# Introduction

New media art, or digital art or unstable media art is in the core of my artistic practice. Rephrasing the V2 Unstable media manifesto (1987), my artistic practice uses electronic waves, frequencies, engines, sound, light, video, sensors, and computers. All those media have an inherent instability, embracing that instability is what makes them challenging yet interesting to me[[1]](#footnote-1).

In an environment like the DogTime at the Rietveld such unstable media are present on paper but not on practice. In my year, and years ahead, in my opinion at most two persons embrace unstable media as described above. Most of my classmates focus on fine arts[[2]](#footnote-2), like painting, sculpture, installations, video[[3]](#footnote-3) and mix media in general, all collected on the Rietveld terminology of “Expanded Painting”. Some embrace performative elements but in general the media is static and is not intended to change depending on the viewer.

This has led me to search on how to reconciliate the view of Unstable media with the more traditional forms of “Expanded Painting” that I see at the Rietveld. This is the aim of this dissertation. For this I will use the Avantgarde artistic movements as theoretical framework. It is my hypotheses, that unstable media art is the natural evolution of the avantgarde into the digital age of information. I will illustrate my argument as follows:

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# Historical contexts

In this chapter I will provide (historical) context to both avantgarde and new media, or unstable media, art. The aim of this chapter is to clarify the concepts that will be used during this dissertation.

## Avantgarde movements

The Wikipedia entry on the avantgarde defines the avantgarde “as a genre of art, an experimental work of art, and the experimental artist who creates the work of art, which usually is aesthetically innovative, whilst initially being ideologically unacceptable to the artistic establishment of the time.” (Wikipedia, sd)

We should keep this definition on the back of our mind, as a general idea. However, this is not the main definition we will use because has at least two challenges for our argumentation. On the first place, the definition is too broad. If we follow that any artistic expression outside of the mainstream of a time would fall under the avantgarde umbrella. This is not specific enough. On a second place, this definition does not illustrate the ideals and motivations of the avantgarde movements.

I will follow “Theory of the Avantgarde” by P. Burger (Burger, 1984) and “Historische Avantgarde” by F. Drijkoningen et. al (Drijkoningen et al, 1991) to gather the understandings of the theory of Avantgarde that will be used during this dissertation.

The first thing to understand with the Avantgarde we are not referring to one artistic movement. The Avantgarde encompasses a group of artistic movements that are considered innovative for their time[[4]](#footnote-4).

Paraphrasing the introduction (Drijkoningen et al, 1991), we can say that chronologically speaking, the first wave of Avantgarde movements is from before World War II. This wave came to a halt in the mid-1930s. This wave is referred as the “historical Avantgarde” and encompassed artistic movements like Dada, Surrealism, Futurism, Constructivism, among others.

New Avantgarde impulses then emerged at the end of the 1940s and the beginning of the 1950s, giving rise to a second wave that has been referred to as the "neo-Avantgarde". Some of the movements in this new wave include Pop Art, Conceptual Art, Kinetic Art, Feminist Art, Minimalism, among others.

It's important to note that avant-garde principles can vary significantly between different movements and periods. Some movements, such as Dada and Surrealism, may embrace absurdity and irrationality, while others, like constructivism, prioritize structure and interdisciplinarity. Nevertheless, overarching themes of avantgarde art are:

* Reaction to the autonomy of art (Burger, 1984),
* rejection to art institutionalization (Drijkoningen et al, 1991),
* challenging the status quo in art and society,
* the role of art in the everyday life (Burger, 1984),
* and a commitment to innovation and experimentation

Other principles usually related to Avantgarde art but that we will not discuss in detail here are: Radicalism, Interdisciplinarity, social and political engagement, rejection of tradition, democratization of art, and engagement with technology.

I will now proceed to describe an illustrate the five core avantgarde principles that will make the common thread of this dissertation.

### The autonomy of art

The concept of the autonomy of art refers to the idea that art should be self-contained, self-referential, and independent of external influences, particularly those of politics and society. It implies that art should be valued for its own sake, without the need for it to serve a specific function or purpose in society.

According to (Burger, 1984), Chapters 2 and 3. The idea of the autonomy of art, particularly the notion of "art for art's sake," gained prominence during the rise of bourgeois society in the 18th and 19th centuries. It reflected a desire to separate art from utilitarian and practical functions. This concept aligns with the values of the emerging bourgeois or middle-class society, which valued individualism, self-expression, and the pursuit of aesthetic pleasure. Art was then seen as a realm where individuals could freely explore their creativity and emotions. In particular, P. Burger points out that the raise of the individual independent artist coincides with the appearance of the private art collector. As a follow up this, the autonomy of art also played a role in the development of cultural capital. Art, especially in the form of fine arts and high culture, became a marker of social status and education among the bourgeois class.

