

Art, Error, and the Interstices of Power

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ABSTRACT

The artistic use of error has a long history, and this essay attempts to reconstruct the genealogy of the relationship between artists and error. It then goes on to analyze the characteristics of technological error used in art along with the reasons for its appreciation by media artists and media activists. Finally, it contextualizes the practices of media art and media activism taken as exemplars in questions bound to contemporary technological power. The aim of this theoretical trajectory is to understand how error is used, for what purposes, and with what outcomes. Further, its goal is to determine whether and how the current popularity of technological error is bound to a certain relationship with technological power [1], the characteristics of which are control [2], regulation, prevention, and normalization.

KEYWORDS

Technological Error; Media Art; Media Activism; New Media; Definitional Error; Prepackaged Errors; Uncaptured Errors; Action Networks; Virality.

1 | A SHORT HISTORICAL INTRODUCTION TO THE ERRANT ARTIST

It is surely impossible to trace a comprehensive history of the relationship between art and error. The history of art, however, is rife with interesting examples, one of the most evocative being undoubtedly the anecdote of August Strindberg and his clay model. Strindberg was busy working on a model of a supplicant, but wasn't quite satisfied with his work and wondered how to improve his statue:

I became dissatisfied with him. [...] I brought my hand down on the poor wretch's head. And lo! A metamorphosis that Ovid could not have envisioned! [...] And the statue was perfect!

A mistake, an unthinking and impulsive gesture, and suddenly the statue of the supplicant became perfect before Strindberg's eyes. But error quickly became something more than a simple unthinking or impulsive gesture, and by 1860 and the full advent of modernity it made its first major appearance as a systematic

mode of creating distance from realism and the canon within the circle of Parisian salons. As John Roberts writes (Roberts, 2012, p. 212):

Here the invasion of the ugly, adulterated and disproportionate into the confines of the neoclassical and of naturalism represents a crucial moment in the transformation of the 'error' from a mark of scorn to a mark of ambition.

Between 1880 and 1890, error became expressly identifiable through specific artistic features, variously traceable to Impressionism, Post-Impressionism, and late Symbolism, and progressing with the first signs of abstract art until obtaining a specific identity in the early twentieth century. In that period, the avant-gardes regularly adopted 'visual forms considered to be erroneous' (Chéroux, 2009, p. 61) with the intention of causing a 'reversal of the aesthetic norms in force' (Chéroux, 2009, p. 61) in the wake of the 'seduction of setback and failure' (Riout, 2002, p. 245).

German Romanticism likewise contributed to strengthening the nascent conception of the artist as *figura errante* occupied by the search for what Roberts calls 'the antisystematic tendencies of early modernism' (Roberts, 2012, p. 213).

Despite the fact that the influence of science and technology on art in this period was growing, art maintained an approach antithetical to that of science. If for science authority and certainty permit the acquisition of knowledge, for art 'what advances knowledge [was] not authority and certainty, but rather doubt' (Nunes, 2012, p. 10). So it was that modernist subjectivism purged the rational language of science and made irrationality its guide. This tension resulted from the rise of numerous currents of thought, such as August Strindberg's formulation of anti-systematicity, Nietzsche's image of the strong artist, the avant-garde modernist and revolutionary idea of utility (as finally detached from the 'rational decoration' of modern dictates), Friedrich Schlegel's theory of autonomous artistic subjectivity, and a general dethroning of natural beauty in relation to aesthetic limits (an idea that first appeared in 1766, in Gottfried Lessing's *Laocoön: An Essay on the Limits of Painting and Poetry*). This process of apologia of subjectivity and chance continued in ways that were

always specific and independent from one another. Consider the examples of André Breton's automatic writing (Breton, 1974, p. 10) or Guillaume Apollinaire's aesthetics of surprise in Surrealism (as cited in Chéroux, 2009, p. 85), the 'art as cult of error' of Dadaism and the apex reached by subjectivity and chance in 1915 with Marcel Duchamp's intervention.

The role of photography in the use and theorization of error in the visual arts calls for a separate discussion. It is widely known that the omniscient function of photography and its mechanized realism indirectly freed the old arts from the necessity of verisimilitude, and 'it is not a coincidence that [...] images that depict nothing, images freed from the specter of omniscience, don't much follow its invention' (Riout, 2002, p. 197). Take, for example, Man Ray and his semi-miraculous discoveries of photographic errors or László Moholy-Nagy with his systematic investigations of the 'unexpected and latent virtualities of the photographic procedure' (Various Authors, 1995, p. 199), both forerunners of the use of error in photography – though certainly not the only ones.

By the 1940s, with a growing number of artists engaged in theoretical reflection on error, an interesting phenomenon occurred: many photographs considered erroneous in the early part of the century were being positively reassessed. New aesthetic and conceptual sensibilities which were also related to the growing familiarization with new technologies, to new ways of seeing and thinking about the world, and to artists' interest in the accidental results of amateur photography, prevailed over the old. As writes Clément Chéroux, 'Almost the entire gamut of errors from the first century of photography went through a reversal in the modern era' (Chéroux, 2012, p. 58); motifs that were 'perceived as failures [came to be seen] as successes' (Chéroux, 2012, p. 61). A retrospective look at photography from an aesthetic and technical perspective clearly highlights its strong evolutionary relationship with error [3].

