Parasites at Work. An Essay in the Aesthetics of Glitch Art

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Abstract: The paper considers the field of glitch art and aims to analyze it historically and theoretically. In the first section, the glitch is addressed in its general features, i.e., as a minor malfunction that calls into question the ordinary functioning of both technical and socio-political machines. Then (section 2), I sketch a history of the ways in which the glitch has circulated across different artistic media and genres. The third section draws attention to an often-overlooked aspect of glitching dynamics, i.e., the fact that the glitch differs logically and practically from the bug that generates it. While these three sections are also intended as a critical survey on the existing literature, the fourth section aims to outline an original proposal for an aesthetics of glitch art. Such account unfolds as an aesthetics of parasitism, where the bug plays the role of the parasite (the material and yet invisible element that perturbs the artwork's digital code) and the glitch plays the role of the symptom (the artwork's hyper-visible, disturbing phenomenal appearance).

Keywords: Glitch studies; Glitch art; Bug; Parasite; Symptom.

> We refuse to shrink ourselves, refuse to fit. Fluid, insistent, we refuse to stand still: we slip, we slide. […] We fail to function for a machine that was not built for us. We refuse the rhetoric of "inclusion" and will not wait for this world to love us, to understand us, to make space for us. We will take up space, and break this world, making new ones. […] If this is a spatial battle, let us become anarchitecture.
>
> Legacy Russell, *Glitch Feminism*

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1. *Machinic mishaps – or, what is a glitch?*

In digital and post-digital culture, art has taken unexpected paths. One of these original paths confronts artists with the glitch, at once conceptual figure and practical tool which keeps positing new, stimulating challenges. However, before turning to glitch art and glitch aesthetics, it is useful to consider the glitch in general. What is a glitch, exactly? Common descriptions define it as «a minor malfunction» in a machine: a glitch is «a mishap», a «technical problem», «a snag» (Downey 2006); it is «a non-catastrophic malfunction with computer software or hardware that is recognized as anomalous» (Gualeni 2019: 2). The glitch belongs to the field of those annoying errors and marginal mistakes that slightly disrupt the normal functioning of a program or a machine while still allowing for its usability, however perturbed. More precisely, a glitch is «the unexpected *result* of a malfunction» (Moradi 2004: 9; my emphasis): it is a malfunction's manifestation.

Etymologically, the term comes from the Yiddish *gletshn* (to slide, glide, slip) and the German *glitschen* (to slip) or Old High German *gliten* (to glide) (Kane 2019: 15), which indicate a slippage, or one of those unexpected circumstances in which «technology [gets] slippery» (Russell 2020: 30). The very first occurrence of the word was recorded in 1962 in the context of space travel, when astronaut John Glenn recalled that "glitch" was one of the terms they adopted to refer to technical problems occurring to the spacecraft (Moradi 2004: 9; Menkman 2011a: 26; Russell 2020: 28-29). Since then, the term has become more and more popular, outgrowing the field of space travels and being adopted as a commonplace expression in a variety of contexts to indicate a small irregularity, a minor but eerie short-circuit, a machinic hiccup.

The experience of the glitch clearly comes to the fore in the field of computer games. In games studies, glitches are «audio-visual imperfections (graphics drawing incorrectly or audio breaking up), gameplay anomalies (the ability to get stuck in certain looping sequences), or even narrative inconsistencies (continuity errors either within titles or across series)» (Newman 2005: 63). A glitch, therefore, disrupts an allegedly "normal" state of affairs, it makes the story and the gaming experience deviate from their ordinary path. This disruption, however, becomes itself productive by opening up new, unforeseeable possibilities within a given reality. This holds true not only for video-games, in which the narrative element might be more evident, but also for a number of domains in which glitches resurface to unsettle our experience with their troubling materiality.

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Analytically, it is therefore possible to pinpoint a double movement in the behavior of the glitch. At a first level, the glitch *refuses*. Glitch feminist Legacy Russell expresses this refusal very clearly: «*To glitch* is to embrace malfunction, and to embrace malfunction is in and of itself an expression that starts with "no"» (Russell 2020: 17). A glitch is first and foremost a denial, «a mode of nonperformance: the "failure to perform", an outright refusal, a "nope" in its own right, expertly executed by [the] machine» (Russell 2020: 30). Artist, curator and researcher Rosa Menkman, a major reference in the field of glitch studies and author of the *Glitch Studies Manifesto* (Menkman 2011b), stresses this aspect too, and highlights the elusiveness of the glitch as a critical potential for thought and theorization. She claims: «Glitch, an unexpected occurrence, unintended result, or break or disruption in a system, cannot be singularly codified, which is precisely its conceptual strength and dynamical contribution to media theory. From an informational (or technological) perspective, the glitch is best considered as a break from (one of) the protocolized data flows within a technological system» (Menkman 2011a: 26). In computer (artistic) practices, resorting to a glitch logic often means to break software license agreements: in these cases as well a glitch is «a gesture of non-compliance, a hostile refusal to use software correctly, a technologized form of squatting» (Manon, Temkin 2011: 48).

