

# IMAGE PHILOSOPHY TO READING GLITCH ART

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## ABSTRACT

This paper investigates to what extent it is possible to establish an image philosophy to read digital images, in this specific case, applying the concepts in the areas of glitch art. Through a narrative literature review, we sought general definitions regarding the terms of the image and developed a possible approach for reading digital images that have intrusive aesthetic data from the operation of technical apparatus. The study takes place as a theoretical reflection that does not aim to “solve” all the questions about reading images, but it can bring up the possibility of interpreting the images that inhabit the digital universe.

Keywords: Glitch Art; Visual language; Visual semiotics; Visual literacy; Image.

## 1. INTRODUCTION

Reading images is far from being a widespread subject. It is because the term “reading” can often bring pitfalls to the context of analyzing different languages, such as visual in this case. Therefore, it is necessary to expand what can be considered reading. Based on the principle that reading is structured on the practice of language deciphering, it is possible to understand that reading is not restricted to the decoding of “letters”. From illustrated books to life in large urban centers with their multiplicity of advertising, the relationships between words and images are increasingly symbiotic. With this, it becomes clear that different languages mix themselves hybridlike.

In the same way, as the hybridization of languages happens in the examples mentioned above, we must not forget that the contemporary reader navigates the digital universe, where the most different types of images, signs, maps, routes, lights, clues, words, texts are manifested. It can lead to the understanding that the reading of the image must consider the image itself as its own visual language, and this language has its own paradigms in the different manifestations and placements it may have. It is based on the principle that the image needs its own complexity so that it can be explored, that this research seeks to understand the extent to which it is possible to establish a philosophy of the image to read digital images, using the example of glitch art as a case study.

We seek to reveal a generalist definition of the image, a possible approach to its reading, and a relational application of the concepts through a narrative literature review. It is important to note that this study does not intend to “solve” all the problems related to reading the images nor provide an irrefutable structure for this. What is discussed here is only a theoretical and preparatory reflection that can guide the possibility of interpreting the images that inhabit the digital universe.

## 2. STATEMENT OF THE IMAGES

In a broad knowledge scenario, it is possible to see that Santaella’s philosophical contemplation sees the compatibility and contradictions among different philosophers, which leads to a unique context that can be contemplated in what is yet to come. Among possible applications, the world of communication professionals and scholars gains, with Santaella, a primary social perspective in the creation, interpretation, provocation, development, meaning, and re-signification of languages.

Bearing in mind the teaching that languages are constantly growing and changing, Lucia Santaella’s bibliographic production uses the interpretation of these phenomena to approach from the most primary theories of perception to the most complex systems of interpretation. By understanding languages in a broad and phenomenological way, the author shows an approach that goes beyond the rigid applicabilities of language and puts them in synesthetic profusion.

Among the most varied manifestations of languages, it is precisely in the theory of image that Santaella's work proposes a new direction for the history of philosophy in this branch of science. To understand this context, it is necessary to approach the relevance of perception and cognition, as well as the externalization of these factors concerning images. Every sensory receptor responds to a particular type of stimulus by sending information to the brain at different frequencies. When opening the field of understanding human recognition through the senses, it is evident that this temporal and spatial self-determination inherent in constructing each individual's reality is directly linked to self-image. Not only in terms of visuality but understanding imagery from synesthesia.

In the work "Percepção: fenomenologia, ecologia, semiótica", Santaella identifies three theoretical versions for an overview of the perception studies. "The first one extracted from Lombardo (1987), the second one, extracted from J. J. Gibson (1974), and the third one, from Hagen (1980)." (Santaella, 2012a, p. 4) This framework is used to understand the relationship between perception and cognition.

With this preamble about perception and cognition, Santaella leads to a new way of understanding images. Lucia Santaella and Winfried Nöth present perspectives on the existence of a grammar of the image in the book *Imagem: cognição, semiótica, mídia* (1998), which shows that, after the beginning of structuralist semiology, the grammar of the image occupied a significant space in large part of the research, what later generated a search about a grammar of the image turned to the analogy among the plans of articulation of the language.