As P. Burger points out, (historical) Avantgarde artists rejected the notion of art's autonomy, arguing that it had become an isolated and elitist pursuit within bourgeois society. They sought to break down the barriers between art and everyday life. Movements, such as Dada and Surrealism, believed that art should not exist in isolation but should actively address pressing concerns. Therefore, they engaged with political and social issues and challenged the bourgeois order.

[Illustration]

### Art institutionalization

The developments on the autonomy of art also gave raise the “autonomous art institution”.

F. Drijkoningen quotes Bourdieu as follow: *“…the process of art's autonomization correlates with the emergence of a distinct societal category of art producers. These producers are increasingly inclined to recognize only those rules that have been handed down by their predecessors, which can either serve as a starting point or be the rules they choose to break. Over time, they become more capable of shedding any societal servitude, whether it be related to moral censorship and aesthetic programs imposed by a proselytizing Church, or academic control and demands from a political authority that seeks art as a propaganda instrument. In other words, just as the emergence of law as law, i.e., as an "autonomous domain," is associated with the advancing division of labor leading to a community of professional jurists, the process that leads to the constitution of art itself is accompanied by a change in the relationships that artists maintain with non-artists and, as a result, with other artists. This change leads to the formation of an intellectual and artistic field that is relatively independent and to a related development of a new definition of the artist and their art”* (Drijkoningen et al, 1991, p. 16)[[5]](#footnote-5).

In other words, the autonomy of art is not only about the art object itself but also follows that the institutions around it became autonomous itself. More precisely, following (Drijkoningen et al, 1991, p. 15), and institution is defined as “an organized system of goal-directed activities”. There for by an “autonomous art institution” we mean “an organized system of goal-directed activities for art”, where art is then defined by the institution itself.

For example, a guild of painters that follows this no longer paints for the functional purpose of painting, e.g., decoration for the Church, but for its internal rules and purposes. A more modern illustration of this would be the situation with Art galleries which only address art as defined by them.

F. Drijkoningen (Drijkoningen et al, 1991, pp. 23-26) claims that the rejection to these “autonomous art institutions” is a core element of all avantgarde movements.

In the case of the historical avantgarde movements he describes the following four patterns of reaction to art institutions:

1. **Total Rejection:** A first and most radical view, is the rejection of any form of institutionalization. *Dadaists* rejected the traditional art world and organized anti-art exhibitions and performances in defiance of established art institutions. Their work was often characterized by absurdity and anti-establishment sentiment.
2. **Alternative uses:** A second view of the place of art in the social order is one in which a different role is assigned to the institution of art than was the case at that time. It has already been pointed out that institutions form a hierarchical structure: certain institutions can encompass the whole of institutions, often not without conflicts. *The Surrealists* aimed to challenge the conventional understanding of reality and art by exploring the unconscious mind. They sought to disrupt traditional norms through dreamlike and provocative works [expand]
3. **New order:** A third view engage in a radical battle with the existing institution of art and aim for a "new order," a complete upheaval in the social order. This movements speak of the "integration of art and social life" and the "aestheticization of life". *The Italian Futurists* aimed to break with traditional artistic norms by introducing radical changes that would embrace the industrial age, technology, speed, and the dynamism of modern life [expand]
4. **Change of perspective:** A fourth strategy focuses on the artwork and the associated beliefs: this is where the rupture with everything previously done and thought in this field lies. These alternative artworks and beliefs will bring about a revolution in the institution of art, which will automatically have repercussions elsewhere in the social order. *The Constructivist* movement aimed to create a new visual language that was in sync with the rapidly changing social and technological landspace of the early 20th century.

On the neo-avantgarde movements we also see other type of reactions to institutions for example:

1. **Creating Alternative Spaces:** Some avant-garde movements opted to create their own alternative art spaces, such as artist-run galleries, performance venues, or publications. These spaces allowed them to showcase their work without the restrictions of traditional institutions and often fostered a sense of community and collaboration among artists. *The Situationist International* sought to create alternative situations and experiences through art and activism. They organized events, such as "psychogeographic" explorations of cities, outside the confines of traditional art institutions.
2. **Anti-Commercial Stance:** Many avant-garde movements resisted the commercialization of art and were critical of the art market. They viewed art institutions as complicit in this commodification and believed that it compromised the integrity of artistic expression. *The Street Art and Graffiti* artists often work outside the commercial art world, using public spaces as their canvas. They resist art market pressures by creating art that is accessible to a wider audience and often anonymous.
3. **Desire for Inclusivity:** Some avant-garde movements, particularly those with political or social agendas, aimed to make art more inclusive and relevant to the general public. They often sought to challenge the elitist nature of art institutions and advocated for greater accessibility and diversity in the arts. The *Black Arts Movement* This cultural and political movement aimed to make art more inclusive and relevant to the African American community. It sought to challenge the elitism of traditional institutions and promote art as a means of cultural expression and social change.
4. **Temporary and Site-Specific Works:** Some avant-garde artists created temporary or site-specific artworks that defied traditional museum or gallery settings. These works were often meant to exist outside of the institutional framework, challenging the idea of art as a permanent, collectible object. *Land Art (Earth Art)* make works that do not fit in the traditional premisses of an art institution; artists like Robert Smithson {duch version on the natur chatedral?} created large-scale, site-specific earthworks in remote natural locations. These works were not meant to be collected or displayed in traditional art institutions but were integrated with the natural environment.
5. **Collaboration and Interdisciplinarity:** Avant-garde movements have frequently embraced collaboration and interdisciplinarity, working with artists from various fields and challenging the separation of art forms within institutional structures. *The Bauhaus school* promoted collaboration among artists, architects, and designers, breaking down the divisions between art disciplines. This interdisciplinary approach challenged traditional educational and institutional structures.
6. **Reappropriation and Appropriation:** Some avant-garde artists have reappropriated or appropriated elements of art institutions' collections or spaces as a form of protest or to question the role of institutions in shaping artistic value. *Appropriation Artists* like Sherrie Levine and Richard Prince have appropriated and recontextualized existing art and commercial imagery, challenging the roles of institutions and originality in art. [change for haute tension]
7. **Institutional Critique:** Some avant-garde movements engaged in "institutional critique" as a form of art itself. This involved creating artworks that directly questioned and challenged the practices, politics, and ideologies of art institutions. *Hans Haacke’s* work often explores the politics and economics of art institutions. His piece "Shapolsky et al. Manhattan Real Estate Holdings, a Real-Time Social System, as of May 1, 1971" investigated the financial interests of an art gallery.

### Art and the status quo of society,

In the previous two sections, we followed (Burger, 1984) and (Drijkoningen et al, 1991) where they argue that one of the intrinsically motivations of the historically avantgarde movements was reaction to the raise of the bourgeois society and the autonomy of art and autonomous art institutions. We also suggested that several other neo-avantgarde movements also had a similar reaction to the autonomy of art and its institutions. This brings us to a third common characteristic of avantgarde movements; namely the challenge of the status quo.

More explicitly, a common characteristic of avantgarde movements is the use of art to challenge the status quo of society, art and its institutions.

In the case of the historical avantgarde movements they are challenging the status quo of the bourgeois society and art in it. This is also a common denominator in neo-avantgarde movements.

For example, Elaine Sturtevant pioneered a movement called *Appropriation Art* which consisted of appropriating/copying other artist’s work.

A more specific work would be Haute Tension. In 1969, E. Sturtevant copied of a homonymous work by M. Raysse from 1965.

With her work E. Sturtevant challenges the status quo in several points.

Looking at the technical value of a piece, Sturtevant challenges the believe of the time that technique is the core asset behind art, neither is the visual concept that the observes sees. Rather she is showing that the intention of the artist is at core of the artwork. Therefore, intentionally coping and artwork still can make a valuable piece of art worth of a national museum as the Stedelijk museum in Amsterdam.

At her time, all[[6]](#footnote-6) works in museums and galleries were by male artis. Moreover, by coping several other works by male artist she challenged the institutions of art. had a gender bias and was not because of technique or concept of the art piece.

Both the Stedelijk museum and the art market have proof E. Sturetevant’s points right.

The Stedelijk museum shows both works on side of each other in its permanent collection.

The art market has paid more for some Sturtevant’s appropriated works than for the original piece. In 2007, an original *Crying Girl* by Roy Lichtenstein sold at auction for $78,400; in 2011, Sturtevant’s canvas reworking of *Crying Girl* sold for $710,500.

### Art and the everyday life

The case of Elaine Sturtevant shows how an artis can integrate their practice into the reality they live in. This brings us to the fourth common characteristic of avantgarde movements that we will use during this dissertation. Namely, the position of art in in the everyday life.

More explicitly, a common characteristic of avantgarde movements is the integration of artistic practice in the praxis of life.