At a second level, however, the glitch *asserts*. In the very gesture of rejecting the normal course of events, the glitch proves to be truly productive and even creative: by saying "no", the glitch also asserts an unexpected "yes", as it «opens up new pathways», «allows us to seize on new directions», and ultimately «helps us to celebrate failure as a generative force, a new way to take on the world» (Russell 2020: 30). The double movement of the glitch, a force that is creative only in that it is also destructive, must be understood as socio-political in nature. This is a pivotal aspect of the glitch: it immediately leaks out of the digital domain, showing the impossibility to assume a separation of the digital realm from the so-called "real life" that goes on offline[1].

This point has been stressed by a number of authors. Stefano Gualeni, for instance, frames «the glitch not as a mere technical occurrence, but as a socio-technical phenomenon», thus understanding glitches not «as mere "things", but rather as experiences that can take place in the context of a broader set of

[1] The fact that the glitch blurs any possible sharp distinction between "the real" and "the digital" is critically employed by glitch feminism in its attempt to dismantle gender, or, more precisely, to *ghost* on the binary body. This is why Russell for example prefers to adopt the acronym AFK ("away from the keyboard") instead of the more common IRL ("in real life") to refer to what happens offline.

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relationships between computers and their users» (Gualeni 2019: 2). In Gualeni's view, our encounter with a glitch always has "real" consequences and effects, implying that glitches inherently have «re-ontologizing» abilities. Rosa Menkman too draws attention to the point, stressing that «a glitch occurs on the occasion where there is an absence of (expected) functionality, whether understood *in a technical or social sense*» (Menkman 2011a: 7, my emphasis). According to her, the glitch exerts its social criticism by tracing a "line of flight", «an elusive, divergent, inherently political moment(um) through which axioms are questioned, genres are broken open and categories are created» (Menkman 2011a: 42). The new categories that the glitch creates are hybrid and spurious, since the glitch intersects fields that are usually conceived as separate, like politics, videogames, and the arts[2].

What is interesting about the glitch as a socio-political, minoritarian force is that it concerns us by coming to concern machines in general. Historically, machines can be divided into two different groups: on the one hand, there are what I propose to call "Apollonian machines"; on the other hand, the so-called "bachelor machines" (*machines célibataires*). The former are built on Renaissance premises (it suffices to think of Leonardo da Vinci's amazing inventions); their practical aim is to function properly and their ideal aim is to "reproduce" and evolve, becoming more and more functional as time goes on. The latter, instead, are monstruous machines that refuse to reproduce and function; they are built according to a logic that runs from the Baroque period to the Avant-garde of the nineteenth century up to contemporary cases of machinic dysfunction (Clair, Szeemann (eds.) 1975; Luisetti 2008: 132-141; Antomarini 2020). The bachelor machine, however unsettling, is a device that is *expected* to diverge from any pre-given path: its malfunctions, ultimately, are not at all surprising. The main feature of Apollonian machines, on the contrary, is to work properly: even though their performances might be astonishing, they are always behaving according to a given script and following certain possibilities inscribed in their very form and construction. In this sense, the category of Apollonian machines includes not only the automata that amazed the typical *Kunstkammer* visitor (from an art-historical perspective on this topic, see Bredekamp 1993), but also the computers that we use on a daily basis.

When embodied by an Apollonian machine, the glitch becomes truly disruptive: an ordinary, completely domesticated machine suddenly fails us.

[2] It is the case, for instance, of UNTITLED GAME (1996-2001): created by the Dutch duo JODI, the piece is at the same time an artwork, a videogame, and a political performative statement capable of calling into question widely accepted social norms (Menkman 2011: 39-40).

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Being just a minor dysfunction, however, the glitch does not completely prevent the machine to work either: it rather opens up the machine and reveals its materiality and the implicit politics that goes with it, pointing out the material bases of all digital technology and of machines in general. This specific ambiguity – the fact that the glitch even fails to fully fail – has been noticed also with regards to those visual artistic practices that revolve around the use of glitches. As scholar Hugh Manon and artist Daniel Temkin claim:

> Glitching tends to seek liminal states, i.e. a half-crashed file, or a digital image that our analog fingering has only partly ruined, taking it almost but not quite beyond legibility. […] Glitch strives for this in-between zone: partial failure, but also a partial success. Figural representation, to the extent that it appears, must fade, blur or disintegrate. […] This logic of "almost, but not quite" pervades glitch art. (Manon, Temkin 2011: 34)

Thus, the glitch is neither on the side of limpid functioning and success, nor on the side of complete dysfunction and failure; it is neither a phenomenon that regards Apollonian machines and their transparent operations, nor a phenomenon that concerns bachelor machines and their major, loud rejection of functionality and reproduction. Regarding neither of the two categories entirely, the glitch places itself in the space between them, thus calling into question this very partition and the distinctions between functioning and dysfunction, failure and success.

What is a glitch, then? Somehow ironically, we might say that *a glitch is a glitch, is a glitch, is a glitch*… In this tautological, dull definition, the logic of the minor failure comes to the fore: the peculiarity of the glitch is to sound like a broken record, to manifest an annoying but apparently negligible malfunction in the technical and socio-cultural machine – a malfunction that can be easily ignored while it furtively works at the service of disruption and subversion of norms and conventions. The tautology of this unusable definition also highlights the immanent logic of the glitch, which is always unpredictable in its singularity: as we shall see, the glitch as a perceivable manifestation of a minor error (of a *bug*) can never be precisely designed in advance. A glitch always comes as an unforeseen, slippery symptom, as a singular accident.