Nonetheless, after World War II, arts became integrated into the new political system, hegemonically dominated by the economic supremacy of the United States (Saunders, 2000). That period marked the assimilation of the political reach of the avant-gardes and to what Roberts defines as the 'systemization of asystemicity'

(Roberts, 2012, pp. 210-214). Starting in the 1950s, particularly in the United States, the artist often took on the role of someone open to error who could create an entire methodology based on asystematicity. Jackson Pollock was elevated as the incarnation of the founding myth of this view, embodying the Nietzschean, modernist strong subject. The role of error within discourse and artistic practice grew further, until the indeterminate character of works of art was considered their touchstone, by means of the introduction of the concept of ‘open work’ created by Umberto Eco in the 1960s. This indeterminacy still provides fertile ground for the development of practices based on error today, in a sort of conceptual circle where error leads to greater indeterminacy, which in turn creates additional error in an endless recursive spiraling.

However, there is another cause (or series of causes) at the root of the contemporary relationship between artist and error, which to investigate requires moving back again to the post-WWII period. In those years, a process began whereby increasing numbers of artists were exploring fields of knowledge outside of art and immersing themselves in other occupational roles. This process, still valid today, has its roots in revolutionary Soviet Russia, circa 1917 to 1927. In this context, the revolutionary task of the artist was to produce *everywhere*, as much as possible in relation to the situation at hand, aiming for the elimination of the differences between workers and poets, and at the same time for formal experimentation based on every known expressive technique (Santayana, 1982, p. 222). From a political point of view the process was successful, surpassing the historical division between intellectual and manual labor and defying the Romantic pathos of artistic alienation. But as John Roberts has aptly noted, the artists’ conceptual identification never truly managed to coincide with the roles they performed (Roberts, 2012, pp. 245-246):

For to do so would have dissolved their identity as artist into that of the non-artist, aesthetic reason into non-aesthetic reason; and this would have made it impossible for the artist to bring the enlightened reason of aesthetic process to the labor process. [...] For if the process of identification is successful [...] then there is no supplemental space for artistic reflection. If the process of

identification is unsuccessful [...] then it may open up a space of reflection, but it is unsuccessful as a practical and functional action.

Through this exercise of delving (even if never completely) into other disciplines and using them, artists discovered what today has become a primary characteristic of art: multi- or inter-disciplinarity. They learned to immerse themselves in other disciplines and work within them while remaining shielded, at the same time, from the specific problematics of those disciplines because they could apply a different set of values and meanings. Even a practical failure could be considered positively from an artistic perspective. Artists no longer had to justify their work through an imposed system of normative values: ‘They [didn’t] need to make good the validity claims of the extra-artistic disciplines they adapt[ed] or borrow[ed] from’ (Roberts, 2012, pp. 248-249). The most important consequence was the development of an artistic practice that was not only inclined toward the use of other disciplines, but also highly open to the conscious use of errors from the outside. These errors thus became creative material equal to theories, techniques, and technologies.

To use the terminology proposed by Roberts, errors that derive from other fields should be called ‘definitional.’ An example of a *definitional error* is the psychoanalytical *lapsus* when it is incorporated into an artistic practice with a subsequent exit from its original sphere, in this case the field of psychoanalysis. Another example is the glitch once it leaves a typically technical-scientific realm and is incorporated into a work of new media art. Once the artist decides to use these errors, they become part of an artistic practice. However, they are not conceptually or effectively interchangeable and will function under differing conditions. Error always has a certain specificity connected to its original context; thus, even when the artist removes it and places it into a different system of signification, the error will continue to refer back to its original context, albeit signifying differently depending upon its recontextualization.

2 | TECHNOLOGICAL ERROR: PREPACKAGED ERRORS AND UNCAPTURED ERRORS

Contemporary artistic practice, whether oriented toward new media or toward more traditional media, is so thoroughly intertwined with practices and theories related to error that it is almost impossible to clearly demarcate or distinguish individual errors originating in the artistic realm from *definitional errors* assimilated from other contexts. Accordingly, it is unnecessary to separate the artistic realm from other types of research (since different fields overlap with gray zones that are very fertile for artistic practices) or to define technological error as something new (insofar as art has always been connected to the technology of its time). For the purposes of the present analysis of error in relation to artistic practice, the only necessary and useful distinction is based on the cybernetic concepts of *prepackaged error* and *uncaptured error* proposed for the first time by Mark Nunes in 2012. These terms distinguish what are generically defined as technological errors from other types of errors that will not be discussed here. At the same time, these concepts enable us to make a conceptual link between technological error and technological power.