In the case of the Bauhaus, they advocated for the integration of art into the everyday life. This well illustrated in their manifesto:

“Architects, sculptors, painters – we all must return to craftsmanship! For there is no such thing as “art by profession”. There is no essential difference between the artist and the artisan. The artist is an exalted artisan.” [Walter Gropius, 1919]

These ideas led to the design of functional and aesthetically pleasing objects for everyday use. Two famous examples would be the Wassily Chair by Marcel Breuer and Door Knob by Walter Gropius which can be still found nowadays. Even more, the influence of the Bauhaus in the design of everyday objects can still be seen on how there is a general attention for good design on everyday objects.

As shown on the DW documentary on the Bauhaus [reference], the integration of art in the everyday life was also seen on the Bauhaus teaching method that replaced the traditional pupil-teacher relationship with the idea of a community of artis working and living together. As described by The DW Its aim was to bring art back into contact with everyday life, and architecture, performing arts, design, fashion and even parties were therefore given as much weight as fine art.

### Art, Innovation and experimentation

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### Section summary

In this section we illustrated how the historical avantgarde and neo-avantgarde movements challenge to the autonomy of art influenced cultural change, including a shift away from traditional notions of art as an isolated, purely aesthetic pursuit, and institutions surrounding it. They advocated for art to have a more engaged, politically aware, and socially relevant role in society. This perspective played a crucial role in shaping the direction of avant-garde art in the 20th century and beyond. The impact of this perspective is still felt nowadays.

I intentionally avoided any mention to technology, computers and digital media and the avantgarde movements because that connection will be discussed in the next section.

## Unstable Media & Computer Art

In this section, I will briefly summarize and define what I mean with computer art, digital art and unstable media and related terms.

### Unstable media

Broadly speaking, “Unstable Media Art” is used to describe a category of contemporary art that incorporates technology and digital media as integral components of artwork. Following the Unstable Media Manifesto (V2\_, 1987), a first define unstable media as follows:

Unstable media is *“…all media which make use of electronic waves and frequencies, such as engines, sound, light, video, computers, and sound. Instability is inherent to these media.*

*Quantum mechanics has proved, among other things, that the smallest elementary particles, such as electrons, exist in ever-changing forms. They have no stable form, but are characterized by dynamic mobility. This unstable, mobile form of the electron is the basis of the unstable media.*

*The unstable media are the media of our time. They are the showpieces in our modern homes. We promote their comprehensive use, instead of the often practiced misuse of these media…”*

*“…the unstable media move within the concepts of ‘movement-time-space’, which implies the possibility of combining more forms and contents within one piece of work. The unstable media reflect our pluriform world.*

*Unstable media are characterized by dynamic motion and changeability, this in contrast with the world of art which reaches us through the publicity media. This has come to a standstill and has become a budget for collectors, officials, historians and critics…”*

#### Illustration, Light-Space-Modulator

At a first glance, it may seem that unstable media is related to computers and digital media. However, this is not a necessary to make an unstable media artwork. Let’s take the example of the “Light-Space Modulator” (1930) by Laszlo Moholy-Nagy. Here is a description of the work by Moholy-Nagy himself:

*“This piece of lighting equipment is a device used for demonstrating both plays of light and manifestations of movement.*

*The model consists of a cube-like body or box, 120 x 120 cm in size, with a circular opening (stage opening) at its front side. On the back of the panel, mounted around the opening are a number of yellow, green, blue, rot, and white-toned electric bulbs (approximately 70 illuminating bulbs of 15 watts each, and 5 headlamps of 100 watts). Located inside the body, parallel to its front side, is a second panel; this panel too, bears a circular opening about which are mounted electric lightbulbs of different colors. In accordance with a predetermined plan, individual bulbs glow at different points. They illuminate a continually moving mechanism built of partly translucent, partly transparent, and partly fretted materials, in order to cause the best possible play of shadow formations on the back wall of the closed box. (When the demonstration occurs in a darkened space, the back wall of the box can be removed and the color and shadow projection shown on a screen of any chosen size behind the box.)*

*The mechanism is supported by a circular platform on which a three-part mechanism is built. The dividing walls are made of transparent cellophane, and a metal wall made of vertical rods. Each of the three sectors of the framework accommodate a different, playful movement study, which individually goes into effect when it appears on the main disc revolving before the stage opening.*

*The first sector’s playful movement study: three rods move jerkily (since the plan of the edges and base are somewhat different) on an unbroken path. Different materials, translucent screening, parallel horizontal rods, and wire netting are mounted to the three rods.*

*The second sector’s playful movement study: found within three levels arranged one behind the other is a large immobile aluminum disc; moving up and down in front of this is a small, bent and highly-polished perforated brass disc; at the same time—between the two—a small ball is set in motion as if on a roller coaster.*