2. *Glitch art. From computer music to post-digital sculpture*

The glitch and its logic offer many possibilities to the arts. It is well beyond the scope of the present article to outline a detailed history of glitch art across

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media and genres. I will now try to quickly retrace just the main steps of such history.

The first artistic experimentations with glitches took place in a specific field, that of music. At the beginning of the 1990s, electronic music started incorporating noises and distortions resulting from both technical malfunctions (such as system crashes or application errors) and little physical disturbances (such as the small images that the German experimenters of the project "Oval" painted on the underside of CDs to make them skip). These synthetic, hard-edged sounds were the first instances of artistic glitches, and marked the birth of glitch art. In a now classic paper on computer music and its post-digital tendencies (Cascone 2000), American composer Kim Cascone – known mainly for his ambient music and his collaborations with David Lynch – offered a careful reconstruction of the itinerary of glitches and their logic in music and soundscapes, providing a detailed analysis of both the first forays into experimentation in electronica (e.g., the 1993 CD "Vakio" by the Finnish duo Pan Sonic) and of the second wave of sound hackers who explored the potential of glitches at the end of the 1990s. The paper, which includes a useful discography, argues for an aesthetics of failure to connect glitch music to other artistic phenomena that are regarded as its precursors. In particular, the lineage of post-digital music is traced back to early 1920s Italian Futurism, on the one hand, and to John Cage's composition *4'33'*, dated 1952, on the other. Besides providing a history of glitch music and its protagonists, Cascone claims that composers who work with glitches tend to «view music on a microscopic level» (Cascone 2000: 16): sound effects of "mangling" and "crunching" are often the result of «granular» or atomic operations (Roads 2001). As we shall see, the existence of a double layer, that of the macroscopic effect – the glitching sound – and that of the microscopic cause – the granular intervention – pertains to other forms of glitch art too.

Until the mid-2000s, glitches received attention exclusively in music, remaining almost completely ignored in the visual arts. But there were already visual manifestations of the glitch: they only lacked conceptualization as art forms. In 2004, Iman Moradi wrote a B.A. dissertation destined to become a landmark and often-quoted reference in the field of glitch studies, which was aimed at addressing precisely this theoretical void while also offering a well-reasoned list of the practitioners that, at the time, were visually experimenting with the glitch: a list of "visual glitch artists" (Moradi 2004: 57-66)[3]. The shift

[3] Rosa Menkman recalls: «Around this time [2006], there were only few people using the term "glitch art" in the context of the visual arts: Ant Scott had been working on his "glitch art"

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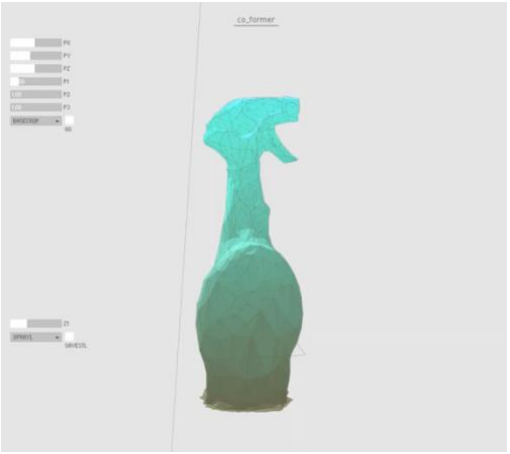

Figure 1 Matthew Plummer-Fernández, creation process of *Digital Native 9*, 2012. Parametric re-shaping tool, *co_former*, created in Processing. © Matthew Plummer-Fernández. Courtesy of the artist.

Figure 2 Matthew Plummer-Fernández, *Digital Native 4*, 2012. 3D printed gypsum in color. © Matthew Plummer-Fernández. Courtesy of the artist.

from glitch music to glitch visual art did not take place as a simple adoption of a certain style by artists working with different artistic genres and tools; rather, the glitch affected the visual domain as by physical and practical contamination, spilling over from sound culture and leaking into the visual sphere. Menkman, for example, recalls finding «more and more artifact-based correspondences between audio and visual technologies, such as compressions, feedback and glitches» (Menkman 2011a: 8). In this process, the glitch naturally affected video formats too, resulting in audio-visual glitch artifacts that were instances of what Vincent Ciciliato called, in French, «le *glitch imago-sonore*» (Ciciliato 2010: 400):

since July 2001 and was also one of the key performers at a Glitch festival that took place in Norway in 2002. Besides this, Iman Moradi […] used the terms "glitch art" and "glitch design" interchangeably. […] In conversation with Moradi, we agreed that the term only permeated visual art theory and a general vocabulary after 2005, if not a couple of years later» (Menkman 2011a: 7).

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Figure 3 Matthew Plummer-Fernández, *Digital Native 7*, 2012. Reprinted version for Zhulong Gallery, Dallas (TX), 2015. © Matthew Plummer-Fernández. Courtesy of the artist.