It caused a sequence of studies that aimed to find out if there were and what would be the plans for articulating the image. It is a discussion that opens several theories and challenges. The first articulation of the image is permeated with "units as carriers of meanings" (Santaella & Nöth, 1998, p. 49). Still, on the first articulation, Lindekens questions the minimum units of meaning, which Cossette calls icons when trying to use them to arrive at complex visual supermorphemes. At the same time, Porcher suggests an empirical method that uses visual switching tests to determine lexical image units. Thülermann, in turn, considers, in establishing the articulation, "the principles of opposition between the elementary contrasts of expression belonging to the field of color and shape" (Santaella & Nöth, 1998, p. 50), reaching a differentiated division of image based on a "limited number of elements of figures and background" (Santaella & Nöth, 1998, p. 50).

According to Santaella and Nöth, Bertin was one of the great influencers of this context when identifying a system of visual variables, which Cossette and Saint-Martin interpreted as units of the second articulation plan, which states that the images are composed of six elementary units. They are: (1) size; (2) degree of clarity; (3) pattern; (4) color; (5) direction; and (6) shape. Thülermann uses the context of the Greimas semiotics to develop "two forms of minimal units of expression: eidetic categories (for example: contours, corners, concave/convex,

symmetry, compactness, direction, and dimension) and chromatic categories (tonality and saturation)” (Santaella & Nöth, 1998, p. 49).

These notes about the grammar of the image demonstrate the number of scholars who related image and language. This set of considerations about the image leads to the speculative grammar “or the general theory of the nature and meanings of signs, whether they are icons, indexes, or symbols” (CP 1.191), which is the first division made within logic or semiotics and it is closely linked to the other two divisions. “For Peirce, however, this first branch should function as a propaedeutic for the study of the arguments’ validity and the truth conditions of the science’s method” (Santaella, 2012b, p. 4), serving as a basis for the other divisions.

The division of speculative grammar is characterized as a functional science for the study “of all possible kinds of signs, of their properties and behaviors, of their modes of signification, denotation of information and interpretation” (Santaella, 2012b, p. 4), studying their properties intensively and worrying about classifying them.

Analyzing the speculative grammar more deeply as a general science of signs that allows to describe, analyze, and evaluate sign processes, it is possible to identify that it is up to it to understand the image in its own way. Santaella and Nöth (1998) show that the world of images can be divided primarily into two domains: images as mental representations and as visual representations, and both can function as signs. Prioritizing the domain of visual representations, it can be understood that “images, in this sense, are material objects, signs that represent our visual environment” (Santaella & Nöth, 1998, p. 15). It means that the theoretical path given until now allows the interpretation of the image as a visual representation.

### 3. IMAGE AS VISUAL REPRESENTATION & IMAGE MODALITIES

In cognition, Santaella and Nöth point out that Hume contemplates “mental images, which origin is found in the previous perception of the senses” (Santaella & Nöth, 1998, p. 28), and further explain that conceptions of things always arise in mind. For Locke and Descartes, “what is perceived causes internal representations that have a similar relationship with the perceived objects without, however, necessarily having the character of real images.” (Santaella & Nöth, 1998, p. 29) These images, according to Wittgenstein’s logical theory of imagery thinking, are born out of a complex relationship in which “we form images of facts,” “the image is a model of reality” and “the logical image of facts is thought” (Wittgenstein in Santaella & Nöth 1998, p. 29). Santaella and Nöth associate this logic of thought with the diagrammatic icon presented by Peirce.

Peirce considers both, images arising in mind and material images, as representations. Thus, representation as a material image can be understood as a sign; and the mental image that arises in mind would be the possible dynamic interpretant that an interpretive mind generates.

Peirce restricts “the word representation to the operation of the sign or its relation to the object for the representation interpreter” (Peirce in Santaella & Nöth, 1998, p. 17). Therefore, it is necessary to evaluate the sign’s relationship with what is perceived.

By using exact rules to convey the essence of things through formal characteristics, it is possible to see that the representation presupposes an iconic relationship based on what Santaella and Nöth, through Nelson Goodman, affirm about the representations as “images that have approximately the same type of function as descriptions” (Santaella & Nöth, 1998, p. 19). This iconic relationship goes through several mediations since “the sign does not represent a thing, but the idea of a thing and, thus, represents the connection of two ideas, one of the things it represents, another of the represented thing” (Santaella & Nöth, 1998, p. 23). Then, each of these mediations is syntheses that undergo constant changes capable of producing a linguistic syntax.

This procedure, then, is characterized mainly by a relationship of thirdness, as it is entirely formed by signs representing abstract concepts that initially appear in mind and then become a material visual representation. This relationship contains a firstness due to its iconicity, and a secondness because it indicates its object.