A *prepackaged error* is a potential error, which is a fundamental part of the working mechanism of contemporary network society. It is also one of the instruments of technological power, which requires that error is always anticipated and caught, 'for example, by the all-too-familiar error messages of everyday life, or nullified as an outlying and a significant event' (Nunes, 2012, p. 3). The *prepackaged* serves and integrates technological power, acting as feedback and in other words explicating the norms and codes that define error in the technological realm. A common error of this sort is the 404, which appears on web browsers in the case of erroneous URL addresses. As Mark Nunes writes, 'The failure notices that are a part of our networked everyday life correspond to a specific [...] error – a *potential* error that the system must predict before it has *actually* occurred' (Nunes, 2012, p. 13). Thus technological power transforms the virtual and potential opening of an error into a systematic closure: the *prepackaged* error message that we receive conceals a successful operation from the perspective of the functioning of the system and the potential error

cannot but remain as such. What error would naturally imply, i.e. an opening to chance and the unexpected, is annulled. From the perspective of the system, the 404 error is always perfectly foreseen, and for this its only remaining function is to act as feedback, useful for reinforcing the system's control. This is one of the primary distinctions between technological error and errors related to older technologies that artists have traditionally employed.

An *uncaptured error* is an error that refuses to collaborate with anything or anyone, 'and as such, threatens to disrupt the cybernetic regime of efficiency and maximum performance' (Nunes, 2012, p. 14). The *uncaptured* is the sudden technological crash, the communication blackout, the hacker attack that disables the government website, the noise that interferes with the police radio signal, 'spurious information,' (Shannon and Weaver, 1949, p. 19) an errant and aberrant signal 'within an otherwise orderly system of communication' (as cited in Nunes, 2012, p. 3). An *uncaptured* error may be part of an artistic strategy, but it always presents an excess that renders it not completely manageable, hence the desire of artists to use and appropriate the *uncaptured* does not imply taming it. It can be the product of an individual voluntary act or derive from randomness and contingencies, but in any case it always remains partially unattainable. As Nunes writes (2012, p. 12):

[An uncaptured error] calls attention to its etymological roots: a going astray, a wandering from intended destinations. In its failure to communicate, error signals a path of escape from the predictable confines of informatics control: an opening, a virtuality, a poiesis. Error gives expression to the out of bounds of systematic control.

We know from the writings of Norbert Wiener, father of cybernetics, that in relation to cybernetic systems, error speaks the 'language of evil.' Wiener associates the *uncaptured* with bad behavior, intentional resistance, opposition to the system, the possibility of someone causing disorder and failure; it behaves unpredictably, irrationally, and impulsively. In Wiener's vision, *uncaptured* error is the demon that wants to see the world burn, but also the gap that opens up a dangerous breach in the faith in the system. This gap

in the control of the system, which corresponds to the culmination of anxiety in Wiener, brings our attention to the gaps or interstices of power: the weak points in the system. It is precisely these interstices that often provide a catalyst for new media artists. These ambiguous spaces, according to Wiener occupied by a 'malevolent potential' (Wiener, 1998, p. 108), become the field of action for the strategies of resistance of those contemporary artists who 'not only embrace semantic ambiguity, they rely upon ambiguity for their success' (Grant Ward, 2012, 102).

Technological errors, therefore, whether occasionally *prepackaged* or *uncaptured*, are clearly unwanted in a world of perfect telecommunications, 'for which countless error checking protocols exist with the sole purpose of eliminating them' (Moradi, 2004, p. 16). These errors also reveal another important element: art's ability to absorb and bend to its own creative purposes what seems to others undesirable. A telling example of this ability is certainly the case of the contemporary artistic use of *glitch*.

3 | GLITCH AS POP AND MAINSTREAM TECHNOLOGICAL ERROR

The term glitch was recorded in English for the first time in 1962 in the attempt to describe a technical problem in the context of the U.S. aerospace program. It was defined as 'a spike or change in voltage in an electrical current' (Moradi, 2004, p. 9). In 2002, the Oslo Glitch Festival and Symposium defined it as 'a commonplace expression in computer and networks terminology, meaning to slip, slide, an irregularity, a malfunction or a little electrical error' (Moradi, 2004, p. 9). In 2010 the first GLI.TC/H event was held in Chicago, organized by the open group gli.tc/h/bots, who gave their own open definition to what it means to work with and through the glitch [4]. A recurring interpretation of glitch is that it is a normal consequence of the aesthetic use of the technological medium in a network society that has made a central issue out of noise cancellation (Moradi, Gilmore and Murphy, 2009, p. 9). The glitch was spontaneously embraced by heterogeneous communities, whether 'dirty' tech cultures (Peplin, 2012) or psychedelic and pseudoscientific cultures on the Internet. For some artists, a glitch is a sort of representation, metaphorical or metonymic, of individual neuroses. For others, it allows us to see and touch *the insides*

from the perspective of cyber-surgery called databending [5], which enables new media artists and programming-savvy musicians to manipulate code themselves. Other artists fetishize the glitch, guided by the rebellious impulse to break the dominant trend of continuous perfection seeking. Shay Moradi (2004, p. 17) offers an interesting interpretation of this tendency in his *Glitch Aesthetics*:

Today's trend of 'perfection' in communication reminds us less of our past, when communications were 'imperfect' and anything that glitches brings us closer to experiencing that past. This is partly why glitches are sometimes coupled with retro aesthetics, and it may be part of the reason for their appreciation.