> Everyone has had the unpleasant experience, while playing a video file on their computer, of a disruption in the informational flow. *Visually*, this manifests as an anomaly in the image (appearance of pixels, color changes, streaks, etc.), sometimes making the represented subject imperceptible. *Acoustically*, it results in an interruption in sound's continuity leading to a recurrence of a fragment of information, in the best cases, or, in the worst cases, in the emergence of aberrant micro-sound events (clips, blips) that interfere with the understanding of the auditory information. (Ciciliato 2010: 401; my transl., my emphasis)

In the visual field, glitch art highlights anomalies that disrupt images to the point of breaking them apart – notably with a surplus or loss of data, the appearance of pixels, changes in color, and so on. This disturbs the understanding of the images without however leading to their unintelligibility. Glitch video art in particular[4] intersects shattered images with sounds in shards.

[4] Glitch video art has clearly developed in continuity with the practice of the founder of video art Nam June Paik, who already worked by making sounds and images skid. In his early *Magnet TV* (1965), for instance, Paik put a magnet on top of a television; the magnetic field interfered with the television's electronic signals, resulting in a distorted broadcast image.

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Starting from music and travelling across videos, glitch art comes to concern bidimensional images, first, and three-dimensional images, later. This is how in more recent years the artistic scene has witnessed the emergence of glitch sculpture, which most clearly bends the digital in a physical, material direction. A case in point is represented by the series *Digital Natives*, realized in 2012 by British Colombian artist Matthew Plummer-Fernández, which is now kept and partially exhibited at the Centre Pompidou in Paris as part of the permanent collection. For this series, the artist scanned everyday objects such as a spray bottle (**fig.1**); then, resorting to a customized photogrammetry software (Processing), he digitally distorted the images by means of parametric re-shaping and coloring tools; finally, he proceeded to 3D print the altered files (**fig. 2**; **fig. 3**)[5]. The 3D printed sculptures represent once again the dysfunction of the glitch: the scanned objects are hardly recognizable, and their normal way of functioning is altered. As the damaged files can, in principle, circulate online and be printed in different versions and sizes, Plummer- Fernández's glitch sculptures also raise ontological questions regarding the usual parameters of sculpture as a genre when it encounters digital tools (on which see Ströbele 2023).

3. *Micro-materiality, macro-phenomenology: the bug and its glitch*

If this is how glitch art has developed historically, travelling across genres and media, a glitch aesthetics also entails considering how glitch art works. Let us consider some specific uses of the glitch. «A glitch artist», for instance, «might open an image file in a text editor, randomly adding or deleting data in order to add digital murk to an overly pristine photo» (Manon, Temkin 2011: 5). In glitch art, one is confronted with the fact that «a tiny variance has triggered major damage» (Manon, Temkin 2011: 3). This "major damage" or «drastic result» (Manon, Temkin 2011: 4) – the macroscopic, perceivable effect that manifests on the surface of the artwork – *is* the glitch; on the other hand, the "tiny variance" or «seemingly insignificant alteration» (Manon, Temkin 2011: 4) – the microscopic, granular, material cause that triggers the visible effect – is what might be called a *bug*.

The distinction between bugs and glitches is of paramount importance for a glitch aesthetics. The two terms are often used as synonyms, but they actually

Examples of glitch video art can be seen, for instance, on the website of scholar and artist Carole Brandon, available at the link: https://www.carolebrandon.com/.

[5] See: https://www.plummerfernandez.com/works/digital-natives/.

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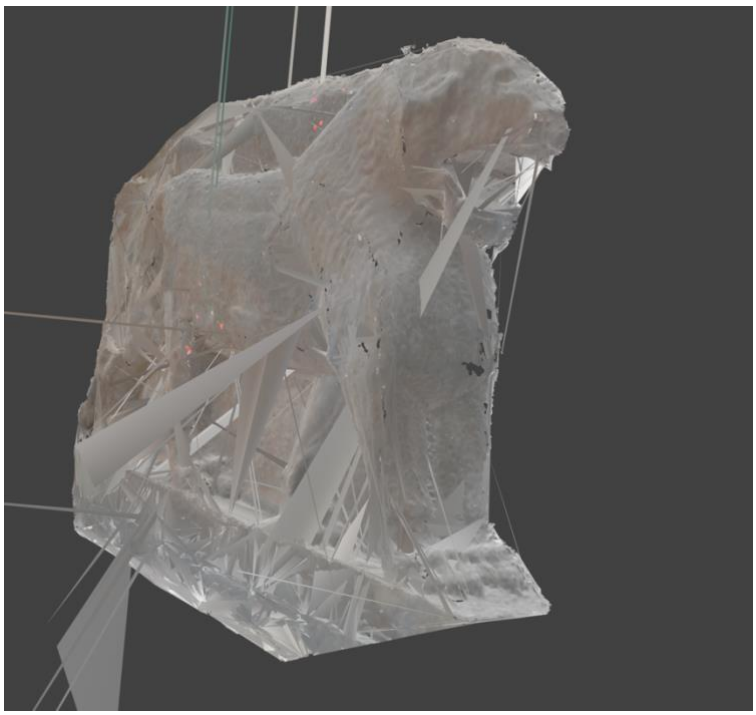

Figure 4 Jérémie Queyras, *Accelerated Entropy*, 2022-present. © Jérémie Queyras. Courtesy of the artist.