In this context, Santaella (2005) makes her philosophical proposal on the modalities of visual images. With a view essentially based on Peircean phenomenology, the author demonstrates that image modalities can recursively search the phenomenological categories and, primarily, be divided between non-representative, figurative, and representative elements. These modalities can still give rise to nine other submodalities with possible consequences in nine more each.

Under the aegis of non-representative elements, it is possible to perceive the qualitative characteristics of the image. This aspect unfolds phenomenologically in the submodalities of quality reduced to itself, quality as a singular event, and quality as a law. The self-reduced quality of the images deals predominantly with the primary visual elements unrelated to anything else. In this case, it is possible to interpret the image from the concepts of quality as a possibility, materialized quality, and the natural laws of quality.

Quality as a singular event refers to the shapes of incorporation and manifestation of qualities in singular objects. With this, this submodality still demonstrates the qualitative aspects of the gesture, gesture in action, and physical and physiological laws of the gesture. Quality as a law is relative to natural laws in which qualities have the potential of law in themselves. The division here is given from the concepts of chance laws, replicas as law instances, and laws’ abstraction.

In the domain of figurative elements, the phenomenological image developments are given by the submodalities of the figure as quality, the figure as record, and the figure as a convention. The figure as quality deals with the figurative power of the image only in its qualitative aspects. Thus, in this submodality is found the phenomenological division based on the *sui generis* figure, the gesturing figure, and the figure as type and

stereotype. The figure as a record alludes to the dynamic connection of the image, and it means that this submodality highlights the attempt to figure out existing situations. This submodality is based on the concepts of imitative record, physical record, and record by convention. The figure as a convention demonstrates the graphic convention systems to reproduce what is visible. Here we have the submodalities of the qualitative codification of the pictorial space, the singularization of conventions, and the rationalist codification of the pictorial space.

Already under the shelter of representative elements, also characterized as symbolic, submodalities based on phenomenology occur through representation by analogy, representation by figuration, and representation by convention. The representation by analogy deals with the similarity of the image with the object it represents. This representational convention is divided into the categories of imitative representation, figurative representation, and ideational representation. Representation by figuration refers to an equivalence system that bears no resemblance to the represented object. It is given from the submodalities of cipher by analogy, cipher of existential relations, and cipher by codification. Representation by convention is a submodality in which images systemically represent their objects. Here is seen the division between conventional analog systems, conventional indexical systems, and conventional arbitrary systems.

Therefore, through this theoretical, conceptual, and categorical exploration, one can exercise the reading of images. We take as an example the post-photographic paradigm proposed by Santaella, which is characterized by the process of producing the triadic image, and the result of technological innovations and creations (optical prostheses) during the 19th and 20th centuries.

The technical support of synthetic or infographic images, comes from the junction between the computer and a video screen and through the intervention of a mathematical calculation program. According to Santaella and Nöth (1998), the computer, despite being a machine, does not act on physical reality in the same way as optical machines but “on a symbolic substrate: information” (1998, p. 166).

The synthetic image (virtual and simulated), before being an image capable of being visible, is modified through a matrix of numbers in elementary points (pixels), allowing the computer to position them accurately in the two-dimensional space of the canvas within a generally Cartesian coordinate system. (Santaella & Nöth, 1998, p. 166). Thus, it is possible to make the object visible on a video screen. The synthetic image does not need the knowledge of the real and can simulate the complete reality. Due to the metamorphosis capacity of these images through the production method described above, it is possible to produce a simulation of experiences related to a (real) object without resorting to time and space.

#### 4. CONTRIBUTIONS TO READING GLITCH ART

Digital art has become an area of knowledge that brings together in its entirety the artistic manifestations generated employing a computer. In its designation, it is practically conclusive that the works of art that belong to this aggregation were created using a digital production process and, in this way, be characterized as an electronic system of zeros and ones, becoming the opposite of the analog field. However, it is essential to emphasize that not all works presented in the digital sphere are necessarily digital.

What becomes fundamental for a work of art (sometimes) is not its technical means of production but its significance and aesthetics. At this point, it is essential to better understand what “net.art” is since it is the terminology given to the group of all works of art that, like glitch art, are located only on the internet and/or that were produced and generated for this medium.