Another consequence of the glitch is that it comforts us, reminding us that error is possible, humanizing technology, elevating human creativity and putting us in the risky position of considering ourselves superior to the technology we produce. People make mistakes constantly, and glitches remind us that machines make mistakes, too, *and they don't have fun with our errors as we can with theirs*. The glitch naturally fits in with countless themes, such as failure, memory, possibility, nostalgia, entropy, digital literacy, sound, irrationality, structuralism, the critique of hegemonic systems, language and communication. Attempts have been made to define glitch as a genre, a medium, or a subgenre in the pantheon of art forms, but it is a widely-shared opinion that it should remain not entirely categorizable (Moradi, Gilmore and Murphy, 2009, p. 9). The reason for all this interest is that what glitch does, it does by escaping definitions.

A glitch is also a sort of digital fingerprint of a particular technology and it is almost impossible to use it without understanding the technology from which it derives. In that sense, a glitch reveals what lies beneath the apparent visibility and fluidity of the technology surrounding us, and as Nunes has written, 'Error reveals not only a system's failure, but also its operational logic' (Nunes, 2012, p. 3). Numerous practices exist that make use of glitch in a more or less systematic way, not always with artistic ends and without necessarily falling into the category of glitch-art: new media art, media activism, digital art, post media art, net art, e-poetry, and counter-gaming [6].

The focus of this essay is not on the specific practices, but rather on understanding the functions of technological error and the reasons for its popularity. Rather than examining individual areas, this essay delineates a cultural horizon that enables us to comprehend the diversity that animates it. If in the early 2000s a Google search of the term 'glitch' pulled up just a handful of results, today the web hosts literacy projects like Nick Briz's *Glitch Codec Tutorial*: a tutorial on the technical, theoretical and critical process of glitch art. Two well-known works of net art based on glitch are Jodi's dysfunctional websites (*404.jodi.org* and *Blogspot.jodi.org*) by Joan Heemskerk and Dirk Paesmans, and *Glitchbrowser* by Dimitre Lima, Shay Moradi, and Tony Scott (that 'glitches' the content of the web page displayed). Other works straddle online and offline realities such as Etoy.CORPORATION, which always uses the tools of technological power in an alternative way with the single declared aim of creating cultural value. More Duchamp-ian uses of glitch have been made by Cory Arcangel in *Data Diaries*, where a QuickTime error was exploited in order to convert the RAM memory of a computer into daily videos, or on *Dooogle Site*, which in parodic imitation of Google returns results for 'Doogie Howser' (no matter what is typed in). Arcangel's work displays an ironic attempt to reverse the logics of efficiency and utility of technological power. And further, we have works like Heath Bunting's nonexistent page that returns only error messages, or web-based artwork like Yann Le Guennec's *Le Catalogue*, which consists of an online catalog of artworks associated with software that causes errors by irreparably ruining the images of the works contained therein through the users' interactions with the catalog.

It has been this mix of practices, the number of artists involved, and the attention received that has transformed glitch into a pop cultural phenomenon in a decade. For a survey of the extensive presence of glitch in mainstream culture, one can simply visit the YouTube channel created by curator Rosa Menkman, which mostly collects commercials (ads from MTV, music videos, movie trailers and reality shows) that make full use of glitch aesthetics.

4 | "LET'S HAVE FUN CONFUSING THEIR SYSTEMS'- CULTURE"

As shown, the field of art (and new media art in particular) has proven hospitable to technological errors and glitches, to the point that often artists have been happy to accept the presence of unforeseen errors in their artworks even when they served no function in their work process. For example in the classic relational Net Art piece, *The World's First Collaborative Sentence* (1994), by Douglas Davies, we can see all kind of glitches (due to data migration and "link rot" problems) that haven't been fixed by the artist on purpose. In Aaron Koblin and Takashi Kawashima's *Ten Thousand Cents* (2008), created by delegating the production of the artwork (a 100-dollar bill digital reproduction) to ten thousand Mechanical Turk workers, we can find another example. Instead of following the instructions, which consisted of reproducing graphically a small banknote detail, some workers left a message or drew something wrong on purpose. Nevertheless (and interestingly) even though these errors were rare, Koblin and Kawashima included and highlighted these "erroneous contributions" on their website, showing their ability to include unpredictabilities and errors arising from a lack of control in the production process. This final paragraph will contextualize the general tendency to host technological errors within artworks, against the backdrop of a world governed by what Jean-Francois Lyotard defined, over thirty years ago, the 'logic of maximum performance.' Lyotard described *prepackaged error* in this way by speaking of a logic according to which 'the unfortunate outcomes of error serve only one purpose: to remind us of the need for greater control' (Nunes, 2012, p. 5).

