

Compression Aesthetics: Glitch From the Avant-Garde to Kanye West

By Carolyn Kane

In a world that esteems technological efficiency, immediacy, and control, the advent of technical noise, glitch, and failure—no matter how colorful or disturbingly beautiful—are avoided at great costs. When distorted and unintelligible artifacts emerge within the official domains of “immersive” consumer experience, they are quickly banished from sight. This aggressive disavowal is particularly strange given that “glitch art” and “compression aesthetics”—loosely defined as the aesthetic use of visual artifacts, accidents, or technical errors—has become increasingly prevalent in media, art, design, and commercial landscapes.¹ Why and how have glitch aesthetics achieved this ambivalent status?

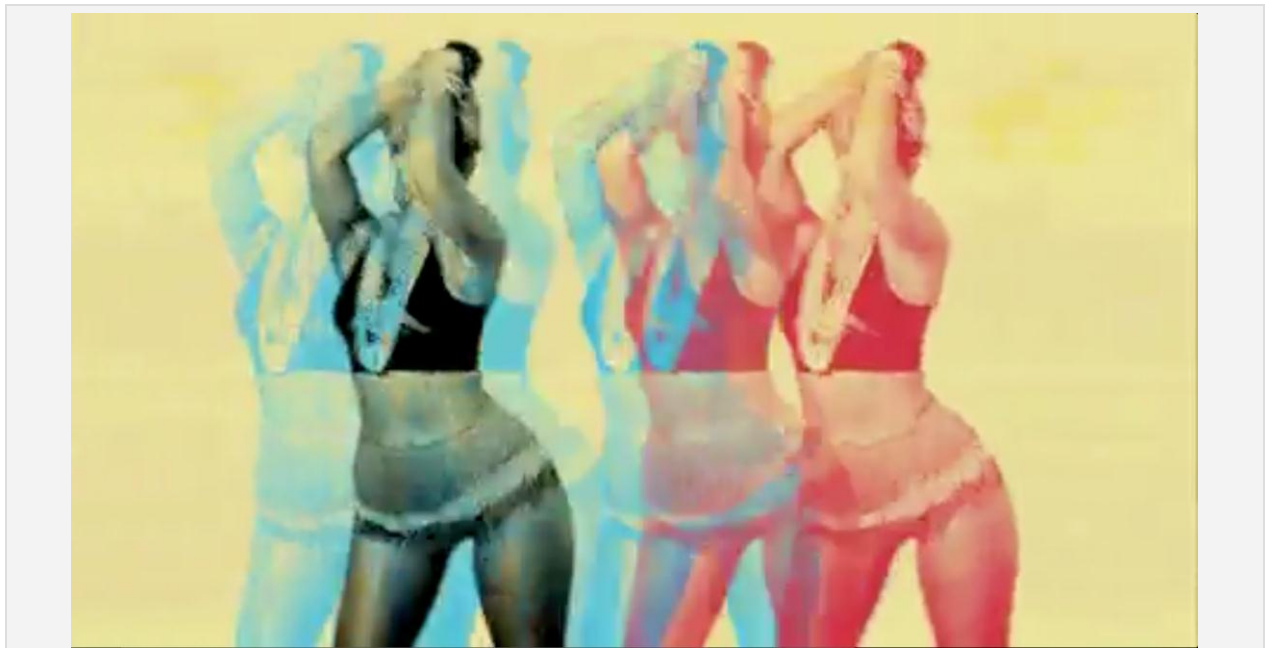


Fig 1. Rihanna. Rude Boy. Music Video. Directed by Melina Matsoukas (2009). Colored glitches and static create trendy visual effects.