According to Lieser, “net.art” appeared to originate a new critical and political art format, portraying the most exciting changes and issues of the contemporary era, primarily focusing on the current communicative and social changes (2009, p. 110). Since the user and visitor can manipulate the project on the artist’s network, it becomes itself something stimulating for the generator. Thus, Lieser says that this process consists of “playing with the concept of interactivity, generating attitudes of attention, and participation” (2009, p. 110). Whereas “net.art” is accessible to any user on the network, according to Lieser, artists can publicize their works through “more conventional achievements, such as installations, prints or screen works based on working with software” regularly on the internet (2009, p. 110).

There is a significant concern about the terminologies identified during the research in the texts on glitch art. This concern is because several terminologies are used, always synonymous with each other but with different characteristics. The English term “tilt”, according to the Random House Dictionary (2015), can be applied as a verb or even a noun and has the meaning “incline” or “inclination”. It reflects the sense of moving or highlighting a position or even an inclined direction. Its terminology derives from the English term “tyltan”, which means something unstable. This expression became familiar around the 60s and 70s, visible in the old arcade machines located in electronic entertainment stores. The “flipper” machine contained an internal electromagnetic mechanism that automatically turned off, ending the game, and banning the player in case it was shaken too much by anyone. Subsequently, the word “tilt” would appear on the screen, blinking consecutively in an unbearable manner, causing the player to leave due to exhaustion. In 1931, following the appearance of the first pinball machines, it was customary to tilt or even swing the machine to redirect the ball. The player could “preserve their life” in the game or obtain more points. However, in 1934, the tilt mechanism was inserted to block the game if the player was not using it properly, forcing them to give up playing. Tilt is characterized

by a safety mechanism that acts if the machine's instability is noticeable in the event of being tilted several times repeatedly, pointing to an attempt by the player to break the rules. If that were the case, the machine would stop its functionality to avoid cheating by the player, then the word "tilt" would appear on the screen.

However, this term is incorrectly applied to portray the system block in computers, video games, or any electronic device. The same terminology can also be mistakenly identified by a "bug". "Bug" can mean failure or defect in a computer environment, and it is considered the term most like the term "glitch". This terminology is also an engineering slang, and, in its origin, it was used in Hardware Engineering to characterize defective mechanical operations. As for the term "bug", the Random House Dictionary (2015) says that it is "a defect or imperfection, as in a mechanical device, computer program or plan; failure", and according to The American Heritage New Dictionary of Cultural Literacy (2015), the same term aims to "describe a malfunction of undetermined origin in a computer or other electronic device".

According to Kozak and Gradin, bugs are programming errors that cause software or hardware to malfunction. Which can be considered a failure in the logic of a program or even refer to operations of a programmer who has not anticipated a particular use and/or conduct made by the user in the system. In other words, these defects are caused due to failures committed by programmers, which can be caused by the fact that software systems are complex or even by the line programmer forgetting a line in the source code (2012, p. 114). Thus, it is understood that the bug is not a glitch but that it produces one. A bug is the generator, and a glitch is the generated one.

In 2015, the Collins English Dictionary stated that "failure" represents "an act or a case of failure, [...] a person or thing that is unsuccessful, [...] failure to do something required or expected". According to this definition, it is understood that failure was impossible to perform as a cause of a defect. In this way, it is said that machines fail, not make mistakes. The term "fault" derives from the French word "*faute*", which means lack (absence), deficiency; but it also comes from the Latin word "*fallita*", which means insufficiency; the word "*falsus*", designated as misleading; and the word "*fallere*", which is described as the act of deceiving and disappointing. According to Collins English Dictionary (2015), a fault is defined by failure, imperfection, or defect.

Collins English Dictionary (2015) states that the term "error", a terminology regularly used in texts related to glitch art and glitch music, is "an error (same meaning of the term mistake) or imprecision as in the action or speech [...] a belief incorrect or wrong judgment". An error is a wrong act in the procedure and the judgment of something, not representing the same as the bug and the fault. It refers to making mistakes and claiming that it was done by "mistake". In the context of computing, the error is the procedure generated by the encounter of a bug since it is this (bug) that generates it.