*The third sector’s playful movement: a glass rod topped by a spiral of glass. This describes, in the reverse, the movement of the pin of the large disc, whose tip touches the base made of a diagonally-arranged and sector-shaped glass disc, levitating over a reflecting circular platform.*

*This piece of lighting equipment can be used to arrive at countless optical conclusions, and it seems correct to me that the development of these attempts be continued as planned, as a way to approach the designing of light and movement.”* (Moholy-Nagy, sd)

An important point to notice here, is that the Light-Space-Modulator artwork is not only the sculptural (physical) object but also how that object interacts with the space. When the “Light-Space-Modulator” is turned on, the different pieces move and then reflect the light in the room creating abstract forms and movements over the surfaces of space where the piece is located. Since space and light on it are not stable, the “Light-Space-Modulator” intentionally was designed to embraces this instability.

The Light-Space-Modulator really embraces the fusion of art and technology as promoted by the Bauhaus school. Here we have a space to deep more on a first connection of unstable media with the avantgarde movement.

László Moholy-Nagy (1895-1946) was a Hungarian painter, photographer, filmmaker, graphic designer, and influential figure in the world of modern and avant-garde art. He is particularly known for his contributions to the Bauhaus school and his pioneering work in multiple artistic disciplines. The Light-Space-Modulator is considered a pioneering piece in the field of kinetic art and unstable media {ref ???}.

His view on the autonomy of art and autonomous art institutions, can be seen on his teaching at the Bauhaus. *“When Walter Gropius invited him to teach at the Bauhaus, in Dessau, Germany, he took over the school's crucial preliminary course, and* ***gave it a more practical, experimental, and technological bent****. He later delved into various fields, from commercial design to theater set design, and also made films and worked as a magazine art director.”* (The Art Story, sd)

Also, on his view of how artis should address new technologies like the photo camera.

*“His interest in photography encouraged his belief that artists' understanding of vision had to specialize and modernize. Artists used to be dependent on the tools of perspective drawing, but with the advent of the camera* ***they had to learn to see again. They had to renounce the classical training of previous centuries****, which encouraged them to think about the history of art and to reproduce old formulas and experiment with vision, thus stretching human capacity to new tasks.”* (The Art Story, sd)

He also believed that artist had the potential to challenge the status quo of modernity by embracing new technologies. *“Moholy-Nagy believed that humanity could only defeat the fracturing experience of modernity - only feel whole again - if it harnessed the potential of new technologies. Artists should transform into designers, and through specialization and experimentation find the means to answer humanity's needs.”* (The Art Story, sd)

As we can see here, almost half a century before the V2 Unstable Media Manifesto, the seed of unstable media thinking was present on key figures of the (historic) avantgarde.

### Computer art

Of course, computers are very fruitful for unstable media. Here I will give a brief introduction to the so-called computer art.

Computer art, also known as digital art, incorporates, algorithms, digital technology, and computers in the creative process[[7]](#footnote-7).

In the last decades, there has been shift in our understanding and engaging with digital tools, aka computers. I can no longer function correctly in this society without several technological augmentations. These are not embedded in my organic body. However, my phone, computer, Facebook profile, and many faces on the blockchain are essential to my identity(Ghost). Without them, I will be just a shell. Technology has become, to me, a companion species. I spend more time with my phone than with my dog. Nowadays, we fuse with technology like Kusanagi merged with the Puppet Master in the well acclaimed film Ghost in the Shell (Oshii, 1995). Following Haraway (Haraway, 2015), I can say that I am a cyborg because I am a collection of individualities. I have my organic body, but I have a presence on Instagram, Facebook, and several blockchains. They are genuine shells that I use to exhibit part of my Ghost(identity).

Matt Pearson, one of the precursors of the Processing language, sees it as follows: *“This revolution would be impossible without a new understanding of software as cultural artifact. Where we once saw text processors as literal typewriter replacements, we now download and exchange apps as a popular pastime. Websites that used to be closed domains of proprietary information now sport public APIs, enabling professionals and enthusiasts alike to create ever popular “mashups” based on their data.*

*In the creative field, the most significant development is the realization that software [and hardware] processes aren’t simply tools, but can become the very material from which works are made… …A new generation of electronic artists has turned to code as fertile ground for conceptual and formal experimentation, simultaneously providing a pragmatic framework for computational creativity and a theoretical context for the created artwork.”* (Pearson, 2011, p. x)

An additional point to Pearson’s view is that already in the years 1960’s artists were using computers for creative purposes. One crucial shift of paradigm was necessary for this to happen. Namely, artist had to change the view of the art object as and static object dissociated from the artist and the viewer to a perspective where the art piece becomes a dynamic object that interacts with the artis and the viewer. Moreover, during the creative process technology allows for a “conversation” between the artis, the machine and the art piece. This very much aligned in the view of the Unstable Media manifesto of the previous section, but also the creation process and the artwork itself become a cybernetic system where feedback loop is essential [ref?? ask Willem].

