. ©Natalia Tsoukala.



Figure 24. Installation view – *Come*, 1969-1974 Bronze Edition 2 of 3 35.6 x 81.3 x 121.9 cm, Private Collection, London *Swiggle II*, 1978 Brass wire mesh, cotton bunting, plaster gesso, oil based size, gold leaf 27.9 x 15.2 x 6.9 cm Private Collection, *Gold Luster*, 1981 Glazed ceramic 1 of 1 HC 73.6 x 50.8 x 11.4 cm Private Collection ©Panos Kokkinias Courtesy NEON

2.3.3 Broken and Dusty Materiality: Bill Bollinger, Douglas Huebler, Bruce Nauman, Barry Le Va

In 1969, Bill Bollinger composed *Graphite Piece*⁹⁹ (Fig. 25) at the Bykert Gallery in New York, also recorded by Lippard in her *Six Years* accompanying the article written by Rosenstein on Bollinger. Also, in 2012, for the exhibition *Bill Bollinger: The Retrospective* at the SculptureCenter in New York¹⁰⁰, an installation of graphite dust spread across the floor as if it were the horizontal slant of a sea meeting the sky. The footprints and powdery splatters were left intentionally to imprint the human traces of the creator, symbolizing the power of dust in becoming proof of human presence. In this case, Bollinger delineates time, space and existence in a context of radical abstraction and accentuates introspection and contemplation with this disintegrated article's state of matter.



Figure 25. Bill Bollinger, Dust Concept Installation, 1969, The end of the object, Skykert Gallery

In a similar line, Douglas Huebler, in 1969, photographed the disintegration of a rectangle of dust placed in front of the Seth Siegelaub Gallery - following the steps of Man Ray - in this case, making the documentation the oeuvre itself while making the ephemeral, minute, infinitesimal and *almost* inexistent and immaterial of dust the subject.

⁹⁹ L. Lippard, *Six Years*, cit. p. 116.

¹⁰⁰ Sculpture Center, *Bill Bollinger: The Retrospective*, Apr. 22 – Jul. 30, 2012, in [sculpture-center.org](https://www.sculpture-center.org/exhibitions/3380/the-retrospective); <https://www.sculpture-center.org/exhibitions/3380/the-retrospective> [last access 18 October 2023].

In the catalogue of the exhibition, he states:

The world is full of objects, more or less interesting; I do not wish to add any more.

I prefer, simply, to state the existence of things in terms of time and/or place.

More specifically, the work concerns itself with things whose interrelationship is beyond direct perceptual experience.¹⁰¹

Also Bruce Nauman did his documentation on the oeuvre itself. Although known for his performative and documentative pieces, in 1966, he created and presented *Flour Arrangements* (Fig. 26 and 27), where he decided to focus on a specific set in his emptied studio, creating sculptures out of flour every day for a month. Surprisingly, the photos taken for documentation purposes of the process and the work results became the centre of attention. Their strange and alien effect, the slight out-of-focus and greenish hue, the enigmatic motifs and closed-up zooms transformed these simple documenting images into something beyond.¹⁰² Reminding the aesthetics of Duchamp and Ray's dust pieces, they depict new interest forms and power that other 'kinds' of materiality, able to challenge both the artist and the viewer



Figure 26. *Flour Arrangements* (detail), 1966, colour photograph.

¹⁰¹ L. Lippard, *Six Years*, cit. p. 74.

¹⁰² C. Sauer, *Bruce Nauman. Flour Arrangements, 1966, Rausmüller Insights*, in *rausmueller-insights.org*, <https://rausmueller-insights.org/en/bruce-nauman-flour-arrangements-1966/>



Figure 27. Bruce Nauman, *Flour Arrangements* (detail), 1966, colour photograph.

The choice of complete dedication and almost ritualistic practice of focusing on creating an ephemeral sculpture every day with flour for a whole month, encompassing the idea of futile existence only lasting one day, reminds the weeks usually required traditionally for the building of the Hinduist and Buddhist mandalas and the acceptance and inclusion of the ephemerality of the pieces. The destruction of sand mandalas is ceremonial, while for Nauman, it is artistically symbolic as sculptural practice.

Becoming a discrete pattern among conceptualists, another curated and more intentional form of dust became the chosen medium also for Barry Le Va. In the 1960s he made floor-based installations of powder dispersals.¹⁰³ Based on Omitted Section of a Section Omitted (1969) first presented at the Whitney Museum of American Art's Anti-Illusion: Procedures/Materials exhibition in 1969, and Le Va's series of Blown Line chalk sculptures (1969) (Fig. 28).¹⁰⁴ In Le Va dispersals challenge the notion of sculpture by including new and abstract states of arguably 'solid' particles of matter. He would also include felt, ball bearings, and broken glass in his presentations.

¹⁰³ M. Maizels, *The Clues and the Aftermath: Barry Le Va and Room 2*, in *Art Expanded, 1958-1978*, E. Crosby and L. Glass (eds.). Vol. 2 of *Living Collections Catalogue*. Minneapolis: Walker Art Center, 2015; <http://walkerart.org/collections/publications/art-expanded/barry-le-va> [last access 3 November 2023]

¹⁰⁴ L. Lippard, *Six Years*, cit. p. 102.



Figure 28. Barry le Va, *Equal Quantities: Placed or Dropped In, Out, and On in Relation to Specific Boundaries* (detail), 1967. From David Nolan Gallery / National Gallery of Art, Washington, D.C.

2.3.4 Evanescent Dematerialisation: Hans Haacke, Robert Barry

Hans Haacke (Fig. 29), German-born artist known for his ‘artivism’, his political strategy of intervention through the spaces of the museums and the galleries to criticize the influence of corporations on society and show the hypocrisy of liberal institutions when accepting conservative capitalistic sponsorships. He made monochromatic, geometric, kinetic and gestural works with nontraditional materials such as industrial materials, fire, water, light and kinetic effects, but also integrated physical and biological systems, animals, plants or states of water and wind into his works, in 1968 stated:

A “sculpture” that physically reacts to its environment is no longer to be regarded as an object. The range of outside affecting it, as well as its own radius of action, reaches beyond the space it materially occupies. It thus merges with the environment in a relationship that is better understood as a “system” of interdependent processes. These processes evolve without a viewer’s empathy. He becomes a witness. A system is not imagined, it is real.¹⁰⁵

¹⁰⁵ H. Haacke. *Howard Wise Gallery, New York, January 13 – February 3, 1968*, in *Six Years*, L. Lippard, cit., p. 37

According to art historian Niko Vicario, Haacke showed how teletype machines linked different sites and brought the outside world into the exhibition space, blurring the divisions between material, immaterial, dematerialization and rematerialisation.¹⁰⁶

Condensation Cube, first created in 1963, is a transparent acrylic box containing a few inches of water that goes beyond the apparent minimalism of the work incorporating the water cycle as animated readymade. The work changes depending on the temperature in a constant cycle of evaporation, precipitation and condensation, comparable to living organisms that react to their surroundings. The image is unpredictable, but free.

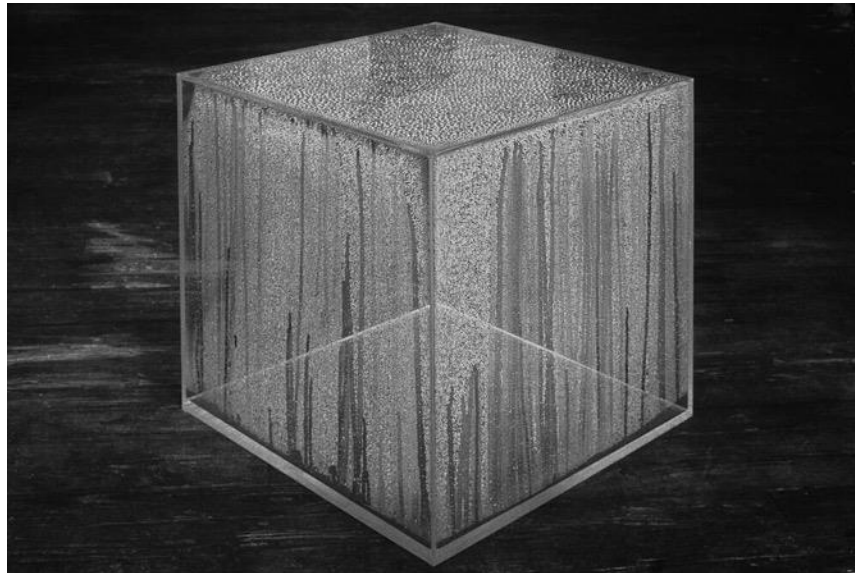


Figure 29. Hans Haacke, *Condensation Cube*. 1963, Methacrylate and water, 76 x 76 x 76 cm, MACBA Collection, MACBA Foundation. Gift of National Committee and Board of Trustees Whitney Museum of American Art. © Hans Haacke, VEGAP, Barcelona.

The ecological, natural and biological perspective was shared with Robert Barry¹⁰⁷, who made art using invisible media, such as electromagnetic energy, ultrasonic radiation or inert gases that would photograph and ‘record’ their unrecordable dispersal and impact of other things. He stated that he tried not to manipulate reality but preferred to see what would happen when these substances

¹⁰⁶ R. Khazam, *Understanding Material vs. Immaterial in Conceptual and Digital Art*, in “Tahiti”, 4/2020, pp. 2838, here p. 32.

¹⁰⁷ Ibid, pp. 71 – 72; “Robert Barry”, *artnet.com*, artnet, <https://www.artnet.com/artists/robert-barry/> [las access 5 August 2023]

would be let be themselves and ‘behave’ autonomously without the human intervention, only its ‘witnessing’. His aim was to use them like other materials, by detecting and measuring them, and exploring their physical existence.¹⁰⁸ A very clear example is his *Inert gas series* 1969 (Fig. 30 and 31), a sculptural piece made of molecules, invisible and endlessly expanding in the atmosphere; being inert gases, they don’t change chemically so it was possible to think about them as unified whole, but as it is not possible to visualize it, it is only possible to imagine this endless expansion.¹⁰⁹ Some of these artworks are ‘displayed’ at the NO SHOW MUSEUM based in Johannesburg, original idea of Robert Smithson in 1966, and the world’s first museum dedicated to ‘nothing and its various manifestations throughout the history of art’.¹¹⁰ Proceeding with the testing of the limits of materiality, Barry even produced a poster for an exhibition of the work that didn’t have location or date, and the number for the gallery would answer with a recorded message describing the ‘work’, becoming the only tangible evidence of the work.¹¹¹ In the case of Haacke and Barry, we see how the concept of art starts incorporating other ‘dimensions’ of materiality, incorporating elements from biology, technology and engineering, including invisible and presumable intangible elements that are part of our reality and have the ability to impact our lives, but were not considered signifiers or constructed media capable of expressive attributes. Also, these works ‘left to happen’ echoes the nature of generative art that will be discussed later in this chapter.

¹⁰⁸ R. Khazam, *Understanding Material vs. Immaterial*, cit., p. 31.

¹⁰⁹ L. Lippard, *Six Years*, cit., p. 98

¹¹⁰ No Show Museum, <https://www.noshowmuseum.com/en>

¹¹¹ MoMA, *Robert Barry, Inert Gas Series/Helium, Neon, Argon, Krypton, Xenon/From a Measured Volume to Indefinite Expansion (1969)*, [moma.org](https://www.moma.org/collection/works/109710); <https://www.moma.org/collection/works/109710> [last access 5 August 2023]; and Artnet, *Robert Barry, Inert Gas series 1969 – 1969*, [artnet.com](https://www.artnet.com), [artnet, https://www.artnet.com/artists/robert-barry/inert-gas-series-krDWYtvFGaWfMmE2TR1Z2g2](https://www.artnet.com/artists/robert-barry/inert-gas-series-krDWYtvFGaWfMmE2TR1Z2g2) [last access 5 August 2023].

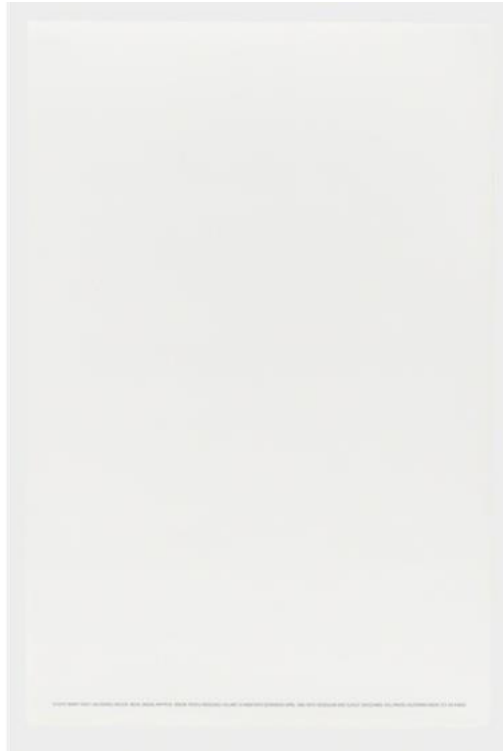


Figure 30. Robert Barry, *Inert Gas Series/Helium, Neon, Argon, Krypton, Xenon/From a Measured Volume to Indefinite Expansion*. 1969, Letterpress, 89.4 x 58.7 cm, Seth Siegelau, Los Angeles (Publisher), MoMA Collection, Art & Project/Depot VBVR Gift, ©2023 Robert Barry

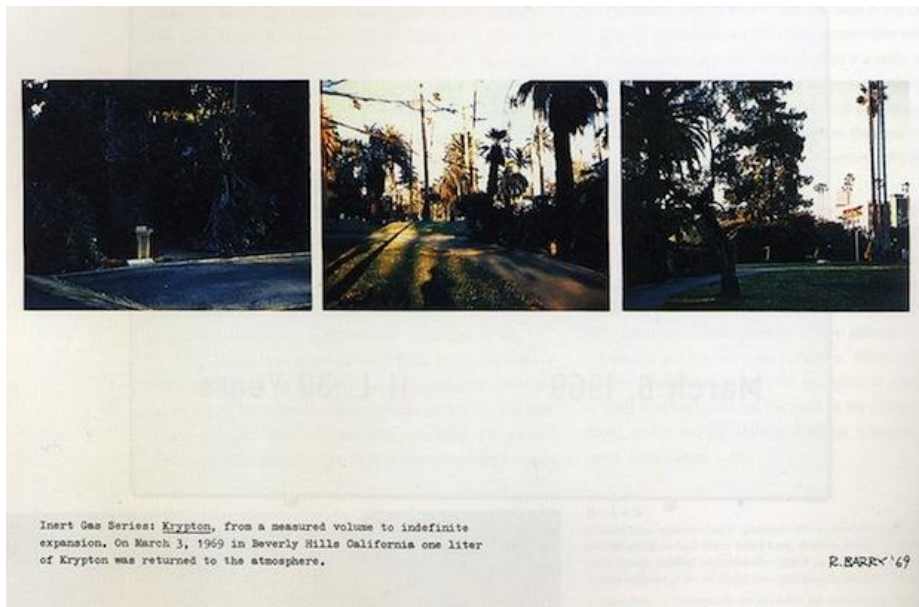


Figure 31. Robert Barry, *Inert Gas Series*. 1969. source NO SHOW MUSEUM.

On conceptual art must be stated that the de-materialisation or de-objectification of art, did not really ‘kill’ the material and object, but, on the contrary, it expanded and modified its meaning, including new forms and choices that would later also enter the art market through galleries and exhibitions. The ephemeral, fragile and performative started to be considered as potentially saleable and capitalizable, achieving new value and interest for collectors that started accumulating also photographs, statements and other Conceptual by-products, expanding in this way the art market flexibility. The value was not given anymore only to the historical importance, author and provenance, but also to fragility and ephemerality, bringing in this way also the art market and ownership to the sphere of immateriality.

As response, this expansion of the flexible immateriality brought by the end of the 1970s a return to the traditional media but with a rejuvenated approach, giving emphasis to the hand worked thick and raw materials, with rough and personal surfaces and prevailing attention to the relation between subject and matter; material and matter were reconsidered.¹¹² Similar to the new economic value attributed to immaterial and dematerialised artworks, these pieces and the artistic activities, although not having any tangible result, were able to be pervasive and affect internationally the art tendencies of the time. The ‘immaterial echo’ is still considerable and relevant today.

At the time, sculptor and art critic Ursula Meyer, already in 1969, reflected on the same central issues recurrent in Lippard’s recollection, the abstraction and modification of the sense of material and object. Instead of “dematerialization”, Meyer choses to use the term “de-objectification” as the condition where devices and the *object d’art* started losing its power and presence, disappearing and “deprived of its third dimensions and apparent weightiness”.¹¹³ Objects, as externalizations of the human existence, are de-objectified by becoming expandable and objecthood is no longer associated with rigidity but with transition and impermanence. By losing power over the object and of the object itself, there is no compulsive need for object-control and materials and objects are let be – in terms also of Robert Barry. In this way art

¹¹² N. Stangos, “Conceptual Art”, *Concepts of Modern Art*, cit., pp. 264-69.

¹¹³ U. Meyer, *De-Objectification of the Object*, cit., p. 21; and U. Meyer “De-Objectification of the Object”, in *The Object*, London, Cambridge, Massachusetts: Whitechapel Gallery, The MIT Press, 2014, pp. 128 – 132, here p. 130.

becomes “objectless abstraction no longer weighted down by extraneous hardware”¹¹⁴ and contemporary art represents the cessation of the thing-in-itself which according to Kant, the subjects were unable to find a way to know.

According to Meyer, the de-objectification and annihilation of the object represented the deterioration of the human condition, an expression of the total disorientation of values, as art *is* culture and expresses its conditions. Similar to Lyotard’s analysis of the postmodern condition that will be seen later, for Meyer de-objectification is a critical moment where art becomes *idea*, achieves the status of “abstraction *per se*, and not abstraction *Form*”.¹¹⁵

We also read in Rahma Khazam that conceptual art evinced an interest in materiality, although challenging their reputation as idea-concept-centred and, despite failing to attain immateriality, nonetheless paved the way for the new options explored by digital technology.¹¹⁶ The discourse on dematerialisation, the shift from material to immaterial to which it points, was soon followed by a re-materialisation. In this second shift, the artistic practices epitomised dematerialisation but were more interested in the material and the different forms it could take. The evanescent kind of materiality linked to tangibility, or a lack thereof, showed that the loss of materiality led to a renewed interest in materiality, no longer as the traditional physical, perceivable and tangible, but became present even in new forms, even as an absence.

In 2019 it took place the conference *Conceptualism and Materiality. Matters of Art and Politics*¹¹⁷ it was commented that getting away from materials had not been a critical preoccupation, but on the contrary, the interest was put on how, for example, (even) invisible materials could have a material dimension. Larisa Dryansky, for example, lecturer in Art History at Sorbonne University, whose research focuses on the intersections of art, science, and technology in post-war and contemporary art, discussed the notion of antimatter, whose sub-atomic particles have properties that are opposite to those of normal matter, and of course, appealed to some conceptual artists

¹¹⁴ Ibid.

¹¹⁵ U. Meyer, *De-Objectification of the Object*, *ibid.*

¹¹⁶ R. Khazam, *Understanding Material vs. Immaterial*, *cit.*, p. 28.