The notion of “noise”, in a statistical context, is appropriated by Shannon and Weaver (1949) when, in an attempt to improve communication processes in the act of proceeding with a more detailed and clear transmission of information (intention to estimate the communicative capacity of what is capable of being disseminated at a specific moment), the occurrence is beyond the control of the information generator, and that, therefore, has to be eliminated so that the communication becomes as accurate as possible. Also, concerning the term “noise”, present in Electronic Engineering, Araújo (2011) understands it as disturbances and undesirable elements that disturb the flow in a system. All these disturbances, however, are “joined”, synthesized, in a theory that is a mathematical theory (that has a mathematical methodology, that uses algorithms, that quantifies all the elements and organizes them in formulas and equations with calculations, mathematical operations, vectors, logarithms, percentages, graphs) aimed at understanding a specific object, communication. That is, the processes of transmission and maximization of the process, saving time and costs, eliminating noise and problems (Araújo, 2011, p. 553).

Therefore, a functional aspect of the noise, in the contexts described above, is considered pejorative and must undergo mediation and optimization to modify its representation to something invisible, eliminating the influence of noise and converting it to nonexistence. On the other hand, it is due to the intervention and presence of this noise that glitch art is founded. According to the Collins English Dictionary (2015), the word “glitch” means a sudden event with a defective or inconsistent functioning in an electronic system. As for the approximate meaning of the word “glitch”, according to the Collins English Dictionary (2015), it means malfunction, adversity, problem, and intermittency; in Informatics, the meaning of the word aims to mean: defect (in the same way as the bug) and failure (equal to a fault). Thus, “glitch” terminology is said to be an unexpected failure or error that causes a malfunction, and it is characterized by being a problem that generates wrong results.

As for the meaning of “glitch” in the context of glitch art, the figurative and literal meaning of the definition of “error” is used. The word in this framework is represented by “error”, and it is the visual and sound interpretation of errors or failures, observable in a result representative of the occurrence of an error or failure in the procedure it generates. That said, and using Peircean semiotics, it can be understood that the term “glitch” is an indication of error, which causes an impaired functioning in the procedure that generates an incorrect result. Glitch art is seen as the (perceptible) aesthetic of the error/failure, or rather, the manifestation and/or representation of indications of the unexpected error.

There are terms that generate (originates a result) and those that are generated (comes from a malfunctioning process). Thus, it is clear that “bug”, “fault”, and “mistake” are terms that generate, and “tilt”, “failure”, “error”, and “glitch” are generated. It was in 1962 that the meaning of the word “glitch” took over the structured outline for its characterization when the astronaut John Glenn applied the term “glitch”, which was

previously considered an incomprehensible language at a scientific level, portraying abrupt changes to return in an electrical circuit, in a more general way for any malfunction. Menkman (2011) understands that the glitch is a kind of noise, of which its beginning is still unknown, and consequently, it develops its own classifications regarding it. Still, and although glitch's mastery is somewhat extensive in Menkman's study, the author argues that "'glitch' is a rupture (real and/or simulated) of an expected or conventional flow of information or meanings within (digital) communication systems that results in an accident or perceived error" (2011, p. 9).

Glitch art is one of the contemporary components of art that aims to question the logic of the solemnity of technological innovations, seeking to raise the failures or noise present in communication for an artistic generation to another level. At the beginning of the studies regarding this contemporary art, it is possible to perceive that it is constituted by the scarcity of strict guidelines or by a number restricted to limiting the means from which the works are generated, of which many are produced through computers and software, cameras short-circuited, and others are even generated from old video games. Due to these same old and discontinued devices, Moradi (2008, p. 13) relates a certain nostalgia to glitch art. Menkman (2011) also believes in obsolete programming, which makes consumers almost obligatorily update their devices more frequently and in a shorter time interval since the "validity" of the manufactured devices is smaller: "I would like to argue that this economic reasoning is closely linked to the growing nostalgic fetishism of imperfection in (glitch) art, which over the past few decades has become a kind of conceptual virus" (2011, p. 57).

As previously defined, Menkman (2011) says that "glitch" is characterized as an unknown failure in a communication system. Thus, it generates an unpredictable and unexpected occurrence that is not capable of being individually coded, having a conceptual capacity to present the functioning of the system versus aesthetic expectations. According to Menkman, "in the digital domain, what has come to be known as glitch art deals with the digital dimension of error, accident, and disaster from different angles, within a broader context of cultural significance" (2011, p. 32). This terminology is constituted by the aesthetic semantics subject to the technical error of the generation process, and it corresponds to the procedure of making systematic errors aesthetic, allowing for their imperfection.