Although the controls carried out by contemporary technological power always seek to be increasingly pervasive and advanced, they present weak spots. These weak spots can be, for example, software breaches, interstices, or legal loopholes that new media artists and media activists exploit for the pursuit of objectives such as the following: 1) subverting and destabilizing platforms and products through alternative uses, which are poetic and ambiguous; 2) causing damage to a company considered guilty of some crime or wrong; 3) offering an advantage to a particular underrepresented community or minority; 4) obtaining aesthetic effects; 5) expressing irony; and 6)

sometimes producing economic returns for the artists. This is the general approach of the artists and media activists who work at the crossroads of new media art and ‘hacktivism’ [7]. As German activist and hacker Frank Rieger has declared (Rieger, 2005, 63):

We need to develop a let's have fun confusing their systems'-culture that plays with the inherent imperfections, loopholes, systematic problems, and interpretation errors [...]. Artists are the right company for this kind of approach.

Two interesting examples of such an approach are the *EKMRZ Trilogy* (2006-09) and the *Hacking Monopolism Trilogy* (2005-2011), two art trilogies that share their first two chapters: ‘Amazon Noir’ (2006-07) and ‘Google Will Eat Itself’ (2005-08), both by Ubermorgen.com, Paolo Cirio, and Alessandro Ludovico. The former work consisted of producing pirated copies of books sold on Amazon by exploiting a breach in the online preview system, and thus originated with the discovery of a software error. The latter used Google Ads to monetize advertising with Google through a complex mechanism, and subsequently used the money it earned to purchase shares in the company. The objective was to enable a large number of users to be paid by Google for placing ads on Google, then buying Google stock in a circle aimed at acquiring economic control of the company with its own money. In another emblematic work, *Loophole for All* (2013), Cirio revealed the identity of over twenty million companies through a site that put up for sale (through false certificates of incorporation) the true identities of anonymous companies with bank accounts in the Cayman Islands. The operation garnered enormous media attention in a short time span by placing the spotlight on economic games and power previously kept under wraps for obvious reasons.

It is evident how the technological and legal interstices become the points to which these subjects refer to undermine the logic and functioning of a system. As Nunes writes, “Any ‘hack’ in this regard reveals and exploits error to the extent that it leads to an outcome unintended by a system’s purposive organization” (Nunes, 2012, p. 15). But whether an artist, a hacker, or an activist, a single individual often does not possess all the tools necessary to create such a

project. To deal with this problem, they often turn to two elements: *virality*, and what we’ll refer to as the *action network*.

Virality indicates short-term creative practices adopted by a large number of people that are widespread but lack centralized control. These practices rarely take the final form of a work of art, but often have their roots in communities of new media artists and media activists. The first example of this type of viral practice is *Google bombing*, a technique that consists of linking online content on innumerable sites to another (often ironic) word. For example, one such bombing in 2005 consisted of typing the word ‘failure’ into Google search, which brought up as the top result the page of former president George W. Bush on the site whitehouse.gov (quoted in Nunes, 2012, p. 16). Victims of similar operations of tactical media include former French president Nicolas Sarkozy, former Iranian president Ahmadinejad, former governor of Massachusetts Mitt Romney, the Church of Scientology, and many others. Usually Google intervenes by ‘adjusting’ their results shortly after the bombing and the destabilization of its functioning.

The second element, the *action network*, consists of a group of individuals who can coordinate complex actions by following clearly defined strategies. A particularly famous example is the collective Anonymous. Such networks at times operate virally, yet while viral phenomena are short-lived and can include virtually anyone, *action networks* usually call for long-term collaboration between individuals with specific skills (like hackers and activists). Among the most effective strategies created by an *action network* are *sousveillance* (surveillance of law enforcement by ordinary people using personal technologies) and *coveillance* (documentation of interaction between individuals for political purposes). Both strategies are related with what has been defined as ‘surveillance aesthetics’ or even ‘artveillance.’ (Brighenti, 2010, 175-186). Individuals involved in these practices have created networks and strategies of resistance starting with the (mis)use of CCTV (closed-circuit television), by provoking errors in its functioning, or reversing its use, such as recording law enforcement wrongdoings. When these approaches become widespread and replicated on a broad scale, uniting the potential of *virality* and *action networks*, their efficacy is increased

and they empower one another, albeit in their respective specificities.

Another artwork that exhibits the power of the *action network* is Zohar Kfir's *Points of View* (2014), an interactive documentary (still in progress) based on video footage shot by Palestinians participating in the B'Tselem Camera Distribution Project of the Israeli Information Center for Human Rights in the Occupied Territories. This project, started in 2007, offers Palestinians residing in the West Bank, East Jerusalem, and the Gaza Strip video cameras and basic courses in video production so that they can document, record, and share their stories. The project has turned out to be instrumental in documenting rights violations, and on several occasions the videos were used by the international press. While Kfir's work doesn't use error, it does include many of the elements listed above: it is based on the work of an action network; it epitomizes the concepts of *sousveillance* and *coveillance*; it passes effortlessly from one medium to another (video, html, installation), doing so in an interactive and intelligent way in which the artist's point of view acts as a guide but doesn't overtake that of the filmmakers' or others involved. Works like those of *Ubermorgen.com*, Paolo Cirio, and Zohar Kfir also attempt to use common and widespread tools to discover breaches in the system to carry out strategies of resistance, and 'survey the surveillers,' (Seda, Manu and Teran 2010, in McGrath and Sweeny 2010, 171) or as Paul Virilio has written, 'dismantle the new technologies from inside' (as cited in Virilio, 2005, p. 74).