¹¹⁷ Ch. Berger, *Conceptualism and Materiality. Matters of Art and Politics*, London, The Courtauld Institute of Art, 2019, <https://courtauld.ac.uk/whats-on/conceptualism-and-materiality-matters-of-art-and-politics/>

(pure matter).¹¹⁸ The conceptual ‘dematerialisation’ indeed renewed the emphasis on materiality and was confirmed by the actual works of the artists mentioned, the notion expanded and forged a new understanding of materials and materiality in the practice of artists of that time, materiality that was no longer linked to bounded physical objects as such. As Lillemose also states: “By displacing the industrial materials from their usual functionalistic and rationalistic contexts, these artists set materiality in general free from the stable object and placed it into fluid, fluctuating and expressive relations”.¹¹⁹

2.4 Mediated and Digital Dematerialization

Entering the realm of the “new media” and the “digital arts” and talking about materiality and immateriality becomes an even more difficult task due to the inherent fluctuating identities and definitions of all the terms. Therefore, here we will deal with a short selection of subjects that challenge the ideas and characteristics of material and immateriality considering the new elements of the technology-based era. In her book *Digital Art*, Christiane Paul, one of the leading researchers in the field, clearly addresses the terminology of technological art forms due to their multiple changes since their emergence and their inextricable relationship with the technological, scientific, military and industrial developments. Today, ‘digital art’ is defined as the umbrella term that encompasses computer art, multimedia art or cyberarts, a term that is also used interchangeably with the term ‘new media art’, a term used in the past primarily for film, video, sound art and other hybrid forms. Digital art represents a broad range of works and practices for which Paul makes a very explicatory grouping between the arts that use digital technologies as complementary, ancillary tools for the creation of traditional art forms and the ones that entirely employ all the digital features in all the aspects of the medium, becoming completely digital-born, computed, created, stored, and distributed.¹²⁰ One could perceive these differences as intensities of agency given to the creative medium instead to the creator. The development of digital art, apart from following the evolution of its medium, has also been strongly connected

¹¹⁸ R. Khazam, *Understanding Material vs. Immaterial*, cit. p. 32

¹¹⁹ R. Khazam, cit., p. 32, and J. Lillemose, *Conceptual Transformations of Art*, cit., p. 121.

¹²⁰ C. Paul, *From Immateriality to Neomateriality*, cit., p. 553; and C. Paul, *Introduction*, in *Digital Art*, London-New York: Thames & Hudson, 2015, p. 10.

with the revolutionary art movements of Dada, Fluxus, and Conceptual art, as these emphasized the ideas of instructions, concepts, and opposition to the unified material object.¹²¹ Digital art was and is a common ground between the previous artistic movements and the contemporary technological and scientific discoveries, where elements such ‘found’ elements, instructions, controlled randomness converged.

With some preceding efforts already existing in the 1950s and 1960s, but especially in the 1970s and 1980s, artists began to get involved in multiple aspects of practice, from object-oriented works to dynamic, interactive, and predominantly process-oriented virtual objects. These shift of perception and hierarchies impacted the idea of the agency of the artist, as it stopped being the sole and unique creator of the artwork and became a mediator, a contributing facilitator of the materialisation of the artwork.¹²² Important here is to observe how the ideas of process and mediation seem to be initially intended as dematerialising or deobjectifying. However, they result in the already mentioned liberation and conglomeration of new ‘kinds’ of materiality. The material here is processual and generative; information and computations become new materials, elements with which artists, creators or mediators bring the works of art to a final form, execution or display. When discussing the processual, generative or systemic new artistic characteristics, one cannot exclude that these are also inherently natural and biological elements attributed to the artificial, synthetic, and digital materials and media. Digital art challenges boundaries and blurs differences between disciplines – art, science, technology, and design – but also between agencies, roles, concepts, and definitions of fabricator and fabrication, creator and facilitator, or medium and mediator.

This happens due to the employment of digital technologies, not only at the beginning or end of the process but in many or all the stages of the ideation and production of the art objects. For example, in the case of sculpture and resonating with the questions already raised by Semper or the Bauhaus, these new technologies are being applied as modelling software or as manufacturing machines, completely estranging and distancing the human subject from the ‘real’, tangible handling and creation of the work. For example, *Tangle* (Fig. 32 and 33), the sculpture series of

¹²¹ C. Paul, *Introduction*, cit., pp. 11-12; 15-16.

¹²² *Ibid.*, pp. 22

Joshua Harker, is considered a shape that breaks the design and manufacturing threshold as it incorporates works physically built via various 3D printing technologies. The pieces are first sculptured digitally using industrial design, 3D modelling, and sculptural CAD software (Fig. 34 and 35), using them as any other creative process when sculpting clay, stone, or wood. The software and peripherals are used as new tools, and in the future, Harker is planning to opt for 3D animation, holographic printing, virtual placement in the environment or other kinds of virtual visualization.¹²³

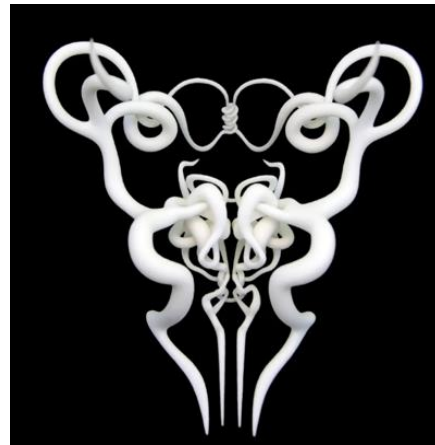


Figure 32. Joshua Harker *Sublimation Erotique*, 2010, bronze

Figure 33. Joshua Harker, *Sublimation Erotique*. 2010, 3D Model

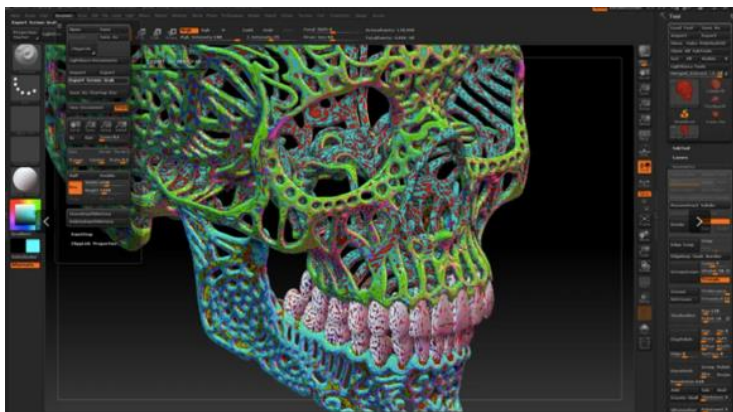


Figure 34. Joshua Harker, *Crania Anatomica Filigre*. 2011, Website Joshua Harker. Model.

Figure 35. Joshua Harker, *Crania Anatomica Filigre*, 2011. Website Joshua Harker. Printed.

¹²³ J. Harker, *Tangle Sculpture Series*, 2010-11, <https://www.joshharker.com/art/tangles/>

Tangibility - the direct contact with the shaping of the materials, a significant characteristic of sculpture, but also for other arts - stops being a defining quality. The notion of three-dimensionality is transferred into the virtual sphere, where the trans-physical aspect of the virtual environment changes the traditional modes of experience defined by gravity, scale, and material and the relation between form, volume, and space.¹²⁴ In 3D virtual design and physical printing, it is clear how these innovative techniques and virtual experimentations impact, not only the choice of materials but also the implementation of such materials. Materiality becomes potential, and the possibilities in creating and shaping materials expand. Apart from the emergence of new kinds of objects, artworks, and materials, what these new media changed is what Jack Burnham, a leading advocate of art and technology, stated as the “transition from an object-oriented to a systems-oriented culture” that “emanates not from things but from the way things are done.”¹²⁵

2.4.1 New Materials in Tools and Content: Software and Information

Lev Manovich addresses software’s impact in the new media and digital arts era. He stresses that all the software mutations and new species of software techniques are deeply social and do not simply come from individual minds or from any ‘essential’ property of a digital computer and network. They are the outcome of decisions of groups of people that constantly refine and expand their products. In this way, digital media and new media do not capture any uniqueness of the ‘digital revolution’; the qualities and properties attributed to the new digital objects are not internal constituents of these media objects, but they all exist ‘outside’ of them, as commands and techniques, authoring software, animation, and editing. As seen already in the case of the 3D designed sculptures, the characteristics of the new ‘materials’ and objects are not strictly physically correspondent to any particular external ‘real’ entity, but it is a software that determines what are those elements that can ‘exist’ represented

¹²⁴ C. Paul, *Digital Art*, cit., p. 63.

¹²⁵ J. Burnham, *Beyond Modern Sculpture: The Effects of Science and Technology on the Sculpture of Our Time*, 1968; C. Paul, *Introduction*, in *A Companion to Digital Art*, Sussex: Wiley Blackwell, 2016, pp. 4-5

digitally and can be constantly modified.¹²⁶ Accepting the centrality of software puts into question the new ‘properties of the medium’ and the possibility of the existence of these properties: with digitalisation, transfer and systemisation of ‘real’- physical, material, tangible - elements and objects into the graphics, digital and computational systems and languages, the content produced and reproduced ends up absent of any defined properties since there is always a software behind that creates, edits, presents and provides access to that content and its existence. It is important to understand that ‘digital media’ and the corresponding art are a result of the gradual development of accumulation of a large number of software techniques, algorithms, data structures, and interface conventions and metaphors, and due to this complexity and multiplicity of techniques, is impossible to deduct a fair small set of ‘pure’ properties. An issue that also affects the perception of materiality and materials as elements with which one can produce artistic objects.¹²⁷

In his articles “Introduction to Info-Aesthetics” and “Understanding Hybrid Media”, Manovich also discusses how the era of information and shared data through the internet has shaped the understanding of reality. Our daily habits of work and entertainment as audiences, receptors, and the way we understand ourselves and the world have been reshaped through the quantitative growth of information produced, exchanged, stored and presented; an example of the effects of this new standard is the habit of the search engine, the googling effect. Before sensing and perceiving, we are in front of a new ‘mediatic’ obstacle, which is processing information, filtering and searching the relevant content of our interest: we first process, and afterwards, we listen, watch, and read. A related development is the shift from a single media object, usually physically concrete existing and available to be perceived in isolation, to a sequence or database of digital media, bringing the new status of humanity to a juxtaposed and hybrid condition, where previously separated media have been combined and intersected in numerous ways. This is the era of search engines, remixes, recycling, synthesis and manipulation of already existing ‘analogic’ elements.¹²⁸ An

¹²⁶ L. Manovich, *Avant-Garde as Software*, in *Media Revolutions*, St. Kovats, Frankfurt and New York: Campus Verlag, 1999, p. 3, <http://manovich.net/content/04-projects/076-article-2012/73-article-2012.pdf> [last accessed 2 November 2023]

¹²⁷ *Ibid.*, p. 7-8,

¹²⁸ L. Manovich, *Introduction to Info-Aesthetics*, 2008, pp. 1-2, <http://manovich.net/content/04-projects/060-introduction-to-info-aesthetics/57-article-2008.pdf> [last access 8 November 2023]; and L.

interesting piece that shows this effect, presented in 2022 in Ars Electronica, is “NoSearchBar” by Erik Anton Reinhardt¹²⁹ (Fig. 36) who challenged the participant perception by removing the Search Bar from some of the most known websites and social media, subtracting the opportunity to articulate questions, problems, references and needs, leaving mixed feelings of frustration and hope, showing our dependency and vital connection with this digital world. The Jury of the Prix Ars Electronica stated:

While using [NoSearchBar], and restricting our capacity to search, it makes us reflect critically on our profound dependence on text-based queries. At the same time, it helps us to bring back our curiosity to browse or find information through non-search mechanisms.¹³⁰

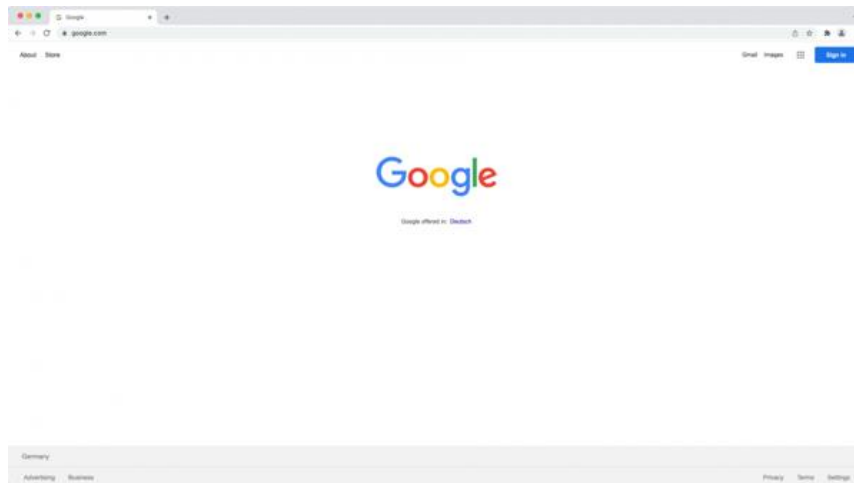


Figure 36. Erik Anton Reinhardt, *NoSearchBar*. 2021.

2.4.2 Post-Digital Nostalgia for the Tangible Object

The emergence of new media marks a profound division between the 'real' world – characterized by its materiality, tangibility, and impermanence – and the 'virtual' world, which seems eternal, intangible, and artificially constructed. This division blurs the traditional boundaries of materials, and challenges established notions of artistic creation.

Manovich, *Understanding Hybrid Media*, 2007 p.1, http://manovich.net/content/04-projects/055-understanding-hybrid-media/52_article_2007.pdf [last access 8 November 2023].

¹²⁹E. A. Reinhardt, <https://www.ereinhardt.org/>

¹³⁰ Ars Electronica, *Prix Ars Electronica 2022 – Interactive Art +, Welcome to Planet B;* <https://ars.electronica.art/planetb/en/interactive-art-plus/> [last access September 1st, 2023]

Within this new landscape, we encounter an adaptation and shift of sensory reception due to the novel sensory experiences invoked by the technological stratum of the new materiality. Artificial sounds and images and the creation of artificial connections and materials reshape our understanding of reality. This shift towards neo-post-materialism incorporates computer and networked elements in hardware and software formats, further complicating our relationship with materials and reality.

One further pivotal transformation in this context is the ascendancy of numerical code as the universal intermediary. This system is perceived as an intermediary because it requires an analogue form to become accessible to our senses. This analogue form can manifest as a travelling wave of oscillating pressure that we perceive as sound, voltage levels applied to pixel elements that manifest as colours, or the pulses and vibrations under the touch of our fingers in the screens of our dispositives. These conversions between analogue to digital (A to D) and digital to analogue (D to A) are central to the functioning of digital media. They bridge the divide between the physical world and the digital realm, allowing us to interact with and perceive the digital in ways that make it accessible and meaningful to our senses.¹³¹

Chris Wahl, a researcher at the University of Film and Television “Konrad Wolf” in Potsdam-Babelsberg, in his chapter on *Preserving and Exhibiting Media Art*, talks about the introduction of video art and how it was a catalyst in the break from the traditional ‘analogic media’ through which art could be manifested and exhibited. Video art opened new possibilities, including new formats and apparatus for artistic production, such as screens and electronic and digital installations. The new artworks were constituted by flat screens with internal movement and visual and acoustic elements that attracted and engaged the attention and time of the visitor; art and culture were produced and consumed through dispositives. An interesting detail is the slight distinction between the terms ‘medium’ and ‘media’, the same in meaning as tools, instruments, substances, and materials used for artistic expression and creation.

¹³¹ C. Wahl, *Between Art History and Media History: A Brief Introduction to Media Art*, in *Preserving and Exhibiting Media Art. Challenges and Perspectives*, J. Noordegraaf, C. G. Saba, B. Le Maître, V. Hediger (eds.), pp. 25-58, here p. 26; and Manovich, *Software*, cit. p. 8-9

However, the first refers to the analogic and traditional tools, while the second corresponds to the plural form of the technological, computational, and digital means. The latter is based on the idea of the *dispositive*, the device that makes use and implements electricity, artificial sound, moving images, modification and reproduction of these, projections, cybernetics, internet and all other related characteristics.¹³²

These devices were initially complementary tools to art production; the video and photographic camera were initially used to document events, the computer was an instrument programmed to carry out arithmetic or logical operations, and the Internet was used as a platform to connect between networks and devices, sharing information and data. Media art, new media art, and digital art are made of these new technological objects, their hardware and software, something new, capable of creating ideas, meanings, creative works, and ‘objects’ of a new dimension of materiality. Differing from the idea of ‘contemporary art’, from which the creator and observer can still distance themselves, having a mental and physical space to process and contemplate, ‘new media art’ is immersed in the present and incessantly irrigated by the latest scientific, technological, social and cultural paradigms and experiments. New Media art is the hybridisation, the outcome of combining and interweaving all the artistic, technological, and scientific developments.

Christiane Paul has made a tremendous effort in clarifying and organizing the complex field of digital art that is far from constituting a unified category, as it is defined as computational, process-oriented, time-based, dynamic, real-time, participatory, collaborative, performative, modular, variable, generative, customizable and ‘materialized’ as interactive and/or networked installations; and includes software or Internet art; virtual or augmented reality; or even locative media art distributed via mobile devices, or using location-based technologies ranging from the global positioning systems (GPS) to radio frequency identification (RFID). All these have become new media for the arts, and by including them, their constituents, elements, and characteristics are also incorporated in the new choices of materials, tools, and objects belonging to art.

¹³² C. Wahl, *Between Art History and Media History*, *cit.*, pp. 30-32; 37.

As commented by Khazam, analogous to the return of conceptual artists to the (new) attention to the material and the object after overcoming the initial dematerializing intentions, many artists, curators, and theorists have pronounced in the last decade an age of ‘post-digital’ and ‘post-Internet’ representing the, almost total, infiltration of digital technologies in all aspects of art making.¹³³ The ‘post-digital’ art attempts to describe the conditions of artworks and objects that have overcome, or failed to achieve, the immaterial and virtual stage, shaped by the Internet and digital processes and manifested in the material forms of objects.

An example of the return to the material aspects of the creation of virtual, synthetic pieces is the one of the computer audiovisual artist Robert Henke *CBM 8032 AV* (Fig. 37), a project of the beauty of simple graphics and sound using computers from the early 1980s. This work is about the ambivalence between the contemporary aesthetic and the usage of obsolete and limited technology of 40 years ago. Robert Henke brought five restored Commodore CBM 8032 computers, ran custom software and created sound, graphics and a controlling system. The machines were never meant to be used for the creation of audiovisual art, and the results are slow, harsh, geometric, with low resolution, contrasting the immense variety of options in high quality and definition content available on the virtual and digital contemporary art scene.¹³⁴



Figure 37. Robert Henke, *CBM 8032 AV*, 2016-2023, computer graphics and sound. Robert Henke Website.

¹³³ C. Paul, *Introduction*, in *A Companion to Digital Art*, cit., pp. 2-3; C. Paul, *From Immateriality to Neomateriality*, cit., p. 553.

¹³⁴ R. Henke, *CBM 8032 AV*, in *roberthenke.com*, <https://www.roberthenke.com/concerts/cbm8032av.html> [last access 2 January 2024].

In this case, for Paul, as previously mentioned in the preceding chapter, it is essential to reframe the discussion surrounding the current state of arts and culture. Instead of adopting Stiegler's concept of 'hypermateriality', intended as the gathering, monitoring and processing of information through material devices, Paul preferred 'neomateriality', incorporating the overlooked affective aspects of materials and the objecthood that incorporates the networked digital technologies and the embeddedness of the digital in the objects, images, and structures encountered daily.¹³⁵ For Paul, the visual results of the artwork in the digital art are derived from code and mathematical expression and Manovic refers to it as software. Code has been referred to as a new medium for digital artists, but it transcends the idea of a simple metaphor, allowing artists to write and create their tools. These conditions of neomateriality are highlighted by artists who choose a direction opposite to processing and internalising the external real world to the sphere of the digital by turning code and abstraction into the material framework of the object.

Ashley Zelinskie, for example, in her *Reverse Abstraction* (Fig. 38) series, explores the diverse, concrete and abstract languages through which humans and machines perceive the world. Computers require layers of abstraction to comprehend objects and forms, while humans do not necessarily decipher the codes driving computer operations. Zelinskie's series constructs traditional objects using material representations of hexadecimal and binary codes, essentially translating abstraction into tangible form.¹³⁶

On the other side, Sterling Crispin's ongoing project, *Data-masks* (2013 – present) (Fig. 39), explores how digital technologies "perceive" and shape identity. Crispin employs face recognition and face detection algorithms to create lifelike faces that manifest as physical masks. In his work, the mathematical analysis of biological data evolves into a tangible form. The 3D-printed face masks, originally algorithmically designed to satisfy facial recognition algorithms, embody a materiality that reflects an autonomous machine's vision of identity.¹³⁷

¹³⁵ C. Paul, *From Immateriality to Neomateriality*, cit.