All of this means that in order to make art with computer a different way of thinking was needed. As stated by Matt Pearson, *“With more traditional art forms—sculpture, painting, or film, for example—an artist uses tools to fashion materials into a finished work. This is clearly doing it the hard way. With generative art, the autonomous system does all the heavy lifting; the artist only provides the instructions to the system and the initial conditions. The artist’s role in the production process may be closer to that of a curator than a creator. You create a system, model it, nurture it, and refine it, but ultimately your ownership of the work produced may be no more than a parent’s pride in the work of their offspring.”* (Pearson, 2011, p. 4)*.*

#### Illustration Vera Molnar – square variations

I will illustrate this with the views and work of one of the pioneers of computer art Vera Molnar[[8]](#footnote-8).

Vera Molnar is a Hungarian-French artist known for her contributions to the field of digital art and algorithmic art. She was born on January 5, 1924, in Budapest, Hungary, and studied painting at the Budapest School of Fine Arts and then moved to Paris where she developed most of her practice.

Even of the social context in which she was educated, Vera Molnar wanted to be an abstract painter. In her own words, *“If I can describe myself, I am a painter, an image-maker of images of a non-figurative kind. I 'create' visual forms in the sense that they consist of combinations of shapes that cannot be found in nature”* (Molnar V. , 1975)

She followed the constructivist tradition. She was not interested in grand concepts but rather on simple principles and rules that would reveal unexpected beauty, she claimed that her life was about squares triangles and lines (Rigamonti, 2018).[[9]](#footnote-9) For her form was one of the most existing notions created, developed, and manipulated by human consciousness. In her view, thanks to computers, the concept of form, in the broader sense, could be reduced to a lack of randomness with an organized set of elements (Molnar V. a., 1989). From gave us a bridge between art and technology.

She described her method as follows *“Whenever I begin a picture, I have an initial idea of it in mind. The procedure that I use to arrive at the final work, to be described below, is tedious, if carried through by hand. Furthermore, the final picture rarely corresponds to my initial idea of it.*

*I develop a picture by means of a series of small probing steps and each step is followed by evaluation. In my opinion, painters should employ such a procedure, especially if they consciously wish to learn what kind of aesthetic importance is occurring on the canvas as the painting develops and what effect the work may have on viewers. Making a series of pictures that are alike except for the variation of one parameter is not uncommon”* (Molnar V. , 1975, p. 186)

Before computers, she would use/become an “imaginary machine” to follow this method: *“I will set up a set of rules and will follow them. I would modify the rules according to the results. Before I had access to computers, I used when making my works an “imaginary machine” for which I would execute the rules and make the results. However, this stepwise procedure has two important disadvantages if carried out by hand. Above all, it is tedious and slow. To make the necessary comparisons in a developing series of pictures, I must make many similar ones of the same size and with the same technique and precision. Another disadvantage is that, since time is limited, I can consider only a few of many possible modifications. Furthermore, these choices are influenced by disparate factors such as personal whim, cultural and educational background, and ease of execution.”* (Nierhoff, 2018)???

When she was able to get access to a computer 1968 (Nierhoff, 2018, p. 6), her “imaginary machine” became a “real machine”. She described this change as follows: *“the computer with its unmanageable potential of image variations is an optimal device. When it comes to digital images, the absence of their seclusiveness accom­modates the artist’s experimental scientific approach be­cause, behind the single picture, there is always the image category that also needs to be considered. By means of random generators, chance can introduce interference into the program at various stages. As a consequence, new variations can be continuously calculated and real­ized as images. The selected images thus constitute only limited material expressions of a virtually infinite consec­utive chain.”* (Nierhoff, 2018, p. 10)

##### Square Variations

One of the most recognizable works by Vera Molnar is from the series “Structure des Quadrilaters” (year?). She has many variations during the years, but the core principle is the same. *“…drawings start(ing) from an initial square array of like sets of concentric squares.”* (Molnar V. , 1975, p. 188)then by making variations on the variables a “conversational method” of the Author and the computer takes place.In theparticular case of this work, *“…the available variables are : (1) the number of sets, (2) the number of concentric squares within a set, (3) the displacement of individual squares, (4) the deformation of squares by changing angles and lengths of sides, (5) the elimination of lines or entire figures and (6) the replacement of straight lines by segments of circles, parabolas, hyperbolas and sine curves. Thus from the initial grid a great variety of different images can be obtained.”* (Molnar V. , 1975, p. 188)