It is evident that cooperation between increasingly interdisciplinary artists and other professionals offers an incredible potential for resistance, but – precisely because of its efficacy – is looked upon with suspicion by the champions of technological power. On the one hand, artists like Raul Gschrey hypothesize that such practices are fundamental today for achieving greater awareness (as cited in McGrath and Sweeny 2010, p. 163):

Subversive strategies have to be developed which make use of weaknesses of the technologies, discredit the surveillance logic and raise people's awareness towards negative effects and possible dangers of the instruments of control. These goals can be

most effectively achieved through interdisciplinary collaborations between software designers, scholars, political activists, and artists.

On the other hand, proponents of technological power discourage all resistance practices. Wiener had already hypothesized in the 1950s the danger of possible subversive practices (Wiener, 1998, p. 111):

The system depends upon the collaboration of individuals united in cooperative purpose and is threatened by those practices that seek to exploit 'the interstices of the law' toward other purposes and other outcomes.

More recently, in their work on *Actor-Network Theory*, Tara Fenwick and Richard Edwans have indirectly confirmed both hypotheses (of proponents and detractors of resistance practices). According to their analysis, there is always room for the development of alternative networks, '[because] networks can never be complete or totalizing; there are always gaps, holes and tears, and multiple networks vying to be effective' (Fenwick and Richard 2010, p. 4). This means that through setting aside the efforts of power – which is central 'to any understanding of space and context translated through networks' (Fenwick and Richard 2010, p. 13) – there will always be space for the creation of a *counter-network* [8] and the search for a new interstice in which to work. It also means that since 'continuous effort is required to hold [a network] together, to bolster the breakages and counter the subterfuges' (Fenwick and Richard 2010, p. 11), there is always space for change, no matter how stable a network may appear.

5 | CONCLUSION

This essay set out to investigate the bond between art, and more specifically new media art, and the use of technological error in relation to contemporary technological power. The status of error in art was examined through the historical process that has seen visual artists experiment with heterogeneous practices while remaining immune to the exclusively negative definition of error found in other disciplines. Because of this process, art is the only discipline that practices the conscious use of errors deriving from other disciplines. Among the various types of error that art can recontextualize (at the level of application and

meaning), this essay focused on the technological, as it is more present in contemporary creations of new media art. The characteristics of error have been described through definitions of *prepackaged* and *uncaptured error*, useful for distinguishing error in relation to the use that power makes of it.

The essay traces reasons for the popularity among artists of technological errors, the most important of which is that error is the digital fingerprint of a specific technology: it reveals the invisible technological mechanisms from which it originates. A conscious media practice that makes use of error cannot do so without a sophisticated understanding of the technology behind it; thus the use and study of technological error indirectly implies a greater comprehension of the logics of technological power. This understanding and knowledge is then spread following the trend of practices based on *action networks* and *virality*. Technological error was revealed to be an interpretative key on the one hand, illuminating the shifting and seemingly invisible mechanisms of technological power, and on the other, to provide countless opportunities for finding new strategies of resistance based on the exploitation of the cracks and weak spots of technology.

The essay does, however, leave a number of questions open that require further study. First, we know that technological power uses *prepackaged errors* as feedback to improve its mechanisms. Now we need to understand to what extent, in the future, technological power could systematize media practices based on the exploitation of technological error. This means understanding under which variables error will still be considered useful for resistance practices or if its subversive effects will be systematically neutralized. Secondly, we need to understand how, in the case that technological power will find a way to neutralize error-based media practices, these practices can evolve without being reduced to a pop element as in the discussed case of glitch aesthetic. Finally, it could be useful to use the findings of this study to delineate a series of 'indications' for incisive practice-led media strategies.

In this regard, it is desirable to have more theorists, artists and media activists work and experiment together, pushing forward our understanding and possibilities of action and counter-action.

ENDNOTES

[1] I will use the term 'technological power,' which in my opinion better reflects the topic under scrutiny, rather than a version of the Italian 'sesto potere' (sixth power), which is more commonly used in the European context. See: Narduzzi, E. (2004). *Sesto potere: Chi governa la società nell'era della tecnologia di massa e dell'innovazione permanente*. Soveria Mannelli: Rubbettino).

[2] The term 'control' is used here in the Anglophone sense of 'domination, power, authority' rather than in the continental European sense (as in the Italian 'controllo') related to 'surveillance, inspection, verification' and therefore the act of vigilance. See Gurvitch, G. (1997). *Il controllo sociale*. Rome: Armando Editore, 30; quoted in Ragnedda, M. (2008). *La società postpanottica. Controllo sociale e nuovi media*. Rome: Aracne, 23.