¹³⁶ A. Zelinskie, *Space Triangle - Reverse Abstraction*, at <https://www.ashleyzelinskie.com/projects/space-triangle>

¹³⁷ C. Paul, *From Immateriality to Neomateriality*, cit. p. 554; S. Crispin, *Data-masks*, <https://www.sterlingcrispin.com/data-masks.html> [last access 5 September 2023].

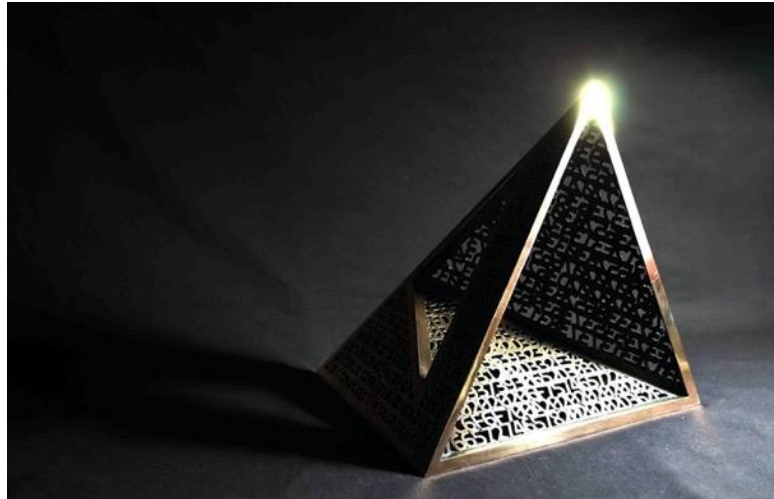


Figure 38. Ashley Zelinskie, *Space Triangle - Reverse Abstraction*. 2016, cast bronze, 4.7 x 4.7 x 4.7 cm. Source Ahsley Zelinskie Website.

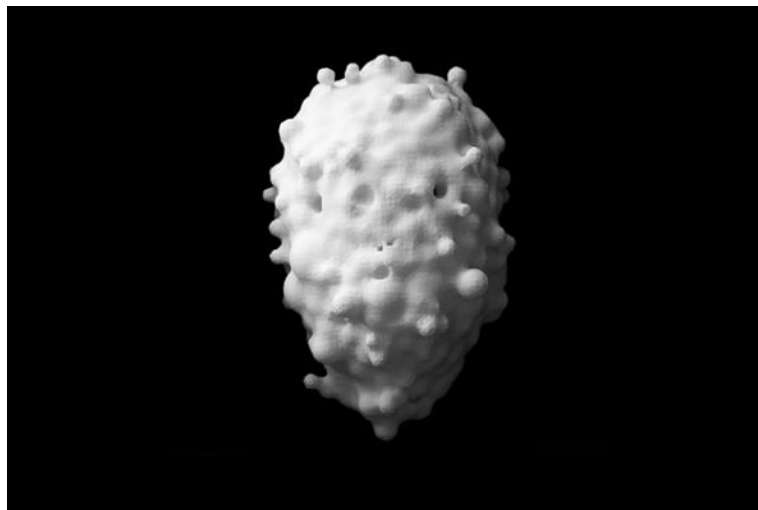


Figure 39. Sterling Crispin, *Kodama*, 2013 – 2015, 18 x 26 in, 3D Printed Nylon, Mirror, Facial Recognition and Detection Algorithms, Genetic algorithms

2.5. Im/material Generative Art

One last interesting case that addresses similar issues and poses questions on the fields of digital art, new media art, as well as material, immaterial, and dematerialised art, is an art historian and critic Philip Galanter, who has dedicated a significant part of his work to defining and explaining the concept of ‘generative art’. It is perceived as any art in practice in which the artist hands over control (and its agency) to a system with functional autonomy that contributes to or creates a work of art autonomously. He admits the difficulty of defining this kind of art due to its broad spectrum and strong

correlation to the identity of both art and the questions arising on postmodernity. Generative art includes computer, electronic music, computer graphics and animation, demoscene, VJ culture, glitch art, circuit bending, live coding, open-source digital art and social websites, industrial design and architecture, and even robotic art and math art. Diverse examples of generative art can be found in John Cage, William Burroughs, and Marcel Duchamp, who embrace randomisation to generate surprise and variation; the minimalists Carl Andre, Mel Bochner, and Paul Morgeson, who used mathematical systems to generate compositions; or conceptual artists Sol LeWitt and Hans Haacke, who used combinatorial systems or explored physical generative systems. Some of which we have encountered before.

Initially in 2003 Galanter defined:

Generative art refers to any art practice in which the artist uses a system, such as a set of natural language rules, a computer program, a machine, or other procedural invention, that is set into motion with some degree of autonomy, thereby contributing to or resulting in a completed work of art.¹³⁸

2.5.1 Natural Generative Art: Fujiko Nakaya and Olafur Eliasson

The term “generative art” denotes art created by non-human systems to which the artist cedes partial or total control. But the generative capacity should not create the confusion of thinking exclusive to computer or Internet capacities, as processes can include chemical reactions, living organisms, condensation, crystallization, melting of substances, or self-organization, self-assembly, and other natural and physical processes. We can see the natural “generative art” cases in the installations and projects by Duchamp, Huebler, Berry, or Haacke, where the artists ‘cede control’ and passively ‘let’ the art materials behave and manifest freely. Following a similar path as of Robert Barry and his *Inert Gas Series*¹³⁹, artists like Fujiko Nakaya and Olafur Eliasson have used natural processes such as melting, evaporation, dissolution, accepting and making disappearance part of the quality and beauty of the pieces, challenging the idea of ‘material’ and the role of the creator. Here, we have

¹³⁸ P. Galanter, *What Is Generative Art? Complexity Theory as a Context for Art Theory*, in *International Conference on Generative Art*, conference proceedings, Milan, Italy, Generative Design Lab, Milan Polytechnic, 2003.

¹³⁹ L. Lippard, *Six Years*, cit. p. 95

atmospheres, sensations, momentary impressions, and immersions in artificially made natural effects.

Fujiko Nakaya is a beautiful example of a curated natural generation of art with the implementation of the properties of fog. For over 50 years, she has gained recognition for her ephemeral fog sculptures, embodying an elegant synthesis of technology and art. Already from her early work, Nakaya has translated her father's – Ukichiro Nakaya – influence as a preeminent global authority on snowflake formation and glaciology, painting rotting flowers, dissolving clouds and transient natural processes of decomposition and mutability, and her meeting with Robert Rauschenberg in Tokyo that impacted her work significantly. Nakaya's installations use physicist Tom Mee's patented technology¹⁴⁰ that pumps water through a microscopic aperture onto a needle valve, shattering the jet into droplets and creates spiritual experiences, enveloping audiences in disorientating, transcendent isolation. They form a dialogue with nature, altering the output synchronized with the atmospheric conditions and encouraging greater ecological awareness by facilitating an embodied experience of nature and addressing humanity's precarious relationship with its environment. (Fig. 40 and 41)



Figure 40. First test of the “Fog Sculpture” by artist Fujiko Nakaya engulfing the pavilion. (Photo: Fujiko Nakaya, courtesy E.A.T.)

Figure 41. The Pepsi Pavilion, Osaka World Expo 1970, artificial cloud, kinetic sound, light sculptures, and walk-in spherical mirror. (Photo: Shunk-Kender, © Roy Lichtenstein Foundation, courtesy Experiments in Art & Technology)

¹⁴⁰ MeeFog Systems Website, <https://www.meefog.com/>

The artistic philosophy of Nakaya resonates also with the likes of Olafur Eliasson when harnessing the performative and sensory power of environmental phenomena as a way of addressing humanity's precarious relationship with the natural world.¹⁴¹ The case of Eliasson is famous and well-known around the world for his nature-based and projects implementing elemental materials such as light, water, and air temperature to enhance the experience of the ordinary. In his early work, we find *Beauty* (Fig. 42) of 1993, shown in Copenhagen and composed of bands of coloured light shimmering in a curtain of mist. Depending on the natural light projected, it was refracted and reflected by the water droplets, resulting in a rainbow that changed depending on the visitor's position.¹⁴²

In 2004 we found again the same vaporous medium in the *Fog Doughnut*¹⁴³ and in 2016, *Vær i vejret* ("Be in the Weather"), a weathervane mounted on the roof of the Ordrupgaard Kunstpark of Copenhagen, and *Fog Assembly*¹⁴⁴ (Fig. 43) of 2016, a ring positioned above the lawn of the Bosquet de l'Etoile, both ephemeral works of emitted fog and mist that would constantly change depending on the qualities of the wind and the sunlight and would dissolve the boundaries and outlines of the objects and buildings encountered.

Eliasson, talking about *Vær i vejret*, states:

In any work of art displayed outdoors, the weather is the invisible, unspoken element; the artwork is literally exposed to the weather. [...] The work embraces this invisible element, making the wind, the atmosphere, and the air in which we live explicit. Even when the wind is not blowing, the work exists in a state of potentiality.¹⁴⁵

In the process of dissolution and decomposition of the materials used, these artists apply and study the natural processes and focus on the minute, subtle,

¹⁴¹ F. Blythe, *Fujiko Nakaya: the Japanese Artist Sculpting Magic with Fog*, in "Hero Magazine", 6 May 2020, <https://hero-magazine.com/article/171200/fujiko-nakaya> [last access 20 August 2023]

¹⁴² Olafur Eliasson, *Beauty*, in *olafureliasson.net*, <https://olafureliasson.net/artwork/beauty-1993/> [last Access 21 August 2023]

¹⁴³ Olafur Eliasson, *Fog Doughnut*, in *olafureliasson.net*, <https://olafureliasson.net/artwork/fog-doughnut-2004/> [last access 21 August 2023]

¹⁴⁴ Olafur Eliasson, *Fog Assembly*, in *olafureliasson.net*, <https://olafureliasson.net/artwork/fog-assembly-2016/> [last access 21 August 2023]

¹⁴⁵ Olafur Eliasson, *Vær i vejret*, in *olafureliasson.net*, <https://olafureliasson.net/artwork/var-i-vejret-2016/> [last access 21 August 2023]

unpredictable, natural and fragile materials that per se and inherently decay, decompose, dissolve and evaporate; they are the clear representation of the processual ‘immaterialisation’ of natural materials. Instead of just conceptualising and eliminating – or better said, *trying* to eliminate - entirely the tangible and material outcome, they let and embrace the dematerialising processes already existing in nature. Their challenging and unstable elements bridge and blur the idea of solidity of matter and, consequently, of art and incorporate the fragmented, dissolved and ethereal format in the concept of materiality. We see an integration of inherently dematerialising and dematerialising elements, depicting the liberated new status of art from its previous solidity.



Figure 42. Olafur Eliasson, *Beauty*. 1993. Moderna Museet, Stockholm 2015. Photo: Anders Sune Berg. From Olafur Eliasson Website



Figure 43. Olafur Eliasson, *Fog assembly*. 2016. Palace of Versailles, 2016. Photo: Anders Sune Berg.

2.5.2 Artificial Generative Art

Another possible element that Galanter noticed could be confusing from the concept of ‘generative art’ is the use of an ‘autonomous system’; there is no mechanical system that is considered completely autonomous due to their lack of free will and consciousness (issues challenged today with the crisis and/or revolution of the AI generative information, content, structures, and new realities).¹⁴⁶ When searching the term ‘generative art’ today (2023) 230 million results appear with the majority of the content related to only AI-generated art from the last two years. Articles, platforms, and products all refer to the importance but also the consequences of this ‘new’ artistic reality in using generators such as DALL-E 2¹⁴⁷ by OpenAI, or Midjourney¹⁴⁸, as they can create highly original, realistic images and art from text descriptions and visual inputs. The concerns mainly rely on the ability to create highly ‘human-like’ works, becoming a threat to many creators and challenging the idea of talent and creativity. However, as many already are suggesting, this is just one more example of ‘new media’ that can be perceived as dangerous or as ancillary to the arts depending just on the perspective, and it should not be ignored that these tools function by delivering results ordered and instructed by human subjects, keeping their identity and role as medium. (Fig. 44)



Figure 44. OpenAI, DALL-E 3, *Tiny potato kings wearing majestic crowns, sitting on thrones, overseeing their vast potato kingdom filled with potato subjects and potato castles*, 2022.

¹⁴⁶ P. Galanter, *Generative Art Theory*, in *Companion to Digital Art*, cit., pp. 148-151.

¹⁴⁷ OpenAI, DALL-E-2, <https://openai.com/dall-e-2>

¹⁴⁸ Midjourney Website, <https://www.midjourney.com/home?callbackUrl=%2Fexplore>

In 2008, Galanter had suggested a new definition of generative art:

Generative art refers to any art practice in which the artist cedes control to a system with functional autonomy that contributes to, or results in, a completed work of art. Systems may include natural language instructions, biological or chemical processes, computer programs, machines, self-organizing materials, mathematical operations, and other procedural inventions.¹⁴⁹

Following what was already said by Burnham on digital art, the term becomes a reference to how the art is made and not to the intention behind the making of the art or the content represented. Both the tools, the medium used, the constituents, and the elements applied to create the object of art are challenged in the 'how'. Of course, although applied mainly to Generative Art Theory, this discourse is strongly related to and dependent on the general theoretical questions and problems arising in the art world and across other disciplines. Some of these are the problem of authorship, reflecting the poststructuralist thinking on authorship when faced with an artwork created without human intuition or real-time judgment. The focus here becomes the idea of the 'death of the author' due to the alteration of roles and the provision of this agency to the machine, making this new reality a reification of the postmodern and poststructuralist theory.¹⁵⁰

This was the issue already addressed by Semper, Gropius and Benjamin in the 19th and 20th centuries when they pointed out the problem of making art and objects through mechanical reproduction and industrial production, where the authenticity and uniqueness of the object would have a diminished 'aura'. Today, these theorists would be surprised by the ability to produce endless copies and contribute to the dematerialization and loss of authentic 'aura' with reproduction, consumption, and Internet distribution. Additionally, Galanter poses a new problem of digital generative art: rather than offering an endless supply of *copies*; it provides an endless supply of *original and unique* artifacts. Precisely, this oxymoronic phrase of 'mass-produced

¹⁴⁹ P. Galanter, *Generative Art Theory*, cit., p. 154, and citing himself at P. Galanter, *What is Complexism? Generative Art and the Cultures of Science and the Humanities*, in *International Conference on Generative Art*, conference proceedings, Milan, Italy, Generative Design Lab, Milan Polytechnic, 2008.

¹⁵⁰ *Ibid.*, pp. 166-167

unique objects’, the nightmare of the Truth to Material and craft-based production supporters, describes the condition of generative art.¹⁵¹

Considering all these issues, we can see that digital art, primarily digital generative art, embodies and intrinsically addresses postmodern concerns. These arguments are built on postmodern and poststructuralist ideas on authorship, authenticity, materiality, information, reality, and many other broad concepts. Current Digital Art and New Media Art could be then addressed under the sphere of Postmodern Art and under this umbrella to perceive a ‘post-material’ or neo-material (in the words of Paul) condition, where along with the dissolution of solid truths and realities, and the reconsideration of new paradigms and systems, there is also a dissolution and reconsideration of materiality.

2.5.3 Artificially Natural Generative Art: Cécile Beau and Hsun Hsiang Hsu

Bringing this subchapter to a conclusion, the cases of Cécile Beau and Hsun Hsian Hsu show a combination of a technologically controlled realisation and natural generative processes and an integration of scientific elements depicting new kinds and conditions of materiality.

Working with elements such as ice, vapour, bubbles, micro-cosmos, macro-cosmos, fluidity, and natural and mutating elements, Cécile Beau¹⁵² brings new works inspired by nature but more ‘curated’ and ‘artificial’ than Nakaya’s or Eliasson’s due to the more complex characteristics, in a technical and scientific level, of elements chosen. *Albedo 0,60* (Fig. 45) is an aqueous and dark disk whose centre is contrasted by an intense white that emanates a perception of cold without undergoing the exact influence of temperature as the rest of the place. Like a microclimate concentrated on the surface of a pit, the water has been crystallised, and the surface of this liquid material has been transformed into an ice crust. This presents a climatic metamorphosis, a phenomenon evoking a frozen temporality, a surface reflecting light that makes the zone impenetrable.¹⁵³ *Sablier*¹⁵⁴, two conical ice shapes, a stalactite and

¹⁵¹ Ibid., pp. 168-169

¹⁵² Cécile Beau, *Cécile Beau*, <https://www.cecilebeau.com/en/> [last access 5 November 2023]

¹⁵³ Cécile Beau, “Albedo 0,60”, *Cécile Beau*, <https://www.cecilebeau.com/albedo-060-2/> [last access 5 November 2023]

¹⁵⁴ Cécile Beau, “Sablier”, *Cécile Beau* <https://www.cecilebeau.com/sablier-2/> [last Accessed 05 November 2023]

stalagmite slowly ‘growing’, that seems to want to connect, depicts an allegory of time, again using the element of water, ice, snow in a very technically controlled context. We have an ‘artificial embracing’ of natural processes and experiences of cold, temperature, humidity, and time.



Figure 45. Cécile Beau, *Albédo 0,60*. 2017, Frigorific system, copper, water, Chinese ink, 150 cm diameter. Source Cécile Beau Website.

Continuing and complementing the dissolving direction of the previous artists but also introducing new mediatic representations of the same effects and observations, Beau creates not only visual but also sound and multisensorial experiences, showing conditions and environments of ‘in-betweenness’ of elements and their peculiarities.

Hsun Hsian Hsu's work, *Hidden Orders_Microstructural machines* (Fig. 46), presented at the last Ars Electronica Festival 2023, shows the innumerable natural orders that structure the environment and the material world and the external existence of these orders independently of any specific species or time. *Microstructural Machine*, based on the experimental model of the Bubble Raft proposed by Nobel Laureate in Physics William Lawrence Bragg in 1947, uses the properties of crystalline structures to create a miniature landscape, attempting to strike a balance between the properties of natural materials and human control, exploring the hidden orders of nature.¹⁵⁵

¹⁵⁵ Ars Electronica, *HIDDEN ORDERS_Microstructural Machines by Hsun Hsiang Hsu*, in *ars.electronica.art*, <https://ars.electronica.art/who-owns-the-truth/en/microstructural-machine/> [last access 5 November 2023]; and Hsun Hsiang Hsu, *HIDDEN ORDERS_Microstructural Machine*, in *hsunhsianghsu.com*, <https://www.hsunhsianghsu.com/microstructural-machine> [last access 5 November 2023].

Bubble rafts assemble bubbles on a water surface, often with the help of amphiphilic soaps. These assembled bubbles act like atoms, diffusing, slipping, ripening, straining, and deforming in a way that models the behaviour of the {111} plane of a close-packed crystal: “The assemblages show structures which have been supposed to exist in metals and simulate effects which have been observed, such as grain, boundaries, dislocations and other types of fault, slip recrystallization, annealing, and strains due to ‘foreign’ atoms.”¹⁵⁶

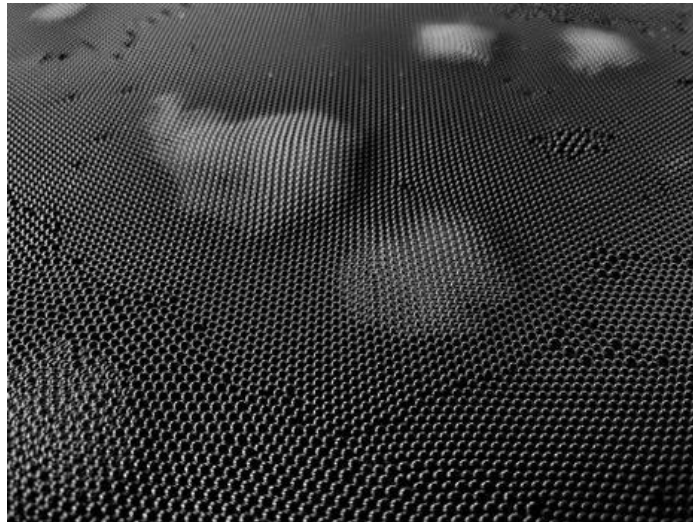


Figure 46. Hsun Hsiang Hsu, *Hidden Orders_Microstructural machines*. 2022 - ongoing, Installation, aluminum extrusion structure, bubble module, cameras, LED matrix panel, video display, 40cm x 40cm x 130cm. Source Hsun Hsian Hsu Website.