designate two very different aspects of the glitch logic. The term "bug" was used in the second half of the 19th century to refer to the intrusion of actual insects into machines, which caused anomalies in their functioning. The bug works at the level of the code, of the computer program (software) (Ciciliato 2010: 398), it is «at once error and parasite» (Brandon 2015a: 48; my transl.). «"Bug" means primarily "insect", an external element that enters a system and damages its operation, it creates a breach, a space of fragility in the solid and stable organization of a device», Carole Brandon (2015a: 50; my transl.) explains; the glitch, on the other hand, «does not refer to the origin but to the unexpected result (visual or auditory or both) of a small defect following a rupture in the electrical flow» (Brandon 2015b: 115; my transl.). Importantly, thus, «the glitch is the consequence of the bug in the display [*à l'affichage*]» (Brandon 2015a: 49; my transl.): the glitch is the perceivable but slippery manifestation of the bug, which, on the other hand, works unnoticed and undisturbed beneath the surface of the image or sound. The bug, therefore, is material but remains invisible; the glitch, on the contrary, is hyper-visible but as a mere surface effect, a flamboyant consequence of the small perturbation occurring at the software level.

Glitch art brings to the fore the relations between the materiality of the digital and its phenomenal, yet disembodied appearance. In this sense, it also

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articulates the relationships between analog and digital within the digital culture. «Reveling in the blocky, layered, decomposed underside of digital transcoding, glitch art is an anamorphosis in which digital has been poked by its analog other; it is "digital gone wild" when grazed by an analog fingertip» (Manon, Temkin 2011: 18). The artist's fingertip perturbs the code by inserting a bug into it, i.e., an almost insignificant piece of raw matter that silently alters the program; then, a glitch appears at the image surface, manifesting the bug as a sudden and violent «outburst of energy» (Ciciliato 2010: 398; my transl.).

To better understand the relations occurring between a glitch and its bug, let us take a closer look at a specific case study. *Accelerated Entropy* (2022-ongoing) is a series by German-French emergent artist Jérémie Queyras[6]. Struck by some footage of ISIS terrorists taking down the site of Palmyra in 2015, Queyras looked for virtual reconstructions of the destroyed monuments and found them on the platform "Rekrei"[7], where 3D models of no longer

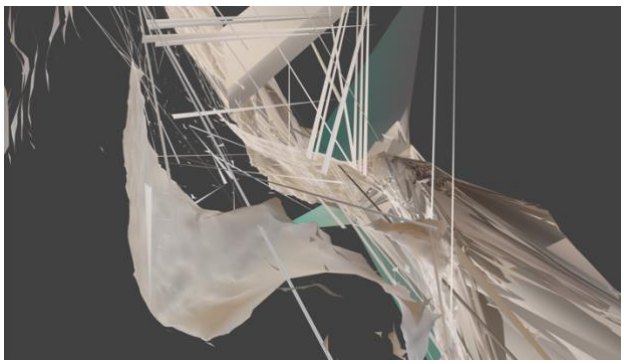

Figure 5, Figure 6, Figure 7 Jérémie Queyras, *Accelerated Entropy* (detail), 2022-present. © Jérémie Queyras. Courtesy of the artist.

[6] I warmly thank Jérémie Queyras for having shown me his creative processes in the Spring of 2022. I also thank him for having kindly shared with me a series which is not finished yet, and which I describe, here, only with regards to some details that are far to exhaust its complexity and richness.

[7] Available at: https://rekrei.org/.

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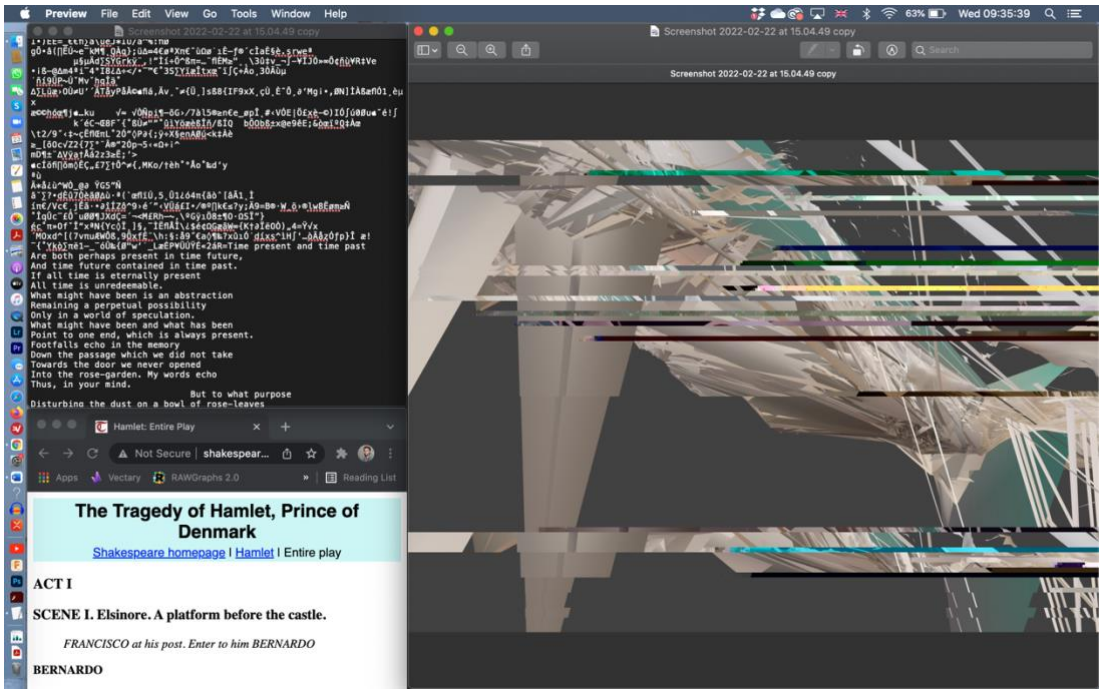