[Add pictures, perhaps some code]

Notice that here Vera Molnar, talks about a “conversation” between she and the machines. This is in line with avantgarde thinking of Maholy-Nagy we discussed in previous sections. Vera Molnar also recognizes the importance of artis to embrace new technology (computers) to create art. In her view *“The computer, on its own, does not have the capacity to create art, however: it is a very good assistant, but it is a little bit stupid, a lot must be explained to it.”* (Nierhoff, 2018, p. 7). However she recognises that the computer was often more innovative than what she, or humans, could achieve *“Time and again, I have compared both forms of chance, one generated by me and the other resulting from mathematical probabilities, only to realize that my self-generated chance was much less innovative”* (Nierhoff, 2018, p. 9). At some point she mentions that for her 1% or 2% of randomness was enough to make interesting art [ref]. Moreover, she also does not ignore the position of art in society and rejects the autonomy of art, she says *“I do not make drawings and paintings with the aid of a computer solely for personal satisfaction; I hope that others will also enjoy them. I do not agree with the notion of art for art's sake and of science for the sake of science. Sartre convincingly explains why this notion is untenable. I, personally, know of no artist who refuses to let people see his work. On the other hand, I do not believe that an artist should go to the extreme of ignoring his own taste and convictions in order to please others. There should be an intermediate ground where aesthetic satisfaction is experienced mutually.”* (Molnar V. , 1975, p. 189)

*[make the connection to the avantgarde more clear and structural]*

### Section Summary

In this section we briefly presented the concepts of Unstable Media and Computer Art form a historical perspective. We pointed out how unstable media and computer art require a paradigm change from a static view of the art piece into a dynamic view where interaction and collaboration between man and machine is essential.

In both cases, the avantgarde principles we mentioned before naturally come into place. [make more precisse]

# From the “digital street” back to “galleries”

In the previous section, we intentionally avoided to talk about the internet. We will discusse that in this section.

## Internet art

In less than 30 years, the Internet and the World Wide Web, or the Web, have transformed the way we interact with media.

[add on information wants to be free]

### Web 1.0

In its first iteration, the web 1.0 focused on messaging and static web pages. From this perspective, web 1.0 could be seen as "old" media on the side of books, news, and Television. One of the key characteristics of that "old" media is that there are few creators of information and most users are information consumers. Because of this, the creators of information have a lot of control over the information that is made available and when it is made available to consumers.

[add illustration]

### Web 2.0

This changed with the development of Web 2.0. Here it was/is all about reading, writing, and creating content by users themselves. Web 2.0 made the development of social platforms possible. These platforms got big because the content created came from all their users. In this sense, Web 2.0 was the birth of new media.

One of the crucial switches of web 2.0 relative to web 1.0 was that the end user is not only the user but also the participant of the information. In addition to this, the availability of information has moved towards an on-demand model.

These developments have led us to a situation where the web mediates most interactions. These include interactions with ourselves (e.g., agendas), others (e.g., messages), knowledge (e.g., Wikipedia), and information in general.

[add illustration]

### Web 3.0 and the return to capitalism

One of the challenges that digital media brought into the picture is the following:

*"If our (digital) property can be infinitely reproduced, and instantaneously distributed across the planet "without" cost, how are we going to protect it? How are we going to get paid for the work we make with our minds, and if we can't get paid, what will assure the continued creation and distribution of such work?"* (Tehranian, 2021)

In the historical tradition, "art" depends on the value that is given to it, and the willingness to collect it and preserve it. This is particularly relevant to digital art. Digital art resists the traditional means to assign value[[10]](#footnote-10) to it and preserve or collect it.

For example, a digital copy of a digital asset (art piece) is, objectively, the same as the original one. This goes against the art tradition of giving more value to the original. Even more, the tradition that to replicate/make art a "artistic craftsmanship" is required does not necessarily apply to digital art.

Moreover, in our society, art has historically developed as a collectible, and value is influenced by rarity. But the nature of digital media is against this. In the words of web pioneers: "information wants to be free". As said above, digital art can be infinitely reproduced and instantly distributed "without" cost. The mainstream business models of the web are advertising and subscriptions. Those have not proven successful when it comes to art. Also, none of the solutions provided by web 2.0 to enforce ownership and authenticity have proven successful.