¹⁵⁶ L. Bragg and J. F. Nye, *A Dynamical Model of a Crystal Structure*, in *Proceedings of the Royal Society of London. Series A, Mathematical and Physical Sciences*, Vol. 190, No.1023. 9 September 1947, pp. 474-481, here p. 474.

Chapter 3 – Collecting, Displaying and Conserving (Im)materiality

When discussing arts and culture, it is essential to recognize the intricate system and infrastructure that accompanies their existence. Artistic creations are brought to life by talented artists, but their recognition, documentation, and exhibition involve various entities, including museums, galleries, auction houses, foundations, and more. Therefore, materiality, immateriality and the transformations of the artworks by its creators have been factors that have shaped the rest of the art world and industry. The dematerializing development significantly influenced the structure, approach, priorities, decision-making, techniques, and overall mentality among art professionals. Materiality and immateriality keep intervening, making significant impact in the different ‘stages’ and ‘levels’ of the art system. Here we will follow the thread, the line of the museum activities and responsibilities that converge some the main elements of the broader art world. These are collecting and acquisition, protecting cultural property, conservation, exhibitions.

In this chapter, we examine into the concept of collecting, exploring prominent figures, diverse categories, and the challenges encountered when dealing with material and immaterial cases and paradigms. We dedicate the section to museums, exhibitions, and institutions, which undertake a multifaceted role in managing art, in its material and immaterial forms, from acquisition and documentation to display, restoration, archival, and occasionally, sales due to specific circumstances. Questions on displaying, exhibiting, curating, economics, conserving, and overall managing different categories of artworks in different cultural and historical contexts are addressed. We refer to UNESCO Conventions, ICOM guidelines, and Art Market Report of the last years incorporating the new digital, non-fungible market, understanding the shift in paradigms, differences, and priorities.

3.1 Material Collections and Museums. Conservation and Display.

3.1.1. Traditional Material Collections

Most of the world's art museums grew out from great private collections of royalty, aristocracy, and the wealthy. Collecting existed already from the earliest civilizations in Egypt, Babylonia, and India, where they would store precious objects and artworks in temples, tombs, and sanctuaries. In the Hellenistic Age the habit of collecting was developed as valuation of precious stylistic periods of the past, and in the Roman centuries wealthy people would form collections of Greek sculptures and paintings, including copies. In East-Asia, art collecting was primarily an activity of the royalty, nobles, and religious institutions. Chinese emperors would accumulate artworks but as they were overthrown by successive dynasties, many collections tended to be dispersed or destroyed as symbol of power. For example, the collection of Qianlong (1735-96) and Jianqing (1796-1920) emperors formed the nucleus of the National Palace Museum in Taiwan and the Palace Museum in Beijing. In Japan, Buddhist monasteries were important repositories for artworks, which are part today of the Tokyo National Museum collection and other institutions. In Europe, the Medici family of Florence, the Gonzaga of Mantua, the Montefeltro of Urbino, and the Este of Ferrara assembled rich collections of antique sculptures as well as great contemporary artists of their time. These examples were followed by collections of Jean-Baptiste Colbert and Cardinals Richelieu and Mazarin of France; the Archduke Leopold William and Kings Philip II and IV of Spain; the Duke of Buckingham, the Earl of Arundel, and Charles I of England; and the Queen Christina of Sweden. Later during, the 18th century non-aristocratic collectors, such as Pierre Crozat, Horace Walpole, and the Fugger banking family formed important collections.

Important moment of change in the tradition of collections was the opening of these private treasures and their donation to the public view. One example was Maria Ludovica (Fig. 47), grand duchess of Tuscany and last of the Medici, who in 1737 donated her family's artworks and are now core of the Uffizi Gallery, the Pitti Palace and the Laurentian Library in Florence. Between the 18th and 20th century many others started opening museums all over Europe and the United States, location of many new wealthy industrialists, such as J. P. Morgan (Fig. 48), Henry Clary Frick, Andrew

Mellon (Fig. 49), or important collectors such as Chester Dale, Isabella Stewart Gardner (Fig. 50) or J. Paul Getty.¹⁵⁷

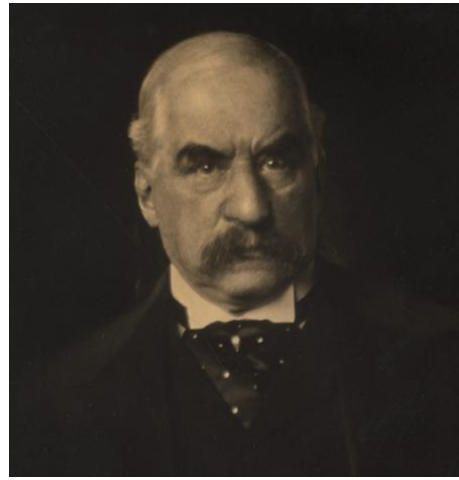


Figure 47. Jan Frans van Douven, *Anna Maria Ludovica de' Medici*, image of public domain
Figure 48. Edward J. Steichen, *J. P. Morgan, Esq.*, from the Metropolitan Museum Website

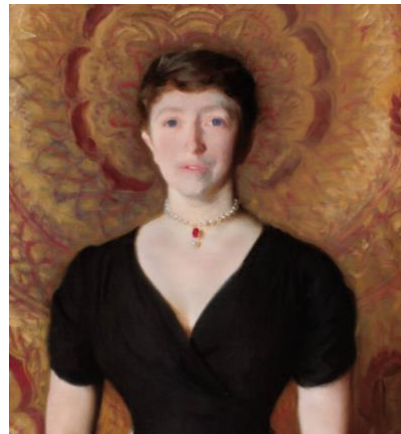


Figure 49. right. Andrew Mellon, image in public domain
Figure 50. David Mathews, *Isabella Stewart Gardner*, ©2015 Isabella Stewart Gardner Museum.

But why do all these collectors, aristocrats, magnates, or even smaller and less 'grandiose' cases accumulated these objects? In a very interesting analysis, the business academic Russel W. Beck shows that the act of collecting has a double nature, and it can be considered both materialistic and non-materialistic.

¹⁵⁷ "art collection", *britannica.com*, Encyclopedia Britannica, 11 Aug. 2014, <https://www.britannica.com/art/art-collection> [las access 10 December]

Collecting is defined as the “process of actively, selectively, and passionately acquiring and possessing things removed from ordinary use and perceived as part of a set of non-identical objects or experiences”,¹⁵⁸ manifesting a desire of non-utilitarian, luxury goods and objects of prestige within a specific circle of fellow collectors.¹⁵⁹ This practice brings material goods into a different attention as objects become vessels of special symbolic meanings of human expression, communication and ritual, transcending their normal functional reality.¹⁶⁰ One could perceive collecting as an ‘art’ in terms of methodology and perception towards the objects, their curation and their ‘assemblage’, resembling the surrealist and Duchampian tradition. Collectors select objects, remove them from their mundane and materialistic associations with the market and monetary value, and decommo-ditise, sacralise them, like ‘found objects’ or ‘readymades’ intentionally acquired and given extraordinary meanings. Collected objects and their collectors are evaluated in esteem and monetary value for their rarity and perceived quality, sometimes price becoming the reason itself of admiration. In this hybrid combination of values, collecting ends up having a double nature: sacred and profane, opposing and celebrating the market, materialistic and anti-materialistic. Here, the term materialism is used with the negative connotation of “the importance a consumer attaches to worldly possessions” where “at the highest levels [...], such possessions assume a central place in a person’s life and are believed to provide the greatest sources of satisfaction and dissatisfaction in life”.¹⁶¹

In the context of consumerism, collecting is perceived by some as an antithesis of materialistic consumption, as a romantic passion that goes beyond the notions of work, money, or investment. Colin Campbell, Emeritus Professor of Sociology at the University of York in the United Kingdom, comments on how Romanticism has been connected to the origins of the consumer culture in Europe, although being considered idealistic and anti-materialistic.¹⁶² Indeed, many collectors

¹⁵⁸ R. W. Belk, *Collecting in a Consumer Society*, London: Routledge, 1995, p. 67.

¹⁵⁹ R. W. Belk, *The Double Nature of Collecting: Materialism and Anti-Materialism*, in “Etnofoor”, 1998, Vol. 11, No. 1, COLLECTING, 1998, pp. 7-20, here p. 9.

¹⁶⁰ Ibid. 7 - 8

¹⁶¹ R. W. Belk, *Materialism: Trait Aspects of Living in the Material World*, “Journal of Consumer Research”, 12. pp. 265-280; here p. 265; in R. W. Belk, *The Double Nature of Collecting*, cit., p. 8.

¹⁶² C. Campbell, *The Romantic Ethic and the Spirit of Modern Consumerism*, Oxford: Basil Blackwell, 1987; and R. W. Belk, *In the Arms of the Overcoat: on Luxury, Romanticism, and Consumer Desire*, in *Romancing the Market*, Stephed Brown (ed.), London: Routledge, 1998.

see themselves as romantic heroic saviours of objects that others fail to appreciate adequately, and their ‘mission’ ends up in acquiring valuable objects not of extraordinary monetary value, but of extraordinary spiritual, intellectual and cultural value. Precious and valuable objects go beyond any price, becoming also – characterised by some as elitist and controversial – a taboo for many museums that are reluctant to commodify their collections and do not offer any monetary estimation of their artworks. This principle was of critical interest when before and during the pandemic of Covid-19 some museums chose to proceed with deaccessioning of some of their works to financially support the economic struggles of the time.¹⁶³ Many collections describe their most precious pieces as ‘priceless’, maybe also ‘forgetting’ the real privilege of this perspective.¹⁶⁴ Admiring objects in a collection, and their ultimate display in museums, is key to the act of sacralisation, opposed to their profane contamination and mundane ‘objectification’ addressed to the mere human products of no ‘superior’ value.¹⁶⁵

When talking about anti-materialistic, idealistic values, terms such as priceless, status and recognition, one can think about the ‘immaterial’ cultural capital acquired that is reflected in the Marxist and Bourdieu’s theories. Cultural capital is the exchange resource, a symbolic currency that individuals trade for rewards of status and power that reproduce social mobility through nonfinancial assets even when at the end finances, markets and money are also invested.¹⁶⁶ The foundation of any exchange currency -whether it is economic or symbolic- is the validation and acceptance by others, reason why many collections choose to display their collection directly in their own museums or indirectly by donating them to existing ones.¹⁶⁷ In this anti-materialistic habit, it can be identified an ‘immaterial’ capital attributed both to art objects that have been carefully selected, acquired, collected and displayed, and to

¹⁶³ A. Villa, *The Most Controversial U.S. Museum Deaccessions: Why Do Institution Sell Art?*, in “ARTnews”, 26 October 2022, <https://www.artnews.com/feature/most-controversial-museum-deaccessioning-plans-1234575019/> [last access 20 January 2024]

¹⁶⁴ R. W. Belk, *The Double Nature of Collecting*, cit., p. 13, and S. Pearce, *On Collecting: An Investigation into Collecting in the European Tradition*, London: Routledge, 2005.

¹⁶⁵ Russell W. Belk, *The Double Nature of Collecting*, cit., p. 14.

¹⁶⁶ L.E.A. Braden, *Collectors and Collections: Critical Recognition of the World’s Top Art Collectors*, in “Social Forces”, Vol. 94, No. 4, June 2016, pp. 1483-1507, here p. 1483; P. Bourdieu, *The Forms of Capital*, in *Handbook of Theory and Research for the Sociology of Education*, J. Richardson, Westport, CT: Greenwood, 1986, pp. 241-58

¹⁶⁷ L.E.A. Braden, *Collectors and Collections*, cit., p. 1484.

collectors and museums that gain social prestige and cultural capital. However, even the most romantic and idealistic collectors could not ignore completely the monetary value of the pieces purchased, as they are aware of the cost of their engagement through the acquisition, transportation, management, maintenance, and overall preservation of their possessions.

Although not being common for all collectors, of Edmond de Goncourt's (Fig. 51) is a on romantic and idealistic case of 'altruistic anti-materialism'. In 1896 he wrote in his testament:

My will is that my drawings, my prints, my bibelots, my books, in a word the art objects that made the happiness of my life, be not coldly entombed in a museum and meet the stupid gaze of indifferent passers-by, and I request that they all be auctioned and scattered, so that the pleasure I found in acquiring each of them be given again, for each of them, to an heir to my taste.¹⁶⁸

De Goncourt showed a non-uncommon perception of museums as decontextualising 'cold tombs' of artwork's identities and stories. Responding to this coldness and lifelessness, resembling to the 'white cube' atmosphere common to galleries, many museums have chosen warm and more personal arrangements coherent with the special attention and individuality of the specific obtained objects, producing welcoming and liveness to the owner and the visitor. However, for de Goncourt, this life-giving quality did not inhere in the collected objects or their assemblage, therefore, they should be re-purposed, collections and arrangements should be destroyed, and their components must be scattered, allowing others to reproduce their personal oasis and providing further value to the pieces.¹⁶⁹

Looking at the main museums of diverse objects, artworks, pieces around the world, de Goncourt's perspective seems to not be shared by many other collectors and that have taken the opposite direction. For them, the dispersal of these precious objects equates with entropy and death, and they aim to keep their precious possessions

¹⁶⁸ Edmond de Goncourt's testament from 1896, reproduced in *Le Livre et L'Image*, n.s. no. 1, March 1910, p. 6.

¹⁶⁹ D. Gamboni, *The Art of Keeping Art Together: On Collectors' Museums and Their Preservation*, "Anthropology and Aesthetics", No. 52, Autumn 2007, *Museums: Crossing Boundaries*, pp. 181-189, here 181.

through their museums, along and beyond their lives: an assemblage of objects representative of their eternal existence.

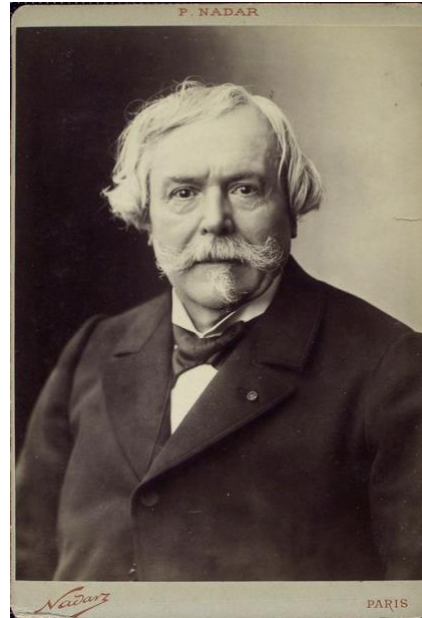


Figure 51. Edmond de Goucourt, Image of public domain.

3.1.2 Keeping Art Objects Together

The decision to 'keep art together' and fight entropy requires devices such as wills, endowments, administrators, buildings, curators, and a long list of parties cooperating to bring and show together. The crystallisation and 'eternisation' of objectual constellations into museums become a form of – almost artistic – an expression of this practice of selective accumulation. Dario Gamboni, Professor Emeritus of Art History at the University of Geneva, comments that an early common form of 'curation' was the integration of archaeological fragments into the walls of palaces, churches, and gardens, that anyone can admire in many locations in Europe but also the United States, like the case of Isabella Stewart Gardner and her Museum in Boston, opened to the public in 1903 and shows arrangements of stone fragments in the inner courtyard.¹⁷⁰ The real motives behind the specific idiosyncratic assemblages and presentations of objects can only be assumed. However, the choice and

¹⁷⁰ Isabella Stewart Gardner Museum, "Building Isabella's Museum", [gardnermuseum.org](https://www.gardnermuseum.org), at <https://www.gardnermuseum.org/about/building-isabellas-museum> [last access 3 January 2024]

arrangement of the pieces show the personal character, personality, and life. Even the website of the Museum shows this intimate, personal character when referring to the collector by her first name.¹⁷¹

The way these museums display the works of art reflects the collectors' taste and personality, as they give access not only to the specific pieces but also to the private spaces and personal atmosphere where they are placed. These 'historical houses' and 'personal collections' can be considered a version of De Goucourt's anti-materialism, as they do not desire monetary exchange but a personal respectful admiration for their collections.¹⁷² Similar to Stewart Gardner's, another exquisite example of eternised, materialised and preserved personality is Sir John Soane's Museum (Fig. 52), English architect who built and lived in the same space where now are displayed thousands of collected antiquities, furniture, sculptures, architectural models and paintings. In 1833, Soane negotiated a private Act of Parliament to preserve his house and collection, keeping the exact arrangement as it was at the time of his death, mandating that a Board of Trustees took the responsibility to respect upon his death in 1837.¹⁷³ Gardner's and Soane's are not exceptions of historical houses that keep their original collector's legacy and collections. Some examples are the Peggy Guggenheim Collection in Venice, the J.Paul Getty Museum in California, the Benaki Museum in Athens, and the Museo Sorolla in Madrid.

¹⁷¹ Isabella Stewart Gardner Museum Website, <https://www.gardnermuseum.org/>

¹⁷² D. Gamboni, *The Art of Keeping Art Together*, cit., pp. 182-3.

¹⁷³ Sir John Soanes Museum London, "Our History", *soane.org*, <https://www.soane.org/about/our-history> [last access 3 January 2024].



Figure 52. Sir Joane's Museum Interior, from Sir John Soane's Website.¹⁷⁴

We have seen the origin of museums, as spaces that welcome collections, personal and donated or public. Today, they are considered institutions dedicated to preserve the primary evidence of humankind and the environment, therefore they are remarkable diverse in form, content, and function. In 2022 the Extraordinary General Assembly of ICOM approved the proposal for the museum definition:

A museum is a not-for-profit, permanent institution in the service of society that researches, collects, conserves, interprets and exhibits tangible and intangible heritage. Open to the public, accessible and inclusive, museums foster diversity and sustainability. They operate and communicate ethically, professionally and with the participation of communities, offering varied experiences for education, enjoyment, reflection and knowledge sharing.¹⁷⁵

This definition emphasises the 'collection, conservation, and exhibition' of both 'tangible and intangible heritage'; the discourse shifts from strictly artistic to broader cultural contexts and is used as both synonyms of materiality and immateriality: tangibility and intangibility.¹⁷⁶ Intangibility encompasses practices and traditions extending beyond traditional art, yet crucial for preserving cultural identity

¹⁷⁴ Sir John Soanes Museum Website, *soane.org*, <https://www.soane.org/>

¹⁷⁵ ICOM, "Museum Definition", *icom.museum*, <https://icom.museum/en/resources/standards-guidelines/museum-definition/>

¹⁷⁶ Ibid.

and human history. The democratisation, horizontalisation, and decolonisation of norms and hierarchies result from the dematerialisation and ‘detangibilisation’ of art and culture. Cultural heritage no longer confines itself to monuments and object collections; it now encompasses traditions and living expressions, contributing to a more inclusive and diverse cultural landscape.

While legislation appears to provide comprehensive protection and structure for the administration of culturally significant artworks and objects, challenges arise with these items’ evolving nature and identity. Defining what constitutes a ‘thing’ of cultural interest, an ‘object,’ or an ‘asset’ becomes complex, especially as artworks may no longer be solely tangible, movable, or immovable. Today, acquiring, safeguarding, and preserving an artwork might involve obtaining a symbol-object through a transferable and reproducible code—an aspect to be further explored in conserving and preserving new media art.