Due to the lack of knowledge concerning the genesis of the glitch, it is possible to proceed with its classification. Otherwise, and if it were feasible to understand the causes that constitute a glitch, it would become just an error in the technological system, a failure in the communication device. If the glitch remains unknown, it allows establishing an absence of reaction with the public. That is, by keeping the appearance of a glitch unknown, it makes it unknown how to work with it. Therefore, the representation of a glitch now has the possibility of reflecting an act of understanding the device(s) involved in the process at work. To

mirror these fundamentals, Menkman (2011) introduces the definition of moment(um). In her study carried out in 2011, Menkman tries to understand the ascending lineage, the origin, source, and derivation of glitch art, affirming that it is “a study of disjunctive flows and change, resulting from (perceived) accidents, it is better described following a genealogical model” (2011, p. 4).

It is essential to point out and specify the most considered glitch art classifications, starting with “pure glitch” or “real glitch” and proceeding to “glitch-alike”, both proposals given by Moradi. In 2004, Iman Moradi, researcher and pioneer artist of glitch art, differentiated “pure glitch” from “glitch-alike”. The pure glitch is understood as the glitch generated involuntarily by an error in the system, the presence of a failure in the system, without the artist’s purpose of generating any type of error. This terminology is defined by accidental and involuntary error, from which the artist takes advantage of the unexpected occurrence of an error present in the work. On the other hand, the “glitch-alike” can happen by non-digital means or by a visual generation of a glitch. It is characterized as a simulation, a representation previously prepared and purposely manipulated by the artist. For Moradi, “glitch-alikes” are a collection of digital artifacts that resemble visual aspects of real glitches found in their original habitat” (2004, p. 10). In this case, the common language of digital artifacts and considered noise is nothing more than the failure of the attempt to represent the ideas expected by anyone or even generated due to the intrinsic restrictions existing in the system. The glitch aesthetic in this occurrence is given as an intention and generates the desired effect, being used as a component of visual style.

However, Menkman (2011) did not contemplate the definitions given by Moradi in 2004 regarding the “glitch-alike” concept. Menkman considers it more relevant to understand the plausible foundations for which this experience is believed to be art in a particular culture instead of exposing the hypothetical false glitch. Menkman (2011) also refers to “glitch-alike” as experiments in the field without much effectiveness, using the term “commodity/commodities” to reflect an undefined primary product related to its production and origin; and/or entitles “glitch-alike” as glitches produced by a standard execution. To support this theory, Menkman (2011) lists different projects that portray the “glitch-alike” and how they hinder the automation of glitch effects in digital art. Among them, and perhaps what becomes more prevalent to represent this reasoning, she mentions the Glitchbrowser Project developed by Iman Moradi, Tony Scott (also known as Ant Scott or Beflix), and Dimitre Lima. It is important to note that Glitchbrowser Project came to give a more global access to users who did not have the tools and/or the facility to tamper with images, which generated a cluster of (similar) images to circulate the web through glitch effects. From these images, and through a type of signature placed on the adulterations programmed by Moradi, Scott, and Lima, they were able to identify which images were created and stolen from the browser developed by them. Also, like Moradi, Menkman (2011) makes her comments regarding an accidental glitch and a programmed

glitch. In this study, Menkman titles and discloses the terminologies given to her classifications: “cool glitch” and “hot glitch”. Cool glitch is known as a failure generated by the device, “of the complete ‘spontaneity’ of the machine in the form of an accident” (2011, p. 65). On the other hand, the hot glitch is portrayed as a simulation of a fault generated by the device, produced at the artist’s intersection.

To characterize glitch aesthetics, Moradi (2008) lists the four most well-known and reputable representative visual elements of glitch art: repetition, fragmentation, complexity, and linearity. According to Moradi (2008), everything generated through errors found through software is considered an immeasurable loop in which the accidental effects of these programmatic systems in the image production can generate a visual repetition. The characteristics generated due to the random computational process and the computational and/or digital error can be represented in repetition mode peculiarly and unexpectedly in certain image sections. Moradi says that “sometimes in glitch art, everything is reduced to its individual elements, or parts of the image are transferred and translated incorrectly” (2008, p. 28). The fragmentation generated in the image is considered glitch artifacts or the signs of adversity present in the image production process. This visual characteristic occurs after certain types of disturbances in the source code or the digital information. This characteristic of the glitch aesthetic results from the fact that the hardware and software are tampered with to cause errors or malfunctions in the ordinary course of the image production process. The images generated through these errors are characterized by the difficulty in reading them and the delay in understanding their representation, presenting a reduced visual pregnancy and being necessary to invest more time in their interpretation.