Figure 8 Jérémie Queyras, *Accelerated Entropy* (process of the making), 2022-present. © Jérémie Queyras. Courtesy of the artist.

existing cultural heritage are realized by crowdsourcing non-professional photographs taken when the objects were intact[8]. The artist downloaded some of the models and started manipulating the code of each file, deleting or adding elements to it. In so doing, he obtained disconcerting effects on the shape and appearance of the 3D models and took screenshots of them from different angles (**fig. 4**), zooming in and out (**fig. 5**, **fig. 6**, **fig. 7**). Working on the file of a statue called *The Lion of Mosul*, Queyras opened up the code and inserted into it a famous passage from Shakespeare's *Hamlet* (**fig. 8**, on the left). This material perturbation made the 3D model's appearance go wild (**fig. 8**, on the right). In this case, Shakespeare's text is the bug, the tiny insect that has been introduced into the machine of the image, working unnoticed to hijack it. On the contrary, the glitch is very noticeable (**fig. 9**). Loud and colorful, it is the perceivable

[8] Here, the reconstruction of a funerary statue, realized from a set of over 200 pictures taken by tourists: https://sketchfab.com/3d-models/funerary-statue-tower-of-elahbel-palmyra-1102046ec00444fe9d8b0399f91d6b32; here, the reconstruction of the so-called *Lion of Mosul*: https://sketchfab.com/3d-models/the-lion-of-mosul-55ea0aed9bfd462593f006ea8c4aade0. For a scholarly contribution on the virtual reconstruction of Palmyra, see El-Mecky, Samida 2017.

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Figure 9 Jérémie Queyras, *Accelerated Entropy* (detail), 2022-present. © Jérémie Queyras. Courtesy of the artist.

manifestation of the insertion of an external element in the file's code: it is the visible result of the invisible activity of the bug.

The unpredictable shapes and vivid colors of the glitching 3D image are what follows from the *Hamlet* passage without, however, pointing at the Shakespearean tragedy in any way. With his work, Queyras makes us notice a highly relevant point: in the articulated relationship between a bug and its glitch, the quasi-invisibility of the former paves the way for the hyper-visibility of the latter by means of a non-linear correlation. The causal relationship that connects glitch and bug is marked by a radical dissemblance that makes impossible to perceive, say, the lines of a tragedy through the flashy colors of a 3D image. The glitch never looks like the bug that generated it – which is what makes the bug's activity truly unperceivable.

Most attempts to outline a glitch aesthetics have overlooked the complex articulation between glitch and bug. Why is it so? My hypothesis is that many of these approaches would tend to see bug and glitch in dichotomic terms, in a context in which a coherent glitch logic would rather aim at dismantling any dichotomic style of thought. However, it should be noticed that bug and glitch do not stand in a traditional dichotomic relationship, since they do not refer to each other in a linear way: they cannot be understood as a categorial alternative. On the contrary, stressing the difference between bug and glitch brings to the fore the non-linear nature of the digital image, whose phenomenal surface does not resemble the code and its materiality. Moreover, focusing on bugs and glitches allows to solve an apparent paradox that has somehow become a classic issue in glitch studies: the fact that glitch art mostly concerns glitches that have been produced on purpose, which therefore seem not to be glitches (i.e., "errors") at all.

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The first formulation of this problem has been developed by Moradi, who argued for a fundamental difference between the «pure glitch» and the «glitch-alike»: whereas a pure glitch is «accidental, coincidental, appropriated, found, and real», a glitch-alike is «deliberate, planned, created, designed, and artificial», Moradi (2004: 11) claimed. The same kind of distinction has been adopted by other scholars: Vincent Ciciliato (2010: 405-406) spoke of «natural» and «artificial glitches»; Curt Cloninger (2011: 32-33) talked about wild and domesticated glitches. If pure glitches are spontaneous and wild, «found "naturally" in one's computing practices», «a "domesticated" or harvested glitch is purposely created and manufactured for artistic use», Carolyn L. Kane (2019: 15) says. These distinctions have been criticized by Rosa Menkman precisely because they fall back into a dichotomic style of thought (Menkman 2011a: 36). Her criticism is built on the idea that, instead of focusing on glitches as "true" or "false", as more or less authentic, one should focus instead on how and why a given phenomenon is understood as an instance of glitch art within a wider media culture. In this context, I believe that turning the attention towards the articulation between bug and glitch is a much more effective strategy to solve the problem of an alleged artificiality of glitch artworks. If it is true that an artist can purposefully insert a bug into a file, as Queyras did when he entered the passage from *Hamlet* into the code of *The Lion of Mosul*, it is also true that the artist can never foresee ("see beforehand") how the glitch will manifest and what it will look like. A glitch can only be triggered, it can never be designed. In this sense, a glitch is always wild: it always exceeds the artist's intentions and their predictions.