3.2. Protection, Conservation, Preservation of Material and Immaterial Art

As said, among the museum responsibilities of research, collection and exhibition, it is indispensable to engage in the conservation, preservation of culturally and historically considered valuable things of interest. To conserve requires to restore and this field is highly influenced by the perception of materiality and the relation to reality, history, identity, and overall, the essence of the artwork as a product of human activity. The dilemmas and principles to follow are recurrent and mostly based on the importance given to the elements that constitutes the artwork in their synthesis. Both traditional and contemporary theories on art restoration face different challenges and dilemmas due to the particular nature of the products handled. These can be material, immaterial, movable, immobile, reversible, code-based, or even completely absent of structure.

The traditional practices of restoration, pillars also of the policies on conservation of world heritage mentioned before, began in the 19th century with systematized in the perceptive texts of Cesare Brandi, Eugène Viollet-le-Duc, John Ruskin, Camillo Boito or Umberto Baldini, making matter the primordial object of restoration. On the other side, contemporary restoration theories, considering the

immaterial or hybrid nature of the works, are more dispersed, fragmented, and expanding.

Conservation encompasses activities that directly intervene on and alter the non-perceptible characteristics of the piece to avoid and prevent (all these practices are intended to be preventive) greater alterations in the future. Restoration refers to returning to its original or perceptible authentic state. *Documentation* is the residual activity usually initiated from the moment of production and conservation to support all other processes. This becomes of greater importance in the context of new media and contemporary art, where the basis of all practices is information, data, and its transmission and interpretation. Proper documentation becomes mandatory to ensure proper reproduction, preservation and conservation of the technological art. Restoration of contemporary and new media art should not negate the traditional theories, but neither should limit themselves to them, as the new art forms require new techniques and approaches.

The mutating and progressive characteristics of the new things, objects, and products considered art require respective restoration able to adapt and incorporate the passage of time in its practice. Evolving conservation is proposed by Lino García Morales in his *New Media Art Conservation*; a practice predisposed to change is required and considered from the moment of production to the moment of recreation and preservation. In the new media sphere, conservability and preservability become equivalent to resistance to technological obsolescence and a high capacity for adaptation to new scientific and technical developments. Therefore, current conservation needs to integrate change, mutation, and adaptability in their approach, not only of material, solid, immutable supporting elements but of immaterial, data and code-based elements that make technological artworks extraordinarily complex and require the intersection of a plurality of constantly evolving areas of knowledge.¹⁷⁷

3.2.1 Traditional Restoration Theory

As mentioned, restoration consists on the method that brings the work of art to the moment of recognition -its dual aesthetic and historical nature- in with the goal of

¹⁷⁷ Ibid., pp. 24-26.

its transmission also to the future of the universal consciousness. For Brandi -one of the most important theorists on the matter and strongly influenced by his studies of philosophy and art criticism- in his *Theory of Restoration*¹⁷⁸ (Teoria del Restauro), restoration is the intervention that permits a product of human activity to recover its function. However, due to its unique nature, the recognition of functionality of artworks becomes in a secondary place.

A work of art is considered unique due to its unrepeatable singularity and the historic events and human actions that shaped it. For this reason, each case of restoration must be taken individually and should be appreciated both from its historical significance and its aesthetic value. It must be considered as a historical record, even if the original formal arrangement that shaped the matter into a work is almost vanished or reduced to little more than a material residue, like ruins. A ruin is precisely anything that bears witness of human history, whose appearance has become almost unrecognisable, but still it makes one consider the present, past, and future for which the vestige of human existence must be preserved.

The principal axiom of Brandi's theory is that the material is what is restored in an artwork, as it is the physical medium that transmits the image aimed to be preserved for the future. The physical element is the 'real place' where the image is materialised and where its future transmission takes place; it does not only accompany it but also coexists with material support and appearance. Therefore, the materiality of the work achieves primary importance, and every effort and research must be undertaken to ensure its longevity.

An artwork's material determines structure and appearance, with the latter prevailing on the former, but without contradicting each other and always staying interdependent. Keeping particular attention and respect, similar to craftsmanship, on the materiality of artworks, Brandi explains that the material transmits the *epiphany* (recognition) of the image, and therefore, the material must be examined in different levels, stages and perspectives. It is important to investigate and understand

¹⁷⁸ C. Brandi, *Theory of Restoration*, transl. Cynthia Rockwell, Florence: Nardini Editore, 2005, pp. 48-53; 65-66.

the distinction between structure and appearance properly and to not neglect or assimilate one to the other and proceed with errors and wrong interventions.¹⁷⁹

Brandi states that restoration should aim to re-establish the potential oneness of the work of art if this is possible, without committing artistic or historical forgery and without erasing every trace of the passage through time of the work of art”.¹⁸⁰ This potential oneness refers to a whole, not perceived as the quantitative unity of the sum of its parts, it is not comparable to organic and functional oneness of external reality as the individual material components have no particular significance (for example in mosaics). The potential oneness can only be achieved in direct proportion of what has survived of the original features.¹⁸¹ The re-establishment of the work’s potential oneness should not be pushed too far as to destroy authenticity by superimposing new, inauthentic, overpowering historical reality of the old. However, it must be accepted as the historical and artistic residue, and restoration must only keep it as that.

The decision of preservation and restoration relies on assessing the historical significance of artworks. The initial phase, preventive restoration, focuses on identifying and maintaining the status quo and consolidating materials without direct intervention. But dilemmas arise regarding additions and reconstructions, as historically are considered new evidence and deserve equal conservation rights. The removal erases historical records, falsifying evidence, without leaving any record; therefore, the removal of reconstructions and conservation of additions that facilitated the preservation of the work are the only legitimate actions to take.¹⁸² Although all the attention of restoration is given to the material support of the artworks, the material should never take precedence over the image. The work should not be seen as material but act only as an image, and if the material stands out, overwhelming the artwork and disturbing its reality, slight alterations, such as a patina, can imperceptibly tone down the material in favour of the image.¹⁸³

¹⁷⁹ Ibid., pp. 51-52.

¹⁸⁰ Ibid., 50

¹⁸¹ Ibid., pp. 55-56

¹⁸² Ibid., pp. 67-68, and 74

¹⁸³ Ibid., pp. 87-8

3.2.2 Tangible and Intangible Cultural Heritage. De- and Rematerialisation.

The question of materiality and immateriality (or better here, de- and re-materialisation) has also been addressed by UNESCO¹⁸⁴ -the specialised agency of the United Nations aiming to promote world peace and security through the cooperation of education, arts, sciences and culture, which World Heritage Convention encourages the identification, protection and preservation of cultural and natural heritage considered of outstanding value to humanity- in the approach towards decay, decomposition or destruction of cultural heritage.

Traditionally, UNESCO's World Heritage Committee (WHC) has remained largely unsympathetic to reconstruction, and heritage conservation professionals have traditionally been opposed because of the possible falsification of history. The traditional principles for the heritage conservation of Boito were foundational for the doctrinal text of the International Council on Monuments and Sites (ICOMOS) and the 1964 Venice Charter that rules out reconstruction and insists on stopping the restoration where speculation starts. Standards and guidelines have consistently expressed caution regarding reconstruction. These theories and values have stressed the importance of minimum intervention and respect towards the monument's authenticity, oneness, and originality, ruin, historical or artistic human product. However, there have been exceptions when facing real cases of global destruction of cultural heritage, either due to natural causes, cultural cleansing, or other causes.

The former vice-president of the Canadian Commission of UNESCO, Christina Cameron, in her *UNESCO Courier* article¹⁸⁵, addresses the questions regarding whether or not to reconstruct, considering cases such as the 2001 demolition of the Buddha statues in the Bamiyan Valley in Afghanistan¹⁸⁶ (Fig. 53) by the Taliban; the destruction by the Islamic State out of religious motives of the sites of Palmyra¹⁸⁷

¹⁸⁴ UNESCO, *unesco.org*, <https://www.unesco.org/en/brief>; UNESCO, "World Heritage", *whc.unesco.org*, <https://whc.unesco.org/en/about/> [last access 7 January 204]

¹⁸⁵ Ch. Cameron, *Reconstruction: Changing Attitudes*, "The UNESCO Courier", 19 July 2017, <https://courier.unesco.org/en/articles/reconstruction-changing-attitudes>

¹⁸⁶ UNESCO World Heritage Convention, *Cultural Landscape and Archaeological Remains of the Bamiyan Valley*, in *whc.unesco.org*, <https://whc.unesco.org/en/list/208/>.

¹⁸⁷ UNESCO World Heritage Convention, *Site of Palmyra*, in *whc.unesco.org*, <https://whc.unesco.org/en/list/23>.

(Fig. 54) and the Ancient City of Aleppo¹⁸⁸ in Syria; or the destruction of hundreds of structures by the 6.1 magnitude earthquake of 2015 in the Kathmandu Valley in Nepal (Fig. 55)¹⁸⁹.



Figure 53. Afghan Taliban militia's officials stand in front of the completely destroyed tall standing Buddha. Getty Images.

Figure 54. A Syrian government soldier walks near what's left of the Temple of Baalshamin on Sunday, March 27 2015. From CNN, Valery Sharifulin/TASS via Getty Images



Figure 55. Remains of a collapsed temple at Bashantapur Durbar Square, a UNESCO world heritage site © Navesh Chitrakar / Reuters | Credit: REUTERS

¹⁸⁸ UNESCO World Heritage Convention, *Ancient City of Aleppo*, in whc.unesco.org, <https://whc.unesco.org/en/list/21>.

¹⁸⁹ UNESCO World Heritage Convention, *Kathmandu Valley*, in whc.unesco.org, <https://whc.unesco.org/en/list/121>.

These - and other¹⁹⁰- cases called for national and international specific policies and the involvement of the United Nation, Interpol and the International Criminal Court. Consequently, the current version of the World Heritage Committee's *Operational Guidelines for the Implementation of the World Heritage Convention* still echoes the Venice Charter of 1964 when it states:

In relation to authenticity, the reconstruction of archaeological remains or historic buildings or districts is justifiable only in exceptional circumstances. Reconstruction is acceptable only on the basis of complete and detailed documentation and to no extent on conjecture.¹⁹¹

Yet, the attacks by extremists, natural disasters, and international diplomatic issues have shifted the attitude toward reconstruction.¹⁹² Another important shift in the perception of deconstruction and reconstruction was the Nara Document of Authenticity¹⁹³, coming from institutional and official request from the Government of Japan to legitimise their periodic dismantle, rebuilding and re-assemble of wooden heritage structures which would be considered unethical according to Western principles.¹⁹⁴ It was drafted after the Nara Conference of November 1994 – was an initiative taken by the Japanese government and co-organised with the World Heritage Convention, ICCROM and ICOMOS, that addressed the need for broader understanding of cultural diversity in relation to conservation when evaluating the importance of authenticity of cultural property more objectively. The document recognised that the concept and application of the term 'authenticity' vary from culture to culture and, therefore, the underlying cultural context of any cultural heritage must be considered.

It states:

¹⁹⁰ The 1972 dismantling and reconstruction of Nubian monuments from Abu Simbel to Philae in Egypt after a twenty-year UNESCO campaign; or the 1980 massive rebuilding of the historic centre of Warsaw, seen as symbol of patriotic feeling of Polish people.

¹⁹¹ UNESCO World Heritage Convention, *Operational Guidelines for the Implementation of the World Heritage Convention*, Paragraph 86, <https://whc.unesco.org/en/guidelines/>

¹⁹² See also China initiative *The Alliance for Cultural Heritage in Asia (ACHA)* in <https://thediplomat.com/2023/05/whats-behind-chinas-new-alliance-for-cultural-heritage-in-asia/> and <https://www.globaltimes.cn/page/202304/1289796.shtml>

¹⁹³ UNESCO, *Nara Document on Authenticity*, <https://whc.unesco.org/archive/nara94.htm>; UNESCO, World Heritage Convention, *Historic Monuments of Ancient Nara*, <https://whc.unesco.org/en/list/870/>

¹⁹⁴ Herb Stovel, *Origins and influence of the Nara document on authenticity*, in "APT Bulletin 39 (2/3)", pp. 9-17.

There was a general consensus that authenticity is an essential element in defining, assessing, and monitoring cultural heritage. The experts gave particular attention to exploring the diversity of cultures in the world and the many expressions of this diversity, ranging from monuments and sites through cultural landscapes to intangible heritage. [...] Concept and application of authenticity as it relates in cultural heritage is rooted in specific cultural contexts and should be considered accordingly.¹⁹⁵

Last, regarding the material and immaterial elements of art and culture, the UNESCO adopted in 2003 the Convention for the Safeguarding of the Intangible Cultural Heritage (ICH).¹⁹⁶ ICH was defined as the living form of inherited heritage that provide sense of identity and includes oral traditions, performing arts, social practices, rituals, festive events, knowledge and practices concerning nature and the universe, or the knowledge and skills of traditional crafts. The Convention sets a framework for identifying forms of intangible cultural heritage, but the list is intended to be inclusive rather than exclusive, allowing the addition of wider domains and sub-categories.¹⁹⁷ The ICOM recognises the commitment and contribution of museums - as seen previously in the last definition – to the safeguarding and defence of ICH, using their mandate, infrastructures and resources and obtaining accredited advisory functions to the UNESCO Intergovernmental Committee of Safeguarding Intangible Cultural Heritage.¹⁹⁸

3.2.3. Conservation of New Media and Digital Art

Shifting to the present times and leaving behind traditional restoration theories, Lino García Morales, professor and researcher of Conservation and Restoration of Digital art, brings an extensive analysis of the issue raised in contemporary and new media art conservation from the dematerialisation and progressivity of the artworks to conserve. ‘Traditional art’ is considered the art produced according to a series of formal rules, concerned with the stability and permanence of matter into the future, central also to its conservation and restoration. However, the emergence of new

¹⁹⁵ UNESCO World Heritage Convention, *Nara Document of Authenticity*, November 1994, <https://whc.unesco.org/archive/nara94.htm>

¹⁹⁶ UNESCO, *Text of the Convention for the Safeguarding of the Intangible Cultural Heritage*, <https://ich.unesco.org/en/convention>

¹⁹⁷ Ibid.

¹⁹⁸ ICOM, *Intangible Heritage*, in *icom.museum*, <https://icom.museum/en/heritage-protection/intangible-heritage/>

formats and ‘materials’, such as photography, cinema, performance, and other mixed media elements, gradually expanded the idea of art and its restoration theories. Contemporary art incorporates technically and serially reproduced works, ignoble materials and alien elements that incorporate disappearance and change in their nature. New media further includes the digital computer, the metamedium that expands and dematerialises even further the reality of art.¹⁹⁹

The restoration problem follows the dematerialising story of art from traditional passive art materials in fused support/material/image to new media art of active material of dissolved support/image, where the structure remains material. However, its appearance and image become immaterial or hybrid. The latter requires a support that needs electrical energy and mediation to manifest its immaterial image. Traditional art is image-material based, and everything is space, while contemporary art introduces movement and time. New media art becomes fundamentally time-based art.²⁰⁰ Here, the ontological constitution of art becomes fundamental to restoration, as the previous image/aspect (material appearance of Brandi) and support/structure (material support of Brandi) are reconsidered as symbol-object - content and meaning – and the system-object - the container the signifier: the work of art becomes something abstract that is represented according to these content/container, symbol/system.

Considering these shifts, the problem of restoration increases in complexity and conservation of the identity, properties and attributes becomes a problem. This problem is similar to the Nara Document on Authenticity, where the rebuilding and restoration of monuments would question the idea of authenticity and the preservation of the unique identity. But restoration is itself a change and alteration that ensures that the changed (restored) object remains the ‘same’, retaining its identity in the best way possible and resistant to obsolesce and decay. Traditionally, this was determined, as shown by Brandi, by the material and physical form, where the support and the image were inseparably and materially bound, and the pillars of restoration - authenticity, objectivity, universality, and reversibility - were founded. However, in the case of new media art, García Morales proposes a “Theory of Evolutive Conservation” able to

¹⁹⁹ L. García Morales, *New Media Art Conservation*, cit., pp. 11-12.

²⁰⁰ *Ibid.*, pp. 13-17

incorporate the elements of change, evolutivity and permanence through constant change.²⁰¹

The disappearance of the coexistence between the material support and its image, the new autonomy from materiality, and the liberation of the symbol-image from its material support put the discipline of restoration into crisis because when everything became susceptible as artwork, and for restoration, not everything was equally predisposed to restoration. For example, in 1972, the Tate Gallery paid £2,297 for Carl Andre's *Equivalent VIII*, a series of 120 bricks arranged in a rectangle on the museum floor; in 2000, it bought Piero Manzoni's *Merda d'Artista*, a tin of the artist's excrement for £22,300 (€27,000), a price based on the weight of the tin, tied to the price of gold at the time of purchase; and in 1991, collector Steve Cohen bought Damien Hirst's *The Physical Impossibility of Death in the Mind of Someone Living*, for about 9,5 million euros and for which experts even believe that the using of formaldehyde instead of alcohol-based solution was a mistake.²⁰²

All pieces could arguably be restored following the traditional methods of Brandi, Boito, or Baldini. An example of the change in the meaning of 'conservation' - although not even part of the new media sphere - and requiring of an evolutive conservation can be seen in Jeff Koon's *Puppy* (Fig. 56) placed at the Guggenheim Museum of Bilbao and which was produced from the beginning to mutate. It is a structure consisting of layers of stainless steel sheets, earthen substrate, geotextile, mesh to fix the peat, access through an exterior door measuring 50 cm, 5-tier internal scaffolding, homogeneous watering and fertilizing complex computer-controlled tube system that is activated daily, requiring a team of 20 gardeners, 10 operators and one full-time specialist. It is a 'sculpture' 13.8 meters high, weighing 15 tons, with 38.000 flowers grouped in small patches that are changed twice a year for €100.000 each time. The flowers change naturally and are continuously removed and replenished, changing the image of the dog according to the fleeting conditions, but its symbolic efficiency

²⁰¹ The term 'permanence through change' was inserted in the story of Restoration of the Variable Media Initiative of the Guggenheim Museum in New York, a nontraditional, new preservation strategy emerged in 1999, <https://www.guggenheim.org/conservation/the-variable-media-initiative> and <https://www.variablemedia.net/>.

²⁰² Ibid., p. 57

remains unchanged. Despite its continuous mutations, nobody questions the authenticity of Puppy.²⁰³



Figure 56. Jeff Koons, *Puppy*, Guggenheim Bilbao Museum.

This new evolutive restoration state also surges from the new substance of new media of code-image, the virtual product of computational generative processes of transcoding images into the digital domain. Code is the new content of the era of the third industrial revolution, where everything is produced at the convergence with ICT (information and communication technologies) and is fundamentally digital information. Regardless of the support, code-image is multiplied, copied, transferred, stored, and processed through networks and computational processes without losing its essence or quality. All copies are originals and acquire their autonomy, expanding their ‘unreality’ in all their continuum, resulting in processuality, interactivity, virtuality, ubiquity and more.²⁰⁴ Art historian and curator Laura Barreca reduces new media art to three core elements: computing, communication, and content (three Cs).

Computing encompasses digital technologies that process information, providing interactivity and even immersive sensory experiences blending real and virtual worlds. Communication involves the distribution of content between networked nodes, particularly through the Internet, and content is the information

²⁰³ Ibid., pp. 21-22; Jeff Koons, *Puppy*, Guggenheim Bilbao, <https://www.guggenheim-bilbao.eus/en/the-collection/works/puppy>

²⁰⁴ L. García Morales, *New Media Art Conservation*, cit., pp. 15 -17.

computers consume, process, and produce. These meta-elements reshape the traditional axioms of art and extend their influence on restoration, conservation, and art management. Information becomes the new DNA, redefining identity and authenticity beyond material support. Brandi's material support on material authenticity diminishes in importance, giving way to the predominance of information, coded images and their future representation, conservation, and adaptation of the constant changes. The primary challenge in restoring new media art lies in handling information, data, and code.²⁰⁵

The new nature of artworks requires systems of symbolic notation, serving as proof of authenticity; description and instructions - possibly ambiguous and resulting in imprecise ephemeral outcomes due to the variability of application of the same plan - that García Morales underscores as vital for the conservation the symbolic value and discernible differences through change and evolutive recreation: new media art restoration becomes synonymous of 'information conservation,' safeguarding of authenticity through proven information.²⁰⁶

For example, at the end of 2012, on the MoMA blog, curator Paola Antonelli announced the purchase of the *code* of 14 video games (Fig. 57 and 58), the first of 40 acquisitions of the kind.²⁰⁷ Responding to Barreca's three Cs, game art is another complex practice related to animation, programming, computer art and interactive art, constituted of programs or hybrid hardware-software designed for maximum perform in specific hardware resources. However, all hardware bought by MoMA is obsolete, but, in the new state of things, the possession of the code suffices for the restorer to act on the information as algorithm, score, instruction, or symbolic notation system from which to conserve and reproduce the symbol-object in its immaterial form in any other hardware support.²⁰⁸

²⁰⁵ Ibid., pp. 27-29.