According to Moradi, “pure glitch” and “glitch-alike” can visually present themselves, having as a point of comparison the constituents of nature with a particular type of chaotic representation (2008:32-33). This visual element called “linearity” is described as a visual effect derived from the work of digital technology to see how the reading of the source code and the representation of an image on a screen/monitor proceeds. Moradi explains that “without going into any level of technical detail [...] these elements (pixels) have a tendency to merge together in rows to form lines” (2008, p. 31).

When the cause of the noise of an artifact is known, this noise is not understood only as a failure but as a signification of a new artifact. Thus, an unintended result of a system can be seen as a result and a conceptual force determined by the technical apparatus. “From an informational (or technological) perspective, the failure is best considered as a rupture in (one of) protocolized data flows within a technological system.” (Menkman, 2011, p. 26) According to this proposal, from a media culture perspective, a system’s failure can be understood as an interpretation of a phenomenon defined by a social or cultural context. A fault is open to symbolic connotations from an aestheticized perception of noise. Therefore, noise appears as a significant element that produces

aesthetics in a digital language in glitch art. The noise can reveal itself to the perception as an accident and can be seen in a digital language given by computational algorithms. “Instead of creating the illusion of a well-crafted interface transparent to information, glitch captures the machine by revealing itself.” (Menkman, 2011, p. 30) Glitch art emerges as a relationship between human and machine that reveals a symbiosis in which human beings submit themselves to machines to produce works that reveal the involuntary essence of the devices’ causal language. It is possible to understand that this process goes beyond the artist’s interaction with their technical apparatus since the language generated by glitch art presupposes aesthetic values generated at random by a technological apparatus. What is highlighted here is the power that the device can exert over the image producer. While in the context of glitch art, what stands out is the device’s power over the result of the proposal. This artistic process is not just guided by how the technical apparatus can determine the artist’s action but rather by how the technical apparatus can produce aesthetic language in the work of art.

This digital dependence on glitch art demonstrates a relationship of temporal deformations in the artistic artifact. Like glitch art images, these digital or electronic images have a transformation capacity very similar to the sound field. It means that digital images can be compressed, expanded, multiplied, and twisted to the limit of transfiguration over time. They have a substantial capacity for metamorphosis because they are made up of pixels. “The pixel is localizable, controllable and modifiable because it is linked to a numerical value matrix. This matrix is fully penetrable and available, and can be reworked” (Santaella & Nöth, 1998, p. 97). For this type of production, it is necessary to understand that the causality of technical devices can be established from analog technologies with malfunctioning to more complex processes such as the alteration of an internal circuit of the device, the opening of files by specific software for other types of files, creation of algorithms to randomly manipulate a file or intentional deterioration through data loss in a compression process. This analysis leads to understanding the type of aesthetics pertinent to glitch art under a phenomenological aspect in the classification of sciences made by Charles Sanders Peirce. Within his framework of philosophical sciences, it is possible to perceive a division into three segments: phenomenology, normative sciences, and metaphysics. Therefore, to understand the aesthetics of glitch art, it is necessary to resort to the study of the universal categories of experience: phenomenology.

## 5. FINAL CONSIDERATIONS

Peirce reaches the three formal and universal categories of experience: firstness, secondness, and thirdness. While phenomenology studies the phenomena as they appear, normative sciences study these phenomena insofar as they can act on interpreting minds and insofar as these minds can act on them. To understand this relationship, it is relevant for the research process to highlight yet another subdivision in the classification

of Peirce's sciences. Thus, the normative sciences still branch out into three more items: aesthetics, ethics, and logic or semiotics, since phenomenology, within this context, should serve as a foundation for these sciences.

Concerning phenomenology, its content must be apparent if we want to understand the normative sciences, which means that it is from phenomenology that the normative sciences lend their principles. Observing the phenomena in ordinary experience to extract the most superficial generalizations, phenomenology becomes the foundation of all philosophy because its elementary concepts support the whole building. (Santaella, 1994, p. 114)

Aesthetics is related to discovering what must be considered the supreme ideal of human life. More broadly than just a theory of beauty, it is up to aesthetics to investigate the potential for admiring things without having anything to do with anything else. "States of things that, sooner or later, everyone will tend to agree that they are worthy of admiration" (Santaella, 2005, p. 38). On the other hand, ethics continues this thought and tries to understand what the human being is deliberately prepared to conceive as an affirmation of their will. Logic can be seen in two panoramas: first, as a science that studies the conditions for the truth to be reached; however, more broadly and secondly, logic deals with the rules required for thought. Thus, considering that all thought is given by signs, logic refers directly to general semiotics (Santaella, 2005, p. 39).