4. *A proposal for a glitch aesthetics*

By drawing on the difference between a glitch and its bug, it is possible to sketch an aesthetic account that thoroughly considers the peculiarities of glitch artworks. Such aesthetics would be, I claim, an *aesthetics of parasitism*, where the bug plays the role of the parasite and the glitch plays the role of the symptom, i.e., it embodies the visible yet dissimilar manifestation of the parasitic activity. There are thus two different levels belonging to this aesthetics: a *material* level, concerned with the parasitic activity of the bug that materially affects the artwork's code, and a *phenomenal* level, which, in turn, is concerned with the ways in which these complex dynamics manifest in the artwork's appearance. Let us consider each level separately.

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4.1. *Glitch aesthetics 0: The parasite*

In the first instance, the bug is the insect that infiltrates the machine and causes a derailment of its normal functioning. The image of the insect leads us to conceive of the bug as a parasite, a small foreign organism that settles inside a host (the machine, the image) and begins to disrupt its state of health, its normal condition.

In parasitic dynamics, there is an external element that introduces itself into the system and generates a pathology. However, this description seems to miss some aspects of the issue. In fact, the parasite comes to inhabit the host and settles *within* it, thus making us call into question the very relationship between inside and outside, since the parasite is at once the most external and the most internal element with regards to its host. «The relation with a host presupposes a permanent or semipermanent contact with him […]. Not only living *on* but also living *in* – by him, with him, and in him», Michel Serres points out (Serres 1982: 6). The bug is not a predator, an ordinary external threat, since it does not affect the digital artwork from the outside. The bug behaves like a parasite: it affects the system from within, coming to inhabit the image from its own inside, nestling in its code, becoming part of the artwork it threatens. Bugs display therefore the same structure as errors: they «[evade] prediction, program, and protocol. In those moments, an interstitial gap opens, an outside *within* the logic of the system that threatens "the good" of the system itself» (Nunes 2011: 12). This is why the bug, despite its small size and seeming irrelevance, carries the potential for political and aesthetic deviation:

> Error gives expression to the *out of bounds* of systematic control. When error communicates, it does so as noise: abject information and aberrant signal within an otherwise orderly system of communication. While often cast as a passive, yet pernicious deviation from intended results, error can also signal a potential for a strategy of misdirection, one that invokes a logic of control to create an opening for variance, play, and unintended outcomes. Error […] suggests ways in which failure, glitch, and miscommunication provide creative openings and lines of flight that allow for a reconceptualization of what can (or cannot) be realized within existing social and cultural practices. (Nunes 2011: 3-4; emphasis of the author)

Not only is the parasite actually *internal* to the system that it exploits and makes deviate, but it also represents a nested causality determining the system itself. As it gradually becomes apparent that there is no clear-cut distinction between host and parasite, it also becomes clear that the host was haunted by

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its parasite *from the very beginning*, and that the system as such can never free itself from its bug.

This thesis is actually not new. Referring to language, Jacques Derrida already showed that errors and failures are in fact a condition of possibility for all "normal" communication[9]. According to Derrida, it is precisely when there is a disturbance in the linearity of communication that something new occurs. This translates into the thesis of the «structural parasitism» (Derrida 1982: 325) that haunts language: the risk of failure becomes the internal and positive condition of any ordinary functioning. In this way, the outside turns into inside. Before Derrida (whose speech mentioning linguistic parasitism was held in 1971) and before Serres, who published his *Le parasite* in 1980, the same point had already been emphasized in different terms in the context of information theory: in 1948, Claude Shannon notoriously spoke of error and "noise" as information that deviates from its path and produces an excess in communication, thus claiming that without noise there is not information at all (on this, see Ballard 2007). The bug that explicitly parasitizes the glitch artwork operates exactly in the same way[10]. «A system is often described as a harmony […]. Yet we know of no system that functions perfectly, that is to say, without losses, flights, wear and tear, errors, accidents, opacity – a system whose return is one for one, where the yield is maximal, and so forth. […] Everything happens as if the following proposition were true: it works because it does not work» (Serres 1982: 12-13). Serres shows not only that there is no system without parasitic error, but also that the parasite participates in the production of the system itself. «The difference is part of the thing itself, and perhaps it even produces the thing. [...] In the beginning was the noise» (Serres 1982: 13).

The presence of the bug in the dis/functioning of a glitching image, sound, or sculpture showcases an ambiguity that glitch aesthetics should not aim to overcome. With Serres, this ambiguity can be formulated as follows: «Are we here in the pathology of systems or in their emergence and evolution?» (Serres 1982: 14). The bug, as a parasite, is both pathology of the artwork and possibility for its structure to unfold and develop creatively. The presence of

[9] The argument was developed as a criticism towards John L. Austin's claim that artistic utterances (e.g., sentences uttered on theatrical stages, or poems) would be parasitic upon the normal use of language (Austin 1962: 22). Austin's position was later taken up and carried on by John Searle, with whom Derrida entered a bitter controversy on the issue (Searle 1977; Derrida 1988). On this, see Moati 2009.