²⁰⁶ Ibid., pp. 31, 37-38, 46-49.

²⁰⁷ P. Antonelli and P. Galloway, *When Video Games Came to the Museum*, in "MoMA Magazine", 3 Nov 2022, <https://www.moma.org/magazine/articles/798>

²⁰⁸ L. García Morales, *New Media Art Conservation*, cit., 60.



Figure 57. Alexey Pajitnov, *Tetris*, 1984. MoMA Collection.

Figure 58. Toru Iwatani. *Pac-Man*. 1980. Video game software. Publisher: NAMCO LTD. (currently BANDAI NAMCO Entertainment Inc.). The Museum of Modern Art, New York. Gift of BANDAI NAMCO Entertainment Inc. PAC-MAN TM & © 1980 BANDAI NAMCO Entertainment Inc.

Information, code, data, and processes take the central stage in new media art restoration. As seen previously in Manovic, code is considered the 'materialisation' of processes, with multiple codes and data capable of generating the same symbol-image. Unlike traditional restoration, the combination of support and image is not fixed, requiring choices in language and support (software, hardware, code) and a set of instructions that defines the structure and meaning converted into machine code through compilation and link processes, establishing a materialising relation. Contrary to traditional restoration, new media art involves processes and languages mediating between support and image. In the digital realm, the question arises of whether the source code or machine code preserves the essence of the work. The material change in the support of new media artworks does not alter the aspect of the matter, and its functional character becomes less critical in new media art interventions, as alterations to the support do not impact the artwork's visual characteristics. However, the structure may deteriorate to traditional restoration, and interventions involve running the executable code on a virtual machine simulating the old structure.

The digital context introduces a time in the artworks and a dynamic life cycle for the system-object, where the material-support evolves actively, requiring energy to free the symbol-object from its materiality. The technological structure manifests the symbol, and the display of new media image - is immaterial and unstable - demands action or reaction to instructions or connected interactions. The increased complexity

of this art stems from performativity and intangibility factors that challenge traditional notions of restoration and reinforce the importance of dynamic, energy-demanding systems in preserving the evolving nature of these artworks.²⁰⁹

New media art ends up introducing elements of the postmodern²¹⁰ sensibility seen in Lyotard and Meyer: instability, ubiquity and simultaneity. These imply multiplicity of existence and experience, accelerated time-space reality and error, instability, configuring the new order-disorder and artistic realities.

Providing more specific directions on New Media Art Conservation, García Morales suggests that the restorer must satisfy and respect Lehman's empirical laws of software evolution, including laws of continuous change, evolution, conservation of organisational stability and, in short, new laws that can be applied to technologically produced art. García Morales also suggests the principles of Manovich's *The Language of New Media* of numerical representation, modularity, automation, variability and transcoding.²¹¹ Last, he categorises and comments on the best and riskiest restoration strategies also proposed by the Variable Media Initiative applied in the new media art conservation. These are: replacement, known as storage and accumulation of as many examples as possible of a given technology, ensuring the availability for replacement also enabling refresh, the periodical transfer from one medium in danger to an adapted medium; migration is the updating of the format from an old medium to a new one, also called remediation (transcoding from VHS to DVD) with the risk of degeneration and loss of quality exponentially growing in when priority is to maintain the integrity of the original content; emulation, the simulation of the symbol-object in a different system-object, where a virtual machine emulates the behaviour of the old machine. Recreation is the related practice where appearance is preserved to resist obsolescence; last, reinterpretation, the riskiest, creates an entirely new code, software written for a completely new system-object. Duplication is a variant applicable to media that can be cloned.²¹²

²⁰⁹ Ibid., p. 66-7

²¹⁰ As commented and presented by Lyotard in "Les Immatériaux" of 1985.

²¹¹ L. García Morales, *New Media Art Conservation*, cit., pp. 68-9, 80-1; L. Manovich, *The Language of New Media*, Cambridge, Mass.: MIT Press, 2002, pp. 27-49

²¹² L. García Morales, *New Media Art Conservation*, cit., pp.83-89

3.3. Display and Management of Dematerialised and Immaterial Art

3.3.1 Dematerialised Conceptual Art Exhibitions

With the dematerialisation of art, conceptual and digital-technological, the display formats changed correspondingly. The diffusion, expansion, and ‘democratisation of artworks’ nature and the new products’ complexity and fluidity challenged the traditional exhibition presentation. From the 1960s, with the increase of activities of conceptual artists, exhibitions started to ‘dissolve’ and ‘dematerialise’ as well. One example is the experimentation with exhibitions-as-books of Seth Siegelau – a seminal figure of the experimental and anti-establishment Conceptual Art and gallery owner, independent curator, and publisher – who in 1968 organised the *Xerox Book*. The goal was to create a publication that could be produced and distributed at low cost, inviting Carl Andre, Robert Barry, Douglas Huebler, Joseph Kosuth, Sol LeWitt, Robert Morris, and Lawrence Weiner to create works on paper to be copied and included in the book. Initially, the printed exhibition was intended to be Xeroxed, but the process ended up being too expensive and stopped at a first edition of 1,000 copies. In *January 1-31, 1969: 0 Objects, 0 Painters, 0 Sculptors*, he kept the publication format not only as a complementary companion but as the primary manifestation of the exhibition and the only physical object displayed. It would present images of the artists’ works with brief statements on the nature of their creations. Following the shifting and blurring of paradigms and structures, he viewed his role not as strictly curator of physical entities in physical spaces but as a project facilitator, transitioning to alternative displays and forms of dissemination of art and information, the prominent protagonist of the new era.²¹³

Lippard was also part of this new dematerialised formats. Her *Number 7*, held at the Paula Cooper Gallery in New York in 1969, where the large room of the gallery would appear ‘empty’ but in reality contained a magnetic field by Barry, a pit in the wall from one shot of air-rifle by Weiner, an oral communication by Wilson, a secret by Kaltenbach, the air currents from a small fan placed by the door of the gallery by Haacke, existing shadows by Huot, a black blip inside, one visible from the window,

²¹³ MoMA, *This is the Way Your Leverage Lies. The Seth Siegelau Papers as Institutional Critique*, 2013, <https://www.moma.org/interactives/exhibitions/2013/siegelau/> [last access 13 January 2024] Tate, *Conceptual Art*, “Archive Journeys: Reise”, [tate.org.uk, https://www.tate.org.uk/archive/journeys/reisehtml/mov_conceptual.htm](https://www.tate.org.uk/archive/journeys/reisehtml/mov_conceptual.htm) [last access 13 January 2024]

and others in the street by Artschwager, and a very fragile lead cable piece by Andre. The smaller room contained a floor sculpture by Bollinger, a measurement by Bochner, a wall drawing by LeWitt, and Investigation on wall labels by Kosuth (from *Art as Idea as Idea*), photographs by Smithson and Kirby, a text by De Maria, an uncompleted lead spatter piece by Serra, and a wall cracking by Castoro. The rest of participants were, similarly to Siegelau, represented in a printed matter like notebooks or books on a table of Art & Language (Marion Barthelme, Gene Beery, Jonathan Borofksy, Frederick S. Burgy, Hanne Darboven, Jan Dibbets, Dan Graham, Huebler, Stephen Kaltenbach, On Kawara, Robert Kinmont, Christine Kozlov, Richard Long, Lee Lozano, Einar Lunden, Morris, Nauman, N.E. Thing Co., N.Y. Graphic Workshop, Adrian Piper, Allen Ruppersberg, Edward Ruscha, Bernar Venet, and Lawrence Weiner).²¹⁴

Proceeding with the interdisciplinary, site-specific, participatory, interventional, performance and community-based curatorial practices, bringing political and artistic agendas together, she realised three number shows (Fig. 59) in 1969 and 1970.²¹⁵ Their titles, *557,087 In Seattle*, *955,000 in Vancouver*, and *2,972,453 in Buenos Aires* referred to the population figures of each hosting city and were an attempt to apply Conceptual art themes and strategies to curatorial practice. These new strategies were providing information, indexing, articulating series and exploring diverse distribution methods, and the curator for Lippard became a kind of ‘compiler’. The catalogues were regarded as artworks, making the language the material and medium of the new artistic and curatorial practices. The emphasis on communication and participation that characterised the initiatives of the time was a starting point for the curatorial and display challenges faced with the new media, computer, and technology-based art production and distribution.²¹⁶

²¹⁴ L. Lippard, *Six Years*, cit., pp. 100 – 101.

²¹⁵ A. Hudek and L. R. Lippard, *Number Shows*, interview 11 November 2015, for “Flash Art”, <https://flash---art.com/article/number-shows/>

²¹⁶ S. Buchmann, *Introduction: From Conceptualism to Feminism*, in “Afterall”, 20 April 2012, <https://www.afterall.org/articles/introduction-from-conceptualism-to-feminism/>

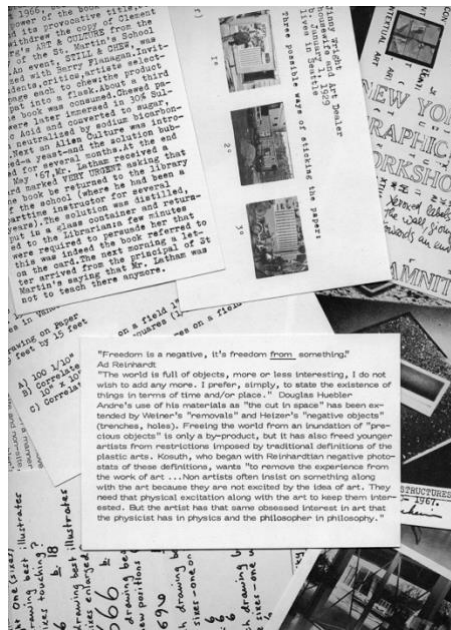


Figure 59, Lucy R. Lippard, *557,087/955,000* (1970). Source Lucy R. Lippard from Flash Art.

Notable example of transitions in exhibiting and challenging the normativity of display and famous for its controversial character was the fourth edition of documenta of 1968 in Kassel. Under Arnold Bode and presented by the slogan “The Youngest documenta Ever”, the exhibition was expected to reflect the influence of the 1968 student revolutions, emphasizing the selection of artists grounded in democratic principles. This edition marked the beginning of a shift in form and structure, featuring works completed shortly before or even produced during documenta, a trend that would be followed in the future. However, many activists protested against the absence of contemporary currents such as Fluxus, or media as Happenings, and, except for Joseph Beuys, Horst Antes, Joseph Albers and Erwin Heerich, many important and relevant artists of the time were overlooked. Though too early for Land art, outdoor projects emerged onto the Karlswiese - like Christo’s (Jeanne-Claude was not yet mentioned as co-author at the time) *5600 Cubic Meter Package* (Fig. 60) - a trend that would continue in subsequent editions.²¹⁷

²¹⁷ documenta, *documenta 4, 1968, Retrospective*, in *documenta.de*, https://www.documenta.de/en/retrospective/4_documenta; E. Livingston, *Christo and Jeanne-Claude's First Wrappings, 1968*, “LIFE”, <https://www.life.com/uncategorized/christo-and-jeanne-claudes-first-wrappings-1968/>



Figure 13. Christo, *5,600 Cubic Meter Package*, Photo by Carlo Bavagnoli/The LIFE Picture Collection © Meredith Corporation.

The next edition, documenta 5 (Fig. 61) of 1972, differed. After the first substantial changes in the previous edition, Harald Szeemann was appointed the first art director and sole curator, giving an unprecedented programmatic focus. Adopting the theme *Questioning Reality – Pictorial Worlds Today*, documenta 5 radically redefined what could be considered art by featuring minimal and conceptual art and making a turning point in their public acceptance. In response to popular protests, Szeemann presented a predominantly intellectual concept instead of an action-oriented event. The question of ‘reality’ created an archipelago of diverse worlds so viewers would see the juxtaposition of artistic ‘realities’ and decide for themselves what art is and is not. Curator and exhibition started to have the role of intermediary, interpreter and facilitator, reminding us of both Siegelau, Lippard and the contemporary and new media ‘mediators’.

Conceptual art, performances, and happenings were included in the program, although the exhibition was not realised as initially planned. Works such as Joseph Beuys’s *Büro für Direkte Demokratie durch Volksabstimmung (Organization for Direct Democracy by Referendum)*; Gilbert & George’s residence as living sculptures; Ben Vautier’s installation and Vito Acconci’s performance space in the Friedericianum; Anatol’s *Arbeitszeit*, workshop installed in the courtyard; James Lee Byars presentation of *Calling German Names* performance; Jannis Kounellis’ tableau vivant featuring a violinist and a ballet dancer; the Vienna Actionism artists associated

with Hermann Nitsch; and Hans Haacke's sociological survey on the profiles of the visitors in collaboration with a computer centre in his installation *Arc, Pyramid* (1971). Even here, many artists expressed severe criticism of documenta 5, as it was for Daniel Buren who said that the whole city of Kassel had become an "exhibition of an exhibition" that was exploiting art for the purpose of consecrating itself as a work of art,²¹⁸ Robert Morris, on the other hand, forbade the exhibition of his work, and along with Andre, Haacke, Judd, Le Va, LeWitt, Dorothea Rockburne, Fred Sandback, Richard Serra, and Robert Smithson, signed a declaration in opposition to documenta, published in the *Frankfurter Allgemeine Zeitung* on May 1972.²¹⁹



Figure 61. Harald Szeemann, documenta 5, Kassel, 1972 with works by Barry Le Va and Rainer Ruthenbeck

3.3.2 Immaterialised Postmodern Exhibition

Further in the discourse of dematerialisation and reaching the level of immaterialisation, the case of Lyotard's "Les Immatériaux" (Fig. 62) is a very good representative of the concerns and challenges of the drastic changes provoked by the social, technological, economical and scientific developments, that naturally had their implications in the cultural and artistic scene.

²¹⁸ B. von Bismarck, *The Master of the Works: Daniel Buren's Contribution to documenta 5 in Kassel, 1972*, in "On Curating", Issue 33, the documenta issue, <https://www.on-curating.org/issue-33-reader/the-master-of-the-works-daniel-burens-contribution-to-documenta-5-in-kassel-1972.html>

²¹⁹ documenta, *documenta 5, 1972, Retrospective*, in *documenta.de*, https://www.documenta.de/en/retrospective/documenta_5



Figure 62. Poster of Exhibition of 1985 at the Centre Georges Pompidou. Graphics: Grafibus. Source: Centre Pompidou Website.

In March 1985, at the Centre Georges Pompidou, Jean-François Lyotard, in collaboration with Thierry Chaput, the director of the Centre de Création Industrielle, organized the exhibition *Les Immatériaux*, an attempt to convey the profoundly destabilizing experience of contemporary life and addressing the new materialisms and relations between objects and humans in the new reality of the postmodernist era.

One of the central points of the exhibition was the root of the word “Mat”, found in many languages as indication of “taking measurement by hand” and meaning “building” or “modelling”, and that has also been the source of words such as “materials”, “matter”, “maternity”, or “matrix”.²²⁰ In a space divided into five path-zones and subdivided into sixty sites, visitors would wear headphones with different radio frequencies and had to navigate through a labyrinthine maze of grey metal mesh and screens. (Fig. 63) The visual display was paired with audio text from Antonin

²²⁰ E. Grubinger and J. Heiser (eds.), *Sculpture Unlimited 2. Materiality in Times of Immateriality*, May 2015, Sternberg Press, pp. 97-98.

Artaud, Franz Kafka, and Paul Virilio, advertising jingles or just noise. Additionally, they included computers, artificial skin, Kevlar, and works of Giovanni Anselmo, Daniel Buren, and Dan Flavin to show how new materials (or also called constituents), in their diversity, had challenged the relationships to the world through thin, intangible, subtly imperceptible, but present layers. Trying to address the dominance of the sense of sight representative of modernity, Lyotard threw in the exhibition various barriers of vision such as darkness, grey screens, and twists and turns of the labyrinth. In this way the immaterials chosen and empowered would trigger a sense of interrogation and uncertainty, producing a state of loss of identity as human beings due to the dissolution of boundaries between bodies and the external material things encountered. This uncertainty on purpose ‘curated’ for the exhibition experience was a representation of the real sense of contemporaneity caused by the rapid shift of the external world.



Figure 63. View of the exhibition of Jean-François Lyotard, *Les Immatériaux*, Centre Pompidou, Grande Galerie, 1985. Photography by J.-C. Planchet.

In a conversation with the French curator Bernard Blistène, Lyotard explains that the original idea of the ‘immaterial’ or the ‘non-material’ was different than the outcome, and the title itself of the exhibition was meant to be “Nouveaux Matériaux et Création” [New Materials and Creativity]. However, the understanding and the terms slightly shifted the meaning of the subject and a different approach was considered. The theme tried to give legitimacy to the neologism “the immaterials”,

referring to the progress accomplished in the field of science and technology, and that respectively has influenced and impacted the arts in the closer approach and knowledge of what is called 'objects'. Through scientific research and analysis, and with the implementation of new technological instruments, these objects are decomposed and perceived as such only from the limited human point of view. However, at their constitutive or structural level, they are complex agglomerates of particles and energy. The idea of an 'object' is merely a human composition that provides meaning and form to the material elements surrounding and constituting the external reality. However, due to the development and narrowing of the range of information regarding these constituents, that component today known as matter does not exist anymore but has been replaced by non-static and revolutionizing energy. The so-called, in the old sense of the word, materials, resistant to modification and reliable solids, have been replaced by a fluid, blurred, relative sense of processes that overcome the obsolete limits of matter.²²¹

The exhibition had several innovative elements. The theme, as mentioned earlier, the technical innovations, the new materials and the trend toward an immaterialized (but subtly layered) relationship with the world, as well as the material components of the exhibition, the tools implemented, the paired traditional paintings and sculptures with 'new' signs, words, sounds and technical artefacts of the outside world; and the 'imposed' free itinerary, where visitors could wander with neither restriction nor guidance. No traditional catalogue was published, nor were guided gallery tours possible, but only group discussions were organized outside the space after the visit to exchange impressions and opinions²²². Equally important was also the profile of the curator-author of the exhibition: the philosopher. A philosophical discourse was presented through an artistic and visual medium instead of the printed or oral. As Lyotard himself commented, it was vital for him to record his thoughts with instruments that were not restricted to the instrument of the traditional book but were open to the expressive tools of art. Curating an exhibition of things inspired by the feeling of incertitude of the new 'immaterial' condition of postmodern materiality brought an opportunity for establishing a new relationship between the philosophical,

²²¹ Ibid., pp. 90

²²² Ibid., pp. 78-79

scientific and artistic modes of thought. These could address the questions of incertitude that the improbability characteristic of the immateriality of the postmodern times.²²³

Connected to the immateriality of the time and adapted to the current state of immateriality, an interesting case of new media preservation using the emulation and simulation presented before by Garía Morales comes from the international, collaborative, practice-based research project Beyond Matter²²⁴ that takes cultural heritage and culture in development to the verge of virtual reality. Developing solutions for accessible digital documentation and networked presentation of exhibitions that currently exist, or previously existed, in physical spaces, the Centre Pompidou in its collaboration, produced a virtual recreation of the *Les Immatériaux* of Lyotard (Fig. 64), and developed it by alternating theory and practice and manipulating technology and information from the archives.²²⁵ It presents a selection of partly reconstituted works and documents in perspective in a virtual environment designed by the Museum teams in the research project, enabling to explore a map of its archive, by definition moving and incomplete.