[3] This relationship is more alive today than ever. Consider alternative photographic modes originally considered mistakes like photographing computer monitors, using screenshots, editing pictures with photo-editing software, or utilizing databending techniques. The preponderance of visual data in contemporary society, the overabundance on the Internet of all types of images and the desire to explore new aesthetic and technical possibilities are certainly at the root of the plurality of new media art practices. The present creative exploration of new media can be compared to what occurred only at the end of the nineteenth century, and only for a short time, when the photographic revolution was accompanied by the birth of hybrid practices almost completely forgotten today, like photo-painting, photoengraving, or photographic ceramics.

[4] This definition can be consulted online in their FAQ section and is publicly modifiable as a Wiki page. See: <http://gli.tc/h/faq/> and http://gli.tc/h/wiki/index.php?title=Glitch_definitions.

[5] See: <http://blog.animalswithinanimals.com/2008/08/databending-and-glitch-art-primer-part.html>, <http://www.flickr.com/groups/databending/>, and <https://groups.yahoo.com/neo/groups/databenders/info>.

[6] If we consider the intersection of art and videogames, we can find many interesting examples of the practices Alexander Galloway has called ‘counter-gaming’ (or more precisely, attempts at counter-gaming). For example: games that cannot be won; alternative art modes of famous videogames, like Brody Condon’s *Adam Killer* (1999-2001) based on a glitched version of the graphics engine from *Half-Life*; and alternative PC interfaces, also developed based on videogame graphics (the most famous of which is Dannis Chao’s 2000 *psdoom*). There are also independent art games online that nostalgically remix arcade games by ‘glitching’ them, like *ROM CHECK FAIL* (2008); and websites that recuperate and recontextualize videogame glitches, like Jody’s *Maxpaynecheatsonly*, based on the videogame *Max Payne*. Another interesting and related example is the Machinima universe, film production that uses videogame computer graphics in real-time. In addition, there are works of sociopolitical research based on online games, such as the group Ars Virtua’s *V2V* centered on the similarities and differences between Russia’s Titanium Valley and the Silicon Valley, developed inside the virtual world of *Minecraft*. Other virtual realities, like *Second Life*, lend themselves to the realization of photo series, like Eva and Franco Mattes’s *Portraits* (2006-7), or performances and guided tours, like John Rafman’s *Kool Aid Man in Second Life* (2009).

[7] A recent documentary focused in great detail on the theme of hacktivism: *We Are Legion. The Story of Hacktivists*, by Brian Knappenberger (<http://wearelegionthedocumentary.com/>).

[8] For example, during the protests that broke out in Istanbul in 2013, a video was virally broadcast to protestors and police on Facebook under the hashtag *#deletecontrol*, explaining to people how to communicate securely by using encrypted browsers such as Tor, or how to post videos on YouTube after blurring people’s faces in order to elude interception and the facial identification technologies used by the police, as well as demonstrating the consequences of careless use of communication technologies. The creation of this video on privacy literacy and mass communication is a good example of an *action network*, realized by the Hivos network, composed of humanists, experts, computer scientists, screenwriters, and artists.

REFERENCES

Breton, A. (1974). *L’amour fou*. Turin: Einaudi; quoted in Chéroux, C. (2009). *L’errore fotografico. Una breve storia*. Turin: Einaudi, 85.

Brighenti, A. M. (2010). “Artveillance: At the Crossroads of Art and Surveillance,” p. 175-186; in Eds. McGrath J., & Sweeny R. (Ed.), *Surveillance & Society, Special Issue on Surveillance, Performance and New Media Art*, vol.7, n°2.

Peplin, E. (2012). *Dirty New Media*. Chicago: independent publication, <http://glitch.us/DirtyNewMedia.html>.

Chéroux, C. (2009). *L’errore fotografico. Una breve storia*. Turin: Einaudi.

Eco, U. (1989). *Opera Aperta*. Milan: Fabbri Editori.

Fenwick, T., & Richard E. (2010). *Actor-Network Theory in Education*. London – New York: Routledge.

Grant Ward, C., (2012) “Stock Imagery, Filler Content, Semantic Ambiguity,” p. 102; chapter in Nunes, M. (2012). *Error, Glitch, Noise and Jam in New Media Cultures*. 1st ed. New York: Bloomsbury.

Gschrey, R. *Contemporary Closed Circuits – Subversive Dialogues: Artistic Strategies against Surveillance*. In McGrath J. and Sweeny R. (Ed.), *Surveillance & Society, Special Issue on Surveillance, Performance and New Media Art*. Eds., vol.7, n°2, 163.

Gurvitch, G. (1997). *Il controllo sociale*. Rome: Armando Editore, 30; quoted in Ragnedda, M. (2008). *La società postpanottica. Controllo sociale e nuovi media*. Rome: Aracne, 23

Lessing, G. (1969). *Laocoön: An Essay on the Limits of Painting and Poetry*. New York: Farrar Strauss and Giroux.