[10] Glitch studies often refer to Shannon's account (e.g., Menkman 2011a: 12-15). Shannon's theory of noise has been employed to account for glitch art too – as for instance by Susan Ballard (2007) or xtine burrough (2011). More generally, the link between glitch logic, error, and noise is well-established in the critical literature (e.g., Krapp 2011; Korolkova, Barker 2021).

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bugs, failures, errors is inherent to all system, to all artworks. What glitch art does is embracing this dynamic and bringing it to light in the clearest way possible. Glitch art accepts that, from the very beginning, there is a parasitic activity going on under all system's surface, but instead of hiding it or treating it as an abnormal and collateral aspect, it accentuates its effects and thrives on them.

4.2. *Glitch aesthetics 1: The symptom*

If the bug is the material and yet invisible parasite that silently disrupts any given order by working beneath its surface, the glitch, instead, should be considered as the manifestation of the bug as it becomes available to perception. To say it otherwise, the glitch is the perceptible manifestation of the unnoticed activity of the bug, the element that is capable to bring the bug to expression and visibility. However, a glitch never resembles its bug. In the case of *Accelerated Entropy*, Shakespeare's lines may cause the emergence of new, flashy pixels, but there is no formal resemblance between the two: the glitchy figure is radically different from its textual "source". By simply observing the glitching statue of *The Lion of Mosul*, one could never suspect that in that specific case it is none less than Shakespeare who is the bug. This dissimilarity is the result of a non-linear causal relationship. The dissemblance between bugs and their glitches constitutes the reason why one should not mistake the glitch for a sign of the bug, nor for a symbol of it. Rather, I claim that the glitch could be more profitably understood as the *symptom* of the parasitic activity of the bug.

To better conceptualize the non-linearity of the relationship that occurs between bugs and glitches, it is possible to quickly resort to the aesthetics of the symptom developed by Georges Didi-Huberman. Throughout his whole scholarly production, Didi-Huberman has strived to shift away from a linear, mimetic understanding of representation based on resemblance, aiming at outlining an alternative model of the articulation between the two aspects that always pertain to the image's process of coming to visibility (these two aspects being, typically, the original and the copy – or in our case the bug and the glitch). Traditional accounts centered on mimesis (i.e., on linear representation) posit that a copy can always be traced back to the "real", "original" model, thanks to a formal resemblance that ties the two together: in such theoretical frameworks, a glitch would always point back to the bug it stemmed from, giving away its appearance and exact location in the code. However, we already know that this is not the case: the 3D lion's pixels tell us nothing about *Hamlet*'s dramatic lines. Understanding the glitch as a symptom allows us to conceive of the perturbation that disrupts the linear, referential chain that traditional

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accounts take for granted. The glitch eminently makes us aware of a fact that, according to Didi-Huberman, holds true for all images: namely that we should regard the image in terms of «*symptôme, et non plus mimesis*» (Didi-Huberman 1985: 61).

Drawing on Freud, who showed how a visible hysterical symptom can never be brought back to a unique, original trauma, Didi-Huberman emphasizes the accidentality and singularity of all perceivable manifestations, as well as their dissemblance from the material, yet invisible cause that originated them.

> It is this reject, this scrap [*rebut*], this unnoticed something in the center, this counter-regime of figurative representation that I qualify as "symptom" or […] "*symptomal*". The *symptomal* in the aesthetic situation (in contrast to the symptomatic in the clinical situation) would precisely designate, in any encounter with a work of art, the regime of a certain lack of motivation [*immotivation*] […], of a certain disagreement […], and of a certain disidentification […]: in short, a regime of the *accident of sense* [*un régime de l'*accident du sens] as this accident would be "sovereign" – structural – even if momentary. This is what a *critical*, rather than clinical, use of the symptom in the aesthetic field seeks to address. […] The symptom hits the lowest point: it designates an *illness at work* [*le symptôme touche au plus bas: il désigne un* mal à l'œuvre]. (Didi Huberman, Lacoste 1995: 195-196; my transl.)

A glitch artwork screams with hysterical symptoms. Meanwhile, the invisible, dissimilar bug incessantly works beneath the otherwise smooth surface, eroding the code from within. In its nature of unpredictable accident, the glitch behaves symptomatically and eschews all referential linearity: «The sign is an object, the symptom is a movement. The sign is manipulable, the symptom escapes, slips between the fingers» (Didi Huberman, Lacoste 1995: 199; my transl.). The glitch does not *represent* the bug: it performatively *presents* us with its work, acting as the hyper-visible symptom of an invisible parasite.

5. *Final remarks*

Ultimately, glitch art makes us aware of a fact that holds for all art: that there is always the possibility of a disturbance (*un malaise*) coming to disrupt the linearity of representation from its very inside. The relationship between an infesting parasite and the symptom that shows at the organism's surface is, in fact, non-linear: this is why understanding the glitch in terms of a symptom

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decidedly highlights its wilderness and unforeseeable singularity. Glitch art, explicitly exploiting the potential of errors, noise, and mistakes, elevates to the status of methodology what is usually regarded as a borderline, undesirable case, i.e., accidental failure. With their double gesture of both refusal and assertion, glitch artworks leak out from our computers and come to concern us on a level that is, at once, aesthetical and political.

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Sitography

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