Figure 64. Virtual reconstruction of the exhibition *Les Immatériaux*, Centre Pompidou, 1985, of 2023. Site of Painting without bodies. © Centre Pompidou, 2023

²²³ T. McDowell , *Les Immatériaux: A Conversation with Jean-François Lyotard and Bernard Blistène*, the text of this conversation originally appeared in Flash Art, no. 121, March 1985, pp. 32–39.

²²⁴ Beyond Matter, <https://beyondmatter.eu/>

²²⁵ Beyond Matter Virtual recreation of the exhibition “Les Immatériaux” [Immaterial] (1985), <https://www.centrepompidou.fr/en/offer-to-professionals/scientific-research/beyond-matter>; and <https://beyondmatter.eu/archived-matter>

One last contemporary case of exhibition and collection of dematerialised or immaterial art is the NO SHOW MUSEUM (Fig. 65), the first world institution dedicated to ‘nothing’ and its various manifestations throughout art history. It aims to allow the public to experience and appreciate this highly diverse category, which displays works, documents, and artefacts of conceptual, performance, minimalist art, painting, photography, literature, theatre, film, and music. An immaterial collection on nothingness ‘extends’ over four floors, with its tracts thematically dedicated to the different ways of approaching the subject. It also has a 7m² mobile exhibition space (Fig. 66 and 67) and a converted postbus, attempting to provide a mobile art context that can be attached to institutions or function autonomously, offering the possibility to discover new regions and spaces. The conceptual founding father is Robert Smithson, who presented the first plans in 1966 to construct a “Museum of the Void”, and since it has developed and has been established as a museum run by the Society of Nothing (SON) based in Johannesburg. The collection includes 500 works and documents from 150 international artists of the 20th and 21st centuries, among them Marina Abramovic, Joseph Beuys, Maurizio Cattelan, Marcel Duchamp, Ceal Floyer, Hans Haacke, Yves Klein, Piero Manzoni, Gianni Motti, Robert Rauschenberg, Man Ray, Robert Ryman, Richard Serra, Santiago Sierra, Andy Warhol, and Rémy Zaugg.²²⁶



Figure 65. Screenshot of the NO SHOW MUSEUM Website Menu.

Figure 66. Mobile Museum of NO SHOW MUSEUM, Source museum Webiste.

²²⁶ NO SHOW MUSEUMS, “About the Museum”, <https://www.noshowmuseum.com/en>

3.3.3 Curatorial Challenges in New Media and Digital Art. New Formats.

We see how, in the shift from traditional, classic material art forms and exhibition formats, the introduction of dematerialised experimental art forms resulted in corresponding dematerialised, collaborative, information, and, in some cases, already computer-based formats. The transition towards technological art, new media and digital art caused further challenges in the curatorial field and its ways of displaying and managing the new artistic reality. The curatorial attention, already seen in its initial stages in the cases of Siegelau, Lippard, documenta or Lyotard, starts to shift from the physical and spatial object to the contextual and dynamic networked systems. Curators are presented with problems of responding, self-organising and self-replicating works that are produced and distributed over networks, databases, and related to source codes. The engagement with software and the openness of technological structures offered significant challenges to the orthodoxies of curation.

In *Curating Immateriality* by Joasia Krysa, different voices address the question of artistic curation, organisation, and overall management in the context of dematerialising, immaterial, new media and technological.²²⁷ In the new technological and digital context, the curator and the programmer are required to act, collaborate and demonstrate their understanding of the complexity of the distributed systems, codified realities, and social relations that arise from the new formations of power and control conceptualised by the new media and components of the art, and non-art, world. Conceptual art focuses on displacing from product to process. This dematerialisation encountered the dissolution of the materialisation of the subjective gesture. In exploring this new materiality of information and the types of economic production described as immaterial, the process becomes the valorised element rather than the final tangible product; the possible residue is still considered secondary and complementary.

Vishmidt²²⁸ explains that in this dissolution of materiality, we also find a new central role of the concept of curator as organiser, interpreter and advocate of the closed and opaque artworks, previously overshadowed by the roles of collectors and art critics. The current curator is perceived as a physical and spatial organiser and a

²²⁷ J. Krysa, *Curating Immateriality*, cit.

²²⁸ M. Vishmidt, *Twilight of the Widgets*, cit., pp. 42-46

manipulator of information and systems. The artist becomes a producer of those elements as well. Therefore, the polarity between these two roles starts to become less tenable, and both functions enter an integrated circuit of cultural management, enacted for logistical and programmatic reasons in more provisional and independent spaces.

The operating environment of the new curator of ‘immateriality’ is the economics and temporality of new media, net, software and database art, and the process art that resides online and is formulated through code. For Paul²²⁹, the introduction of Internet art inspired a variety of ideas about a radical reconfiguration of traditional models and spaces of artistic and curatorial practice. The new ways of production, management, distribution and access to the art forms of virtual spaces allowed the art to function independently from the institutional art world and its validation and commodification structures. These new forms would call for ‘museums without walls’, parallel, distributed, living information spaces open to democratic, horizontal and plural interferences by artists, curators and audiences in spaces for transparent and flexible exchange, trans-communal collaboration and presentation. The potential interactive, participatory, and collaborative characteristics of the Internet created questions on agency, authenticity, and authorship, as mentioned in the case of conservation and preservation of new media art. In media art, any form of agency is mediated, and the degree of agency is partly determined by the ‘levels’ of mediation. The agency of the human components becomes dependent on the extent of control taken over the production and distribution of the work, a complex issue for *media* art.

3.3.4 New Formats of Curating and Display of Digital and Mediated Materiality

This new mediated but intangible, modular and variable - networked and scattered - landscape solicited several curatorial and managerial responses, from traditionally curated portals to lightly non-curated software art repositories or curatorial projects actively trying to reconfigure the discipline in line with the new artistic object. Curatorial practice began to unfold independently and within the institutional context, where participation and collaboration were inherent to the new digital medium supporting constant exchange and flow of information. Examples of

²²⁹ C. Paul, *Flexible Context, Democratic Filtering and Computer-Aided Curating: Models for Online Curatorial Practice*, in *Curating Immateriality*, cit., pp. 81-84, 88.

these initiatives have been *runme.org*²³⁰, a software art repository of dynamic data storage and presentation tool that included elements of curating, open, yet moderated database that allowed users to self-submit their works; *kurator*, a free software application, programmed to perform the task of ‘curating’ source code which reconfigured the curatorial practice in distributing curatorial processes over networks;²³¹ the SF MoMA *e-space*²³²; The Walker Art Center’s *Gallery 9*²³³, an online exhibition space, developed between 1997 and 2003 acknowledging the need for an online venue for both exhibiting and contextualising Internet-based art that became permanent for content created by the centre; last, Benjamin Weil’s online gallery *äda’web* became the model for the Whitney Museum’s *artport*²³⁴, a website designed as a portal to Internet art and online gallery spaces.

Examples of the earliest most advanced of the time implementations of open and public curatorial processes were Eva Grubinger’s *C@C – Computer-Aided Curating* (1993) (Fig. 67)²³⁵, a prototype system explicitly considering software as the framework for curation, creating a software-driven tool responding to the artistic and curatorial needs in the online environment erasing several boundaries between delineated practices of production, presentation, reception and purchase of art; and followed by *PORT: Navigating Digital Culture*²³⁶, organised by artnetweb MIT List Visual Arts Center (1997).²³⁷ Of course, most of these projects are today obsolete, but adopting the permanence through change strategy previously commented by García Morales conservation, we see clearly how in some cases the platforms have been archived and conserved in their original form adapted to the new technological supports, or in other cases they have been redesigned to the current needs.

²³⁰ Runme.org, <https://runme.org/>

²³¹ M. Vishmidt, *Twilight of the Widgets*, cit., pp. 42-46; and J. Krysa, *Curating Immateriality*, cit., pp. 20-21.

²³² SFMoMA *e-space*, www.sfmoma.org/espace/, not active anymore, but the SFMOMA has created Open Space redesigned hybrid platform <https://openspace.sfmoma.org/>; see also SFMOMA, *SFMOMA Unveils Redesigned Online Gallery, E.space, With Two New Commissioned Works*, 10 June 2002, <https://www.sfmoma.org/press/release/sfmoma-unveils-redesigned-online-gallery-espace-w/>

²³³ Walker Art Center, *Gallery 9*, <http://gallery9.walkerart.org/>

²³⁴ Whitney Museum, *artport*, <https://whitney.org/artport/>; and <https://artport.whitney.org/v2/commissions/idealine.shtml>

²³⁵ E. Grubinger, *C@C - Computer-Aided Curating*, <https://evagrubinger.com/home/computer-aided-curating>

²³⁶ artnetweb, *PORT: Navigating Digital Culture*, <https://www.artnetweb.com/port/>

²³⁷ J. Krysa, *Curating Immateriality*, cit., pp. 20-21; and C. Paul, *Flexible Context*, cit., pp. 81-84, 88-92, 94-96.

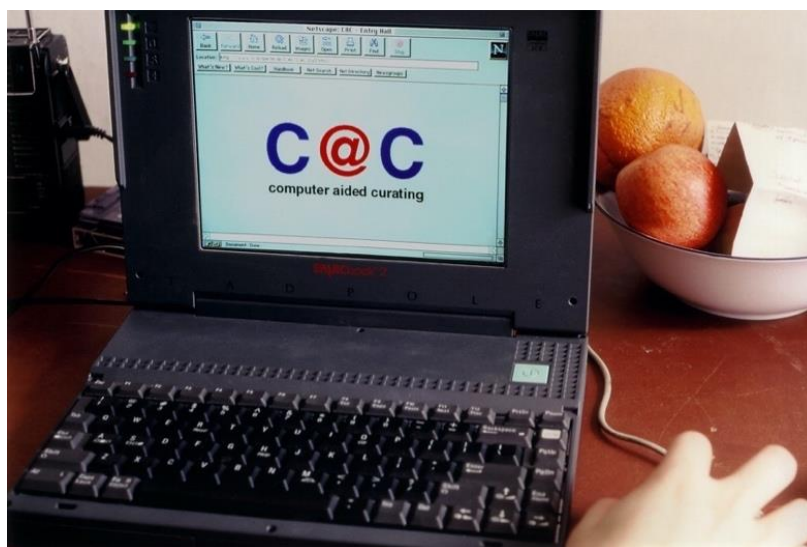


Figure 67. Eva Grubinger, C@C – Computer Aided Curating, 1993 – 95, Screens

Christiane Paul explains that the distributed model of networked exhibition environments affected the curatorial role, becoming a filter feeder and distributed curatorial control over an extended network of artistic production caused by the change of public art viewing practices; the politics of selection and the role of art institutions underwent substantial changes as well.²³⁸ The presentation of digital and Internet art, immaterial and changing, in physical gallery spaces became a very problematic scenario due to the possibility of autonomous presentation, transmission and connection with the public independently from the museum, the reason why in many cases these exhibitions leave a sensation of dissatisfaction in the inharmonious display-content correlation. The option of ‘online only’ exhibitions has the advantage of preserving the artwork’s original and ‘natural’ context but poses the problem of the institution’s control over how the work is perceived and experienced. Physical exhibitions have set opening and closing dates, requiring visiting a physical locality, and after their closing, they become part of the ‘cultural archive’ through their catalogue, documentation, and reception of the press. Online exhibitions, however, are seen and accessible to the translocal community; they never close and continue to exist indefinitely, as if their immaterial form could be perceived as ‘immortal’. It remains

²³⁸ C. Paul, *Flexible Context*, cit., pp. 81-84, 88-92; 94-96.

within a network of related exhibitions that can be seen next to another browser window, and in some cases, the artworks could even continue to evolve over time.

Lillemose very well points out in his contribution to *Curating Immateriality* how control and power relations are reflected beyond the art and cultural scene here. The works and their contextualisation represent a counterforce that explores immateriality and networks of connected materiality, creating different cultural economies where liberation, engagement, difference, mutation, horizontal organisation, dialogue, experimentation, collective production, and social, humanistic values have greater significance than the traditional and systematised control, exclusion, uniformity, predetermined limits, hierarchical chains of commands, monopoly, discipline and private property.²³⁹ The post-object, immaterial perspective appears politically charged. The works appear involved in conceptualising the immateriality of networks that generate social, economic and cultural transformations.

Culture Industry Professor at Goldsmiths Josephine Berry Slater states that art world has been existing under a permanent status of crisis of its immaterial limits. Net art could be seen as the avant-garde case of immaterial production, a harness of the distributed productive powers of net users of easy replication and alteration, and the plagiaristic redeployment of websites and digital material shared with the immaterial economical production. She connects the net art empire to the terms of info-capitalism, global and outernational space of connection and non-place of networks of production and reproduction.²⁴⁰

The curatorial practice and art management must include event facilitation, screenings of temporary discursive situations, writing/publishing, symposia, conferences, talks, research, the creation of open archives, and mailing lists. In the fluid, networked, collaborative, and distributed new context, the curator becomes the provider of contexts, fosterer of participation, and channeller of other cultural perspectives. The continuously evolving nature of the audience-oriented works and the drastically changed properties of art objects proved that traditional museums are not

²³⁹ J. Lillemose, *Conceptual Transformations of Art*, cit., 127-129.

²⁴⁰ J. Berry Slater, *Unassignable Leakage: A Crisis of Measure and Judgment in Immaterial (Art) Production*, cit., pp. 138-40.

the most suitable venues and stressed the need for new formats of display, collaboration, exchange and interaction, like the Australian production network *Fiberculture*, the Institute of Distributed Creativity (iDC), or the Institute of Network Cultures (INC);²⁴¹ or the art media festivals emerged in the 1970s, 1980s and 1990s like Ars Electronica Festival, Transmediale, Dutch Electronic Art Festival or ArtBot, venues for new media practitioners and virtually distributed communities.

3.3.5 New Media Festivals

Contemporary art and media culture curator and critic Piotr Krajewski, in his “Inventory of Media Art Festivals”, explores these alternative platforms for the presentation, distribution and contextualisation of the emergent cultural practices of the time, predominantly festivals that offered an alternative to the existing traditional art institutions.²⁴² Festivals provided the space for recognition, conceptualisation and definition of the new dominant artistic practices and their processual developments. Their emergence was a response to a need for platforms of presentation and dissemination of new media art forms. Playing a crucial role in developing these practices, Krajewski highlights the transformations the same festivals have undergone, particularly in their formats, categories or names, indicators of the mutable nature of media art.

The first and oldest and one of the most adaptable and constant festivals is Ars Electronica, launched in 1979 in Linz. Its programme and format have undergone multiple natural redesigns, but its full name has remained unchanged – Ars Electronica Festival for art, technology and society – demonstrating its far-sightedness and future perspective. It was the first festival that presented the concept of interaction between art, technology, and society on a large scale and presented electronic multimedia concerts, workshops, and symposia. It would attract over 100,000 participants in open-air multimedia events and lead the artistic and intellectual elite to get involved in the artistic, technological and social transformations. In 1987 the programme expanded with the Prix Ars Electronica and its initial three categories of *computer music*, *computer graphics* and *computer animation*, which later included

²⁴¹ T. Scholz, *The Participatory Challenge*, cit., pp.198-204.

²⁴² P. Krajewski, *An Inventory of Media Art Festivals*, cit. pp. 223-235.

the *interactive art* category (1990), the *www* (1995), replaced later by *.net*, the *UI9 – freestyle computing* for young artists (1998), and the *digital communities* and *wireless mobile communication devices* categories (2004).

Ars Electronica (Fig. 68 and 69) inspired new ways of thinking about presentation formats of other festivals that followed. The entire 1980s decade was dominated by the word ‘video’ with the emergence of Video Art Locarno (1980), International Video, Film and Performance Festival VFIPER in Luzerne (1980) (renamed VIPER); WWV – World Wide Video in de Haag (1982), Videonale in Bonn (1984), and Biannual International Festival Vidéo Liège (1988). At the same time, several festivals focused on aspects of media art, for example, the International Audio-Visual Experimental Festival in Arnheim (1985) and the WRO Sound-Based Visual Art Festival in Wroclaw (1989), both exploring the audiovisuals of new media. At the end of the 1980s, instead of ‘video’, the terms ‘media art’, ‘multimedia’ or ‘digital’ appeared in the European Media Art Festival in Osnabrueck (1988), Multimediale in Karlsruhe (1989), Digitart in Budapest (1986 and 1990), Mediawave in Győr, Hungary (1991). Last, examples combining different new media and social elements were the Dutch Next 5 Minutes Festival of Tactical Media, fusing art, activism, politics and new media environments, and the Latvian Art+Communication – International Festival for New Media Culture in Riga, regular since 1999 of browser/software art, network experiences, trans-cultural mapping, programming and jamming. After 2000, festivals originated devoted to software art and software-based-art like the Read-Me festival, first held in 2002 in Moscow and then Helsinki, Aarhus and Dortmund, travelling and focusing on software art development and its critical contextualisations.²⁴³

²⁴³ Ibid., pp. 223-235

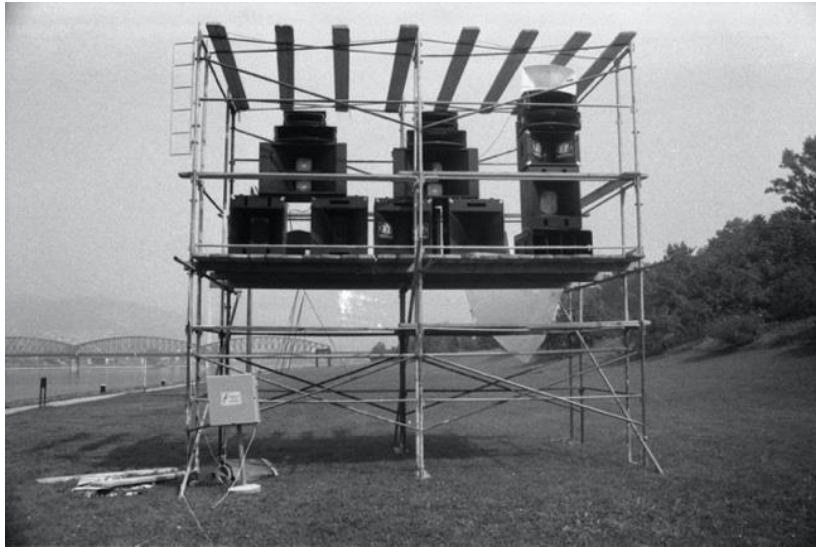


Figure 68. Ars Electronica Festival, 1979. Ars Electronica Website.

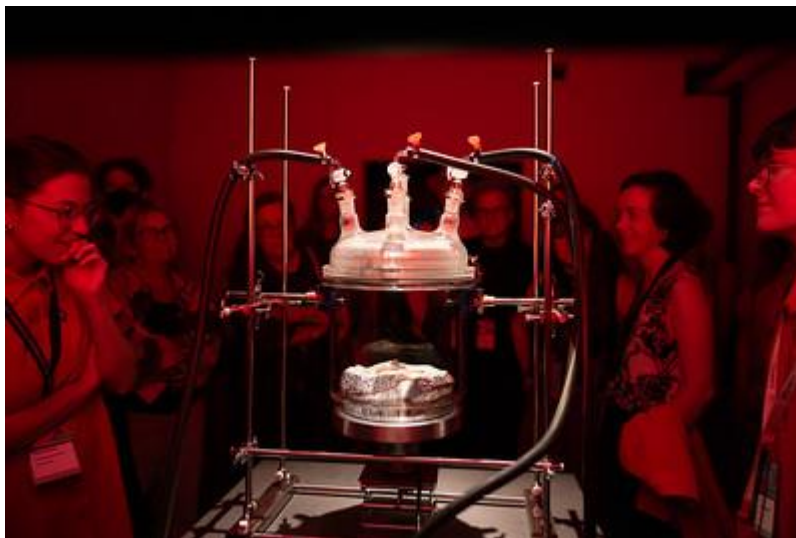


Figure 69. Impression of Ars Electronica Festival, 2023. FORMATA / ПЯТО-АЛИЕЙ ПРОЕКТ (CO/JP)

3.3.6 Immaterial Collections: Digital Museums, NFTs and Decentralised Systems

What happens when collections and material objects are collected, curated, organised, and displayed in physical spaces, entire museums, and rooms, and there is an absence of materiality and physicality? What happens when the spheres of existence overpass the tangible traditional ‘reality’ and a new world to dominate appears? Today’s society acts predominantly in the digital, networked dimension, maintaining the same social rules, habits and expectations of the Marxist and Bourdieu’s theories.