The next iteration of the web, web 3.0, is happening right now. It is based on blockchain technology. In addition to the reading and writing capabilities of web 2.0, it brings ownership and decentralization as digital natives in its conception.

A key technical feature of web 3.0 was the introduction of Non-Fungible-Tokens (NFTs)[[11]](#footnote-11). NFTs were first promoted as the solution that would allow artis to be free from the middle parties dominating the art market. Artis would have full ownership of their digital assets. This was clearly on the avantgarde rejection of art institutionalization.

At a first glance, this succeeded. In 2020-2021 when NFT’s art stormed the art world. On the commercial aspect, some NFTs sold for over $69 million. This is remarkable put on the side, with famous artworks like the Sun Flowers of van Gogh, valued at around $100 million. The hype has calmed by now but still, NFT’s show an essential development for digital art.

However, as for today this boost seems to have been encouraged by the global Covid-19 pandemic. NFT markets have slowed down and the values of NFTs droped. Let’s now look in retrospective at some of the NFT art.

#### Illustration – Bored Ape

#### Illustration – Life forms

https://lifeforms.supply/

# Art in every day live: Douchamp, Maholy, Jan Robert Leegte, Sander Veenhof.

# Art, craftmanship and autonomy: Bauhaus, Vera Molnar and creative coding as a school of thought

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Other notes

[Some extra remarks my view on unstable media.

As mentioned in The V2 Manifesto, constant change is a key to unstable media. That means that artwork may evolve, or change over time responding to data, external factors, or viewer engagement. However, the artis should have had the intention to embrace such change when making the work[[12]](#footnote-12). A painting that changes color because of time, and this was not intended by the artist, is not an unstable media artwork. A video that just loops in a screen, projector, or similar, is neither an unstable media artwork.

In a similar fashion the use of digital means to produce an artwork does not make it an unstable media artwork. A Poster that has been produced with illustrator and is becomes and static image, or video, is not an unstable media artwork.]

1. I will base my definition of media art in the V2 Unstable Media Manifestos. This line is rephrasing part of the manifesto version of 1987. [↑](#footnote-ref-1)
2. I define fine arts as “artistic works” that are static by nature and do not change on the feedback of the viewer as fine arts. <add dynamic part on last talk 18-10-23 with Willem even add in the text above> [↑](#footnote-ref-2)
3. I take video that is used to document, illustrate, or depict something as fine arts media. As far as the video does not embrace and mutates with the spectator it is to me just a collection of static images hence in the same level of painting, illustration or photography hence fine arts. [↑](#footnote-ref-3)
4. For this perspective the Wikipedia definition is accurate yet not concrete enough as it does not explain why avantgarde movements are innovative. [↑](#footnote-ref-4)
5. translation by chatGPT [↑](#footnote-ref-5)
6. Perhaps there were other female artis exposing at her time, but the important point is that the art world was even more male dominated that what it is now. Something that has not improved much as it is shown by the work of the Guerilla Girls; women are still fighting their place in the art society and many have become an artistic PR icon [guerrilla girls] for the institutions to show “diversity”. [↑](#footnote-ref-6)
7. For this section we will avoid talking about the internet as that will be discussed in later sections. [↑](#footnote-ref-7)
8. Some may differ whether Vera Molnar is really one of the pioneers of computer art but since I do not want to not encourage the male dominated culture on art and its institutions, I will Illustrate the thinking behind computer art with her work. [↑](#footnote-ref-8)
9. Here the quote from her interview *“my life has been about squares, triangles, and lines. In this sense, I do not start from grand concepts that create patterns but rather from simple principles and rules and by introducing small variations undisclosed beauty appears”* (Rigamonti, 2018). [↑](#footnote-ref-9)
10. According to Sotheby's, the following factors determine the value of art: Authenticity, Condition, Rarity, Provenance, Historical importance, Size, Fashion, Subject Mater, Medium, and Quality [↑](#footnote-ref-10)
11. A non-fungible token (NFT) is a unique digital identifier that cannot be copied, substituted, or subdivided, that is recorded in a blockchain, and that is used to certify authenticity and ownership. The ownership of an NFT is recorded in the blockchain and can be transferred by the owner, allowing NFTs to be sold and traded. NFTs can be created by anybody and require few or no coding skills to create. NFTs typically contain references to digital files such as photos, videos, and audio. Because NFTs are uniquely identifiable assets, they differ from cryptocurrencies, which are fungible.

    [↑](#footnote-ref-11)
12. We mentioned already in the case of E. Sturetevant that the intention of the artis is at the core of the art work. [↑](#footnote-ref-12)