Mayer, M. (2005). *Googlebombing Failure in The Official Google Blog*, blog entry, eptember 16, 2005 <http://googleblog.blogspot.com/2005/09/googlebombing-failure.html>; quoted in Nunes, M. (2012). *Error, Glitch, Noise and Jam in New Media Cultures*. 1st ed. New York: Bloomsbury, 16.

- Moholy-Nagy, L. (1932). *Où va la photographie?* Agfa Photoblätter, n. 9, Reprinted in Various Authors, (1995) László Moholy-Nagy, *Compositions lumineuses, 1922-1943*. Paris: Centre Pompidou, p. 199; quoted in Chéroux, C. (2009). *L'errore fotografico. Una breve storia*. Turin: Einaudi, 63.
- (1929). *Photographie, mise en forme de la lumière*. Cahiers d'art, Paris, n. 1. Reprinted in Various Authors, László Moholy-Nagy, *Compositions lumineuses, 1922-1943*. Paris: Centre Pompidou, 1995; Chéroux, C. (2009). *L'errore fotografico. Una breve storia*. Turin: Einaudi, 63.
- Moradi, I., Ant S., Gilmore, J., & Murphy, C., (2009). *Glitch: Designing Imperfection*. New York: Mark Batty.
- Moradi, S. (2004). *Glitch Aesthetics*. BA Thesis in Multimedia Design, School of Design Technology, Department of Architecture, The University of Huddersfield.
- Narduzzi, E. (2004). *Sesto potere: Chi governa la società nell'era della tecnologia di massa e dell'innovazione permanente*. Soveria Mannelli: Rubbettino.
- Nunes, M. (2012). *Error, Glitch, Noise and Jam in New Media Cultures*. 1st ed. New York: Bloomsbury.
- Revault d'Allones, O., & Bouissou D., (Ed.), (1978). *Francis Picabia, Écrits, 1921-1953 et posthumes*. Paris: Belfond; quoted in Chéroux, C. (2009). *L'errore fotografico. Una breve storia*. Turin: Einaudi, 85.
- Rieger, F. (2005). *We lost the war. Welcome to the world of tomorrow. Die datenschleuder – das wissenschaftliche fachblatt für datenreisende – ein organ des chaos computer club*, n°89, p. 63; quoted in McGrath J., & Sweeny R. (Ed.), *Surveillance & Society, Special Issue on Surveillance, Performance and New Media Art*. Eds., vol.7, n°2, 163.
- Riout, D. (2002). *L'arte del ventesimo secolo. Protagonisti, temi, correnti*. Turin: Einaudi.
- Roberts, J. (2011). *The Necessity of Errors*. London-New York: Verso.
- Santayana, G. (1982). *Reason in Art: Volume Four of The Life of Reason (1905)*. New York: Dover Publications.
- Saunders, F. S. (2000). *The Cultural Cold War: The CIA and the Worlds of Arts and Letters*. New York: The New Press.
- Seda, G., Manu L., & Teran, M., (2010). *Dialogue on Interventions in Surveillance Space: Seda Gürses in conversation with Michelle Teran and Manu Luksch*. In McGrath J., & Sweeny R. (Ed.), *Surveillance & Society, Special Issue on Surveillance, Performance and New Media Art*. Eds., vol.7, n°2, 171.
- Shannon, Claude E., and Weaver, W., (1949). *The Mathematical Theory of Communication*. Champaign: University of Illinois Press, p. 19; quoted in Nunes, M. (2012). *Error, Glitch, Noise and Jam in New Media Cultures*. 1st ed. New York: Bloomsbury, 12.
- Spies, W. (1982). *Une poétique du collage. Paul Éluard et ses amis peintres*, Exh. cat. 55. Paris: Centre Georges Pompidou; quoted in Chéroux, C. (2009). *L'errore fotografico. Una breve storia*. Turin: Einaudi, 85.
- Virilio, P. in Lotringer S. and Virilio, P., (2005). *The Accident of Art, Semiotext(e), Foreign Agents Series*. Cambridge, Massachusetts: MIT Press, p. 74; quoted in Roberts, J. (2011). *The Necessity of Errors*. London-New York: Verso, 250.
- Wiener, N. (1998). *The Human Use of Human Beings: Cybernetics and Society*. New York: Da Capo, p. 108, 111; quoted in Nunes, M. (2012). *Error, Glitch, Noise and Jam in New Media Cultures*. 1st ed. New York: Bloomsbury, 12.

BIOGRAPHICAL INFORMATION

Emilio Vavarella was born in Monfalcone (Italy) in 1989. He graduated summa cum laude from both the University of Bologna with a B.A. in Visual, Cultural, and Media Studies, and from Luav University of Venice with an M.A. in Visual Arts and study abroad fellowships at Bezalel Academy of Tel Aviv and Bilgi University of Istanbul. Emilio's artistic work has been recently shown at: ISEA, EYEBEAM, SIGGRAPH, Media Art Biennale, GLITCH Festival, European Media Art Festival and Japan Media Arts Festival. His work has been published in: ARTFORUM, Flash Art, Leonardo, Digital Creativity and WIRED. He currently lives and works in New York.