Humans might have ‘migrated’ to other domains but have carried away the same social structures and dynamics. Unsurprisingly, in 2020 and 2021, a peak in digital life and virtual reality, new power relations and acquisitions became a trend with the explosion – or bubble – of NFTs, the digitisation of entire museums, and decentralised digital and virtual markets.

We saw already that an initial transition from the physical to the digital sphere was already initiated in the 1990s and early 2000s, with the creation of collaborative curatorial and artistic platforms, softwares independent or under the direction of official institutions and museums, which started to have websites and exploit the internet to achieve their missions and creating online platforms where to represent the institution, provide information about the museum, its exhibitions, programmes, and collections. Until recently, these sites focused on the institution’s centrality and authority rather than the real context of the art world surrounding it. This centralised model proved, however, to be limited and insufficient in the case of online art or any form that naturally ‘inhabited’ the digital environment.

3.3.7 Digitisation of Museums, NFTs and Decentralised Immaterial Systems

Many museums, facing the challenges of developing and increasing forms of contemporary and new media art, had already started a digitisation process, allowing paintings, sculptures, installations, and any new work to be displayed online. Interactive platforms, 360-degree videos and full ‘wall-around’ tours with voiceover descriptions, slideshows and zoomable photos were incorporated into the immaterial sphere of the art experience. Exclusive physical limited spaces and ‘real’ material objects were transmitted and available to the non-exclusive distributed networked world of the Internet. But in 2020, with the burst of the COVID-19 pandemic, the real transition was implemented - massive and urgent.

Today 151 digitised and virtually transferred institutions and collections can be found concentrated in Google Arts & Culture²⁴⁴, the Google initiative aiming to preserve and bring the world’s art and culture to the online dimension making them accessible to anyone and anywhere. This online platform collects high-resolution

²⁴⁴ Google Arts & Culture Website, <https://artsandculture.google.com>

images and videos of artworks and cultural artifacts enabling the viewer to tour the collections and explore the objects' physical and contextual information. It includes advanced search capabilities and educational tools such Virtual Gallery Tour, Artwork View, Create an Artwork Collection, Explore and Discover, Video and Audio Content.²⁴⁵ Some examples of digitised institutions: J Paul Getty Museum's virtual tour, their viewing platform Xplorit²⁴⁶, and the 'museum view'²⁴⁷ provided by Google to look inside gallery spaces with clickable artworks and information. The Vatican's museum also have now a virtual tour, a series of 360-degree images, and a complete tour guide narrating each interactive space.²⁴⁸ Then, the Guggenheim Museum of Bilbao²⁴⁹ has an interactive tour, the Natural History Museum²⁵⁰ of London an interactive online guide, the Rijksmuseum²⁵¹ of Amsterdam's another interactive tour, the National Museum of Modern and Contemporary Art of South Korea's²⁵² several virtual tours, the Musée d'Orsay²⁵³ of Paris a virtual tour and 360-degree view of the building, the British Museum²⁵⁴ of London a 360-degree view of its virtual tour and an infographic platform History Connected that goes further into depth on various objects;. The Museu de Arte de São Paulo²⁵⁵ in Brazil has a virtual gallery platform and the building is visitable from Google Street View.

Of course, these initiatives were of great interest and importance at the peak of the pandemic crisis, when the future of social and real 'life' was unsure, and institutions feared the loss of contact and access to their cultural and artistic heritage and collections. There were many positive outcomes, such as broader access to information and resources for the public, diversity in research, creative collaborations and interpretations, and the facilitation of having an entire museum on a computer or

²⁴⁵ Google Arts & Culture, "About", <https://about.artsandculture.google.com/>

²⁴⁶ J Paul Getty Museum, "Xplorit", <https://www.xplorit.com/the-getty>

²⁴⁷ J Paul Getty Museum, "Street View", <https://artsandculture.google.com/streetview/the-j-paul-getty-museum/>

²⁴⁸ Musei Vaticani, "Tour Virtuali", <https://www.museivaticani.va/content/museivaticani/en/collezioni/musei/tour-virtuali-elenco.1.html>; <https://www.youvisit.com/tour/vatican>

²⁴⁹ Guggenheim Bilbao, <https://artsandculture.google.com/partner/guggenheim-bilbao>

²⁵⁰ Natural History Museum, <https://artsandculture.google.com/partner/natural-history-museum>

²⁵¹ Rijksmuseum, <https://artsandculture.google.com/partner/rijksmuseum>

²⁵² National Museum of Modern and Contemporary Art of South Korea, <https://artsandculture.google.com/partner/national-museum-of-modern-and-contemporary-art-korea>

²⁵³ Musée d'Orsay, <https://artsandculture.google.com/partner/musee-dorsay-paris>

²⁵⁴ The British Museum, <https://artsandculture.google.com/partner/the-british-museum>

²⁵⁵ The Museu de Arte de São Paulo, <https://artsandculture.google.com/partner/masp?hl=en>

phone. Unfortunately, there were concerns about proper contextualisation and location of the collections, copyright conflicts, or the fact that the virtual transmission and ‘decodification’ of a digital copy of an object can never be compared with the tangible and physical experience. This digital and virtual reality is a perpetuation of the three Cs of Barreca, just in immersive and enriched visual formats.

But not all digital museums and platforms are limited to the transposition and copy of the physical and materially existent ones. In recent years, with the increase of the digital, virtual, and immersive dimensions, there have also been cases of museums that are entirely virtual, still with the word's traditional meaning. This is the case of VOMA²⁵⁶, a completely virtual accessible to all, created to open the art for broader audiences, creating an immersive, photo-realistic 3D in-browser experience. Conceived by the artist Stuart Semple, in collaboration with architects, CGI designers, gaming experts and curators, the museum showcases its autonomy and lack of the limitations of a physical location. Out of comparison, and crucial to incorporate in the discourse of dematerialisation and immaterial status of the digital, virtual, net, software, and any current form of art that either produced, communicated or purchased throughout the online world, is to mention the notorious NFTs and the virtual decentralised platforms. NFTs are non-fungible tokens, unique digital assets stored on a blockchain, and their collections can range from digital art to virtual real estate. Each token holds a distinct value based on its – immaterial and codified – uniqueness. Their importance lies in the ability to provide proof of ownership, becoming a significant shift from the traditional ownership and authenticity model, where assets could be easily copied or pirated. NFTs are considered to eliminate the need for intermediaries to ensure fair compensation for the creators and for collectors to offer a new form of investment, although it also comes with the risks of market volatility and potential loss of the investment.²⁵⁷

Beeple’s *Everydays: The First 5000 Days*²⁵⁸ (Fig. 70) in 2021 marked the first time an auction house sold a purely digital work of art, achieving \$69 million at

²⁵⁶ VOMA, <https://www.voma.space/>

²⁵⁷ CoinMarketCap, *Frequently asked questions (FAQs)*, <https://coinmarketcap.com/nft/collections/>

²⁵⁸ Beeple, *The First 5000 Days*, Christie’s Lot, <https://onlineonly.christies.com/s/beeple-first-5000-days/beeple-b-1981-1/112924>; and *The Art Basel and UBS Global Art Market Report 2022*, <https://www.artbasel.com/stories/the-art-basel-and-ubs-global-art-market-report-2022> [last access 12 January 2024]

Christie's and making it the world's most expensive NFT artist at the time. This moment marked not only a new price and category but also a confirmation of reality's new 'status'. Not only were artworks and exhibitions immaterial, but the transactions and the entire art market engine were working, producing, exhibiting, processing, divulging, and purchasing completely and solely online without any correspondence with the 'external' physical world. The experimental, processual dematerialisation of art products and markets achieves a new status quo, a new norm of complete digitisation and immaterialisation of the postmodern reality already critically addressed and predicted by Lyotard. In 2021, the official, traditional, systematised art machine shifted to complete immateriality; *even* the art market was now part of the new mass-mediated reality, *and even* the artworks could achieve impressive – non-fungible and crypto-monetary value, losing the romantic and anti-materialistic aura acclaimed by collectors. The *nerd, tech, geek, Reddit, crypto, and MEME* investors had officially become part of the higher social-cultural status, sharing the same cultural and non capital of Picasso, Mondrian, and Basquiat collectors.

Today, there are already lists of the most notorious NFT collections²⁵⁹ and collectors of palpable influence on the ecosystem,²⁶⁰ such as NFTGirl²⁶¹, Cozomo de' Medici²⁶², OSF²⁶³, YeahYeah or DCInvestor²⁶⁴ among others. Artists of other fields have also adapted and entered the non-fungible market, like the singer Grimes, who in 2021 auctioned as NFT her *WarNymph Collection Vol.1*²⁶⁵ (Fig. 71) or Damien Hirst, who in 2022 burned the physical artworks of the NFTs that buyers chose over the corresponding material pieces.²⁶⁶

²⁵⁹ Coinmarketcap, *NFT Collections* <https://coinmarketcap.com/nft/collections/>; Finder, *NFT Collections*, <https://www.finder.com/nfts/nft-collections> [last access 12 January 2024].

²⁶⁰ T. Langston, *Here Are 13 Influential Collectors You Should Be Following in 2023*, "nft now", 26 January 2023, <https://nftnow.com/collectibles/here-are-10-influential-collectors-you-should-be-following-in-2023/> [last access 2024]

²⁶¹ NFTGirl, X account, <https://twitter.com/NFTgirl>

²⁶² Cozomo de' Medici, <https://twitter.com/CozomoMedici> ; <https://www.mediciminutes.com/>

²⁶³ OSF, https://twitter.com/osf_rekt ; and <https://www.osf.art/> ;

²⁶⁴ DCInvestor, <https://twitter.com/iamDCinvestor> ; <https://gallery.so/dcinvestor> ; <https://deca.art/DCinvestor>

²⁶⁵ Daniel Kreps, *Grimes Auctioning Off 10 Pieces of NFT Digital Artwork*, in "RollingStone", 29 February 2021, <https://www.rollingstone.com/music/music-news/grimes-nft-digital-artwork-1134516/>

²⁶⁶ Steven McIntosh, *Damien Hirst burns his own art after selling NFTs*, in "BBC", 11 October 2022, <https://www.bbc.com/news/entertainment-arts-63218704>

Platforms such as OpenSea²⁶⁷, Binance²⁶⁸, SuperRare²⁶⁹ or virtual worlds like Decentraland²⁷⁰ are the current marketplaces where the new reality occurs and where the same power dynamics, cultural capital, immaterial capital, detached - but not different - from the external world. There is no even dematerialising process, but we appear completely immersed in immaterial things, similar to ‘playing’ and immersed in a dream or fantasy, where there are no physical, tangible, material experiences or attachments. Virtual worlds like Decentraland are the result of the dematerialising efforts of the past, the collaborative, literally decentralised, open source, and democratic dimension where everything and everyone can be produced, exchanged, divulged, organised, consumed, and experienced.²⁷¹

However, for many, this enterprise has appeared as absurd as millions are paid for works that can be seen and shared – in some cases only – online and for free.²⁷² Critics have dismissed NFTs as just one more bubble akin to the ‘meme stock’, phenomenon that attracts not only artists and collectors, but a new group of collectors and investors²⁷³ - high-growth companies, start-ups in the tech, social media, fintech industry - that previously were disinterested in investing in the traditional art market and that Dr McAndrew – the author of the influential annual report “The Art Market”²⁷⁴ – had already observed in 2019.²⁷⁵ This suspicion on the futility and ‘bubble’ of the NFTs has been proven realistic, as the new crypto collectors are starting to invest

²⁶⁷ OpenSea, <https://opensea.io/>

²⁶⁸ Binance, <https://www.binance.com/>

²⁶⁹ SuperRare, <https://superrare.com/>

²⁷⁰ Decentraland, <https://docs.decentraland.org/player/general/introduction/>

²⁷¹ Ibid.

²⁷² A. R. Chow, *NFTs Are Shaking Up the Art World – But They Could Change So Much More*, “TIME”, 22 March 2021, <https://time.com/5947720/nft-art/> [last access 14 January 2024]

²⁷³ J. Tarmy and O. Kharif, *These Crypto Bros Want to Be the Guggenheims of NFT Art*, “Bloomberg”, 15 April 2021, <https://www.bloomberg.com/news/features/2021-04-15/nft-collectors-this-is-who-s-buying-beeple-pak-mad-dog-jones-micah-johnson>

²⁷⁴ Art Basel and UBS, *The Survey of Global Collecting*, <https://theartmarket.artbasel.com/>

²⁷⁵ Notes from lectures of *Art Market Economics* of Clare McAndrew, Christie’s Education Online, <https://education.christies.com/online/courses/continuing-education/online-courses/art-market-economics>

in tangible and traditional assets²⁷⁶, and the sales of art-related NFTs had fallen by mid-2023 to their lowest level since January 2021.²⁷⁷



Figure 71. Beeple, *Everydays: The First 5000 Days*, sold at Christie's. Image: Beeple.



Figure 72. Grimes x Mac, *WarNymph Collection Vol 1 Open Editions: Earth and Mars*. From Nifty Gateway.

²⁷⁶ Zachary Small, “After Pak and Beeple, What’s Next for NFT Collectors? Art Made With a Paintbrush”, *The New York Times*, 12 February 2022, <https://www.nytimes.com/2022/02/12/arts/design/nft-collectors-artwork.html> [last access 14 January 2024]

²⁷⁷ Art Basel and UBS, 2. *HNW Collector Spending*, in *The Survey of Global Collecting 2023*, <https://theartmarket.artbasel.com/hnw-collector-spending> [last access 15 January 2024].

Conclusion

In the preceding chapters, we explored the intricated concepts of materiality, immateriality and dematerialisation, and here emerged the recurring theme of the inherent complexity in choosing a single and specific definition for movements, artistic cases, or theories in absolute terms regarding their ‘level’ of materiality. This overview underscored the impossibility of a strict demarcation between materiality and immateriality, as evidenced by the constant existence of a conceptual or structural material reference in traditional ‘analogic’ and new media and digital art production. The terms immaterial and dematerialisation, or the one suggested by Meyer deobjectification, are related to a process, a temporary stage in the material transformation of the art identity and its elements. There is not one singular moment where art appears to be immaterial, absent of any materiality or form of realisation, documentation or transmission of the proof of its existence. Even in the case of the ephemeral nature of performative arts, they are still manifested bodily and physically experienced by the artist and the audience.

In the first chapter, we addressed the divergent interpretations and definitions of materiality and immateriality, encompassing a variety of perspectives, ranging from the UNESCO definitions of tangible and intangible cultural heritage to the comprehensive viewpoints of theorists such as Lippard, Lillemose, Paul, Stiegler, Meyer, and Lyotard, who suggested terminology like hypermateriality, neomateriality or deobjectification, when referring to the dissolution and mediated expansion of the contemporary idea of material and the world of objects. Additionally, the close relationship between material and object agency was discussed, drawing insights from the analyses of Miller, Gell and Latour and the concept of material and immaterial labour connected to the production and consumption of cultural and non-cultural assets in the Marxist tradition and the theory of Rancière.

The second chapter examined pivotal cases from the 20th and 21st centuries, where materiality, dematerialisation, and immateriality played crucial roles in shaping artistic choices and identity. Here are the paradigm shifts introduced by Duchamp and Ray, where the artwork’s identity is liberated from its materiality. Further, the truth to materials theory represented by Tatlin and the Bauhaus provided a new consideration, a reevaluation of the importance of the materials used for any creative production. In

the case of the idealism of Gropius' project, it was proven impossible and unrealistic to merge and combine art and craft-level attention and quality to massively and commonly used products. The dematerialising process was accelerated by Conceptual artists, from Bruce Nauman to Mel Bochner, among many others, and their explorations revealed the challenges and reconsiderations of the elements that could be suitable for artistic creation, illustrating the ongoing separation and autonomy of the artwork identity from its traditional materiality or its creator. Noteworthy here is the interesting result of the liberating and dematerialising efforts to achieve a conceptual and immaterial dimension of art, which ended up accepting very much of the natural material ephemeral characteristics of the old and new materials incorporated into the artistic sphere. This shift continued with the introduction of devices, media, technology, and computer-driven instruments that made movement, time, information, computation, code, data and networks part of the elements of art creation: the ideas of originality, authenticity, stability and material dependency were challenged, and scientific and technological characteristics consequently became part of the art world as well. The autonomy of the generation, realisation, or materialisation of the artworks became more accentuated as the new media and technological instruments further disrupted the relationship between the artists and their creations. The artist becomes a facilitator, a subject provider of instructions and proper conditions for the realisation of the artwork, as can be seen in the example of Generative art, natural or digital, where the artwork is generated autonomously after the initial arrangements and indications of the artist. These processes, perceived by many as dematerialising or already immaterial, are shown to keep their material substrate and required physical structure from, on or through which is generated, manifested, displayed, appeared, perceived and consumed.

The third chapter focused on the far-reaching consequences of transforming perceptions of materiality and immateriality, extending to collecting, conserving, preserving, curating and managing artworks. It addressed the influence of art's material, dematerialising or immaterial nature on museums, collecting traditions, restoration methodologies or the art industry. Collecting is described as having materialistic and antimaterialistic motives, serving as a symbol of the preservation of memory and identity intended to be maintained in the forms of museums that we know.

This desire for collecting and displaying cultural assets continued with new categories of collectors, investors emerging from the new tech and digital scene, and new forms of displaying, curating, consuming and trading art as exemplified by the case of NFTs. This transition affected the norms and criteria of conservation and restoration, where traditional preservation efforts focused on combating the natural decay and disappearing processes associated with the material support of an artwork at the expense of the symbol or image aimed to be preserved. In contrast, the nature of new media art inherently incorporated change and transformation, demanding new restoration practices capable of preserving, moving and transforming elements while maintaining the artwork's central identity and uniqueness, as García Morales articulated.

The chapter also addressed the transformation in the methods and formats of displaying, curating, and managing artworks, reflecting their material and immaterial nature and the external and broader conditions. The traditional white cube or delimited museum and gallery space was gradually replaced by dynamic formats such as festivals, events and online or computer-aided projects, adapted to the speed, traffic and networked-data-based nature of the new art forms like video, performance, net, generative or software art. The digitisation of museums worldwide and the creation of new digital, virtual and immersive spaces where many of the art practices have been transferred illustrates the predicted immaterial future and present of the art world by *ARTnews* and *Artsy* articles mentioned in the introduction of the present work.²⁷⁸

However, amidst all these changes, it becomes increasingly apparent that reconsidering the idea of materiality should substitute the ambiguous and problematic term 'immaterial'. Contrary to the notion of actual immaterial art, the observation? Has been that no mediated or intended artwork, tangible or digital, can exist without any physical or material reference. The complexity, ambiguity and issues brought up by the number of forms of artworks and artistic practices placed under the umbrella of dematerialisation or immateriality prove that, instead of evading the notion of ephemeral and decaying materiality and creating a counterfeit immaterial alternative, the art world, and society at large, ought to embrace the expansion, dissolution and

²⁷⁸ The editors of *ARTnews*, "What's Next?", *cit.* and Alinca Cohen, "Predictions for Art in the 2020s", *cit.*

relativisation of the traditional term 'material' and 'materiality'. This acceptance would open new ways for a comprehensive understanding of art, acknowledging its ever-evolving, flexible and unique forms that challenge traditional boundaries and foster a dynamic and genuinely artistic discourse.

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