An aesthetic analysis of glitch art must necessarily start with the terms of the sound since, under the influence of phenomenology, it is possible to understand this language under the domain of firstness. Santaella (1994, p. 115) highlights that "wherever there is uncertainty, chance, spontaneity, freshness, originality, indeterminacy, floating and disincarnated feeling, there will be firstness". Moreover, these are the essential characteristics in the context of glitch art sounds. Regarding the concept of "noise", these noises make up a large part of the sound aesthetics of glitch art, demonstrating a type of language that considers the accidental sounds of capturing an apparatus as a positive consequence. In this sense, glitch art puts in place a system with a high degree of entropy that reveals what Santaella determines by chance syntax: "From the point of view of syntax, qualitative possibilities, highly indeterminate, that is to say, free from any rules laws governing their occurrences, can only be syntaxes of chance" (2005, p. 120).

Sound language in glitch art grows through the power of spontaneity and shows that the pre-established system of the act of a composition is exposed to different possibilities. This sound classification can be even more complex when viewed under the influence of phenomenology. Santaella classifies it as "the pure game of chance", "chance as a search", and "the modeling of chance". Therefore, it is necessary to seek previously the ways that glitch art embodies these sounds in visual signs. Visual images of glitch art are its most evident and most widespread manifestation. These images reveal a phenomenon in which digital data

decomposes spontaneously and quickly, creating a visual pop culture that includes themes such as memory, loss, destruction, creation, etc.

Thus, the noises understood in the sound aesthetics of glitch art start to take on visual shapes through defective computational algorithms, tampering with cameras, incompatible software, or any other process intended by the artist. From a phenomenological point of view, the aesthetics of these images reveal an invariance of visual qualities that emerge from a system consisting of basic units and grammatical rules typical of the technical apparatus. These laws of chance in the visual language of glitch art are related to the context of experimental digital causality, and this means that digital degeneration generates visual signs that are increasingly evident in contemporary technologies. Therefore, it is consistent to affirm that the process of reframing this type of language can show a direct influence on the narrative construction in these same media: “a narrative that several artists have explored through glitch art is the corruption of memory in a technological age” (Roy, 2014, online).

With this assumption, it is possible to start a strand of studies that understands the glitch art process as pertinent to a multiplicity of possible languages in these technologies, not only in the areas of sound and visual languages but also in the domain of verbal language, something still little explored in the literature on glitch art. Thus, if this type of artistic production emerges as a process of proliferation of images through different techniques, it is possible to affirm that this perception of new digital media influences the non-linear narratives belonging to the universe of contemporary technologies.

An initial analysis of the verbal aesthetics of glitch art, with the contribution of phenomenology, leads to a prior understanding of the values of this language in poetry, even because of its connection with Dadaism. However, what is sought at this moment is not only to understand the qualitative values of this aesthetic but its possibility to create narratives. With this, one must consider the aspects of the narration of a succession of facts that are influenced by the temporal mismatch originated by the support in which the narration can be made. In glitch art, therefore, verbal aesthetics cannot be seen only according to the values of the narrated fact but also from its fragmentation through digital technologies. It is a combination of languages that seeks its source in the sound, visual and verbal matrices to explore the relationship between humans and digital technologies. This non-linearity of verbal aesthetics gives glitch art a reframed character of the reading path based on random sequences generated by a computational language. This context is directly linked to the hypertextual characteristics of the web since the glitch narrative provides a possible sequential associative or dissociative reading between interconnected links that are not tied to a linear trigger. Thus, it is possible to understand the influence of glitch art in the development of verbal narratives in contemporary technologies since, if the non-linear and fragmented character of verbal language in these technologies is given by the path of the hypertextual characteristics of the web. It becomes possible to trace an analysis that this process

is given from the user's repertoire from digital degeneration in the re-signification of images. In the future, it is worth understanding to what extent the influence of visual signs from digital degeneration can affect the development of verbal content in communication made through contemporary technologies.

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