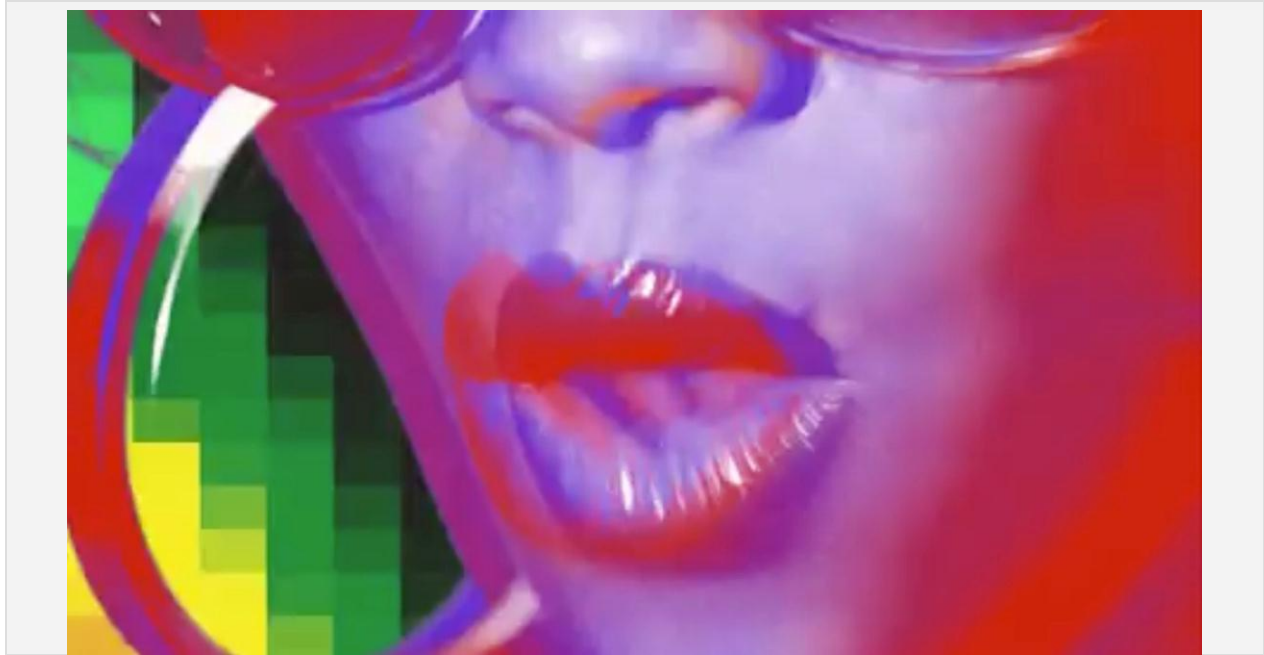


Fig 2. Rihanna. Rude Boy. Music Video. Directed by Melina Matsoukas (2009).

There is something about a glitch or patch of noise that disrupts convention and expectation. A glitch or technical error can be used to pose questions and open up critical spaces in new and unforeseen ways. Herein lies the appeal of glitch to numerous artists past and present, and my primary concern in this article. And yet, because glitches have also been quickly appropriated back into dominant fashions and styles, moving from political or social critique to commodity, glitch aesthetics bear a fundamentally antagonistic relation even to themselves. What then can be done for and with glitches and chromatic noises, if the same cycle of appropriation and reification is intrinsic to their very existence as aesthetic objects?

Take Paul B. Davis's backstory to Kanye West's 2009 music video, *Welcome to Heartbreak*, directed by Nabil Elderkin. A pioneer in the genre, Davis has been creating glitches since the early 2000s, as in his and Jacob Ciocci's 2007 remix of Rihanna's "Umbrella," or of the Cranberries "Zombie" for the work *Compression Study #1 (Untitled data mashup)*. Less than two months before the opening of his second solo show at the Seventeen Gallery in London, Davis woke up to find a flood of emails,

telling me to look at some video on YouTube. Seconds later I saw Kanye West strutting around in a field of digital glitches that looked exactly like my work. It fucked my show up... the very language I was using to critique pop content from the outside was now itself a mainstream cultural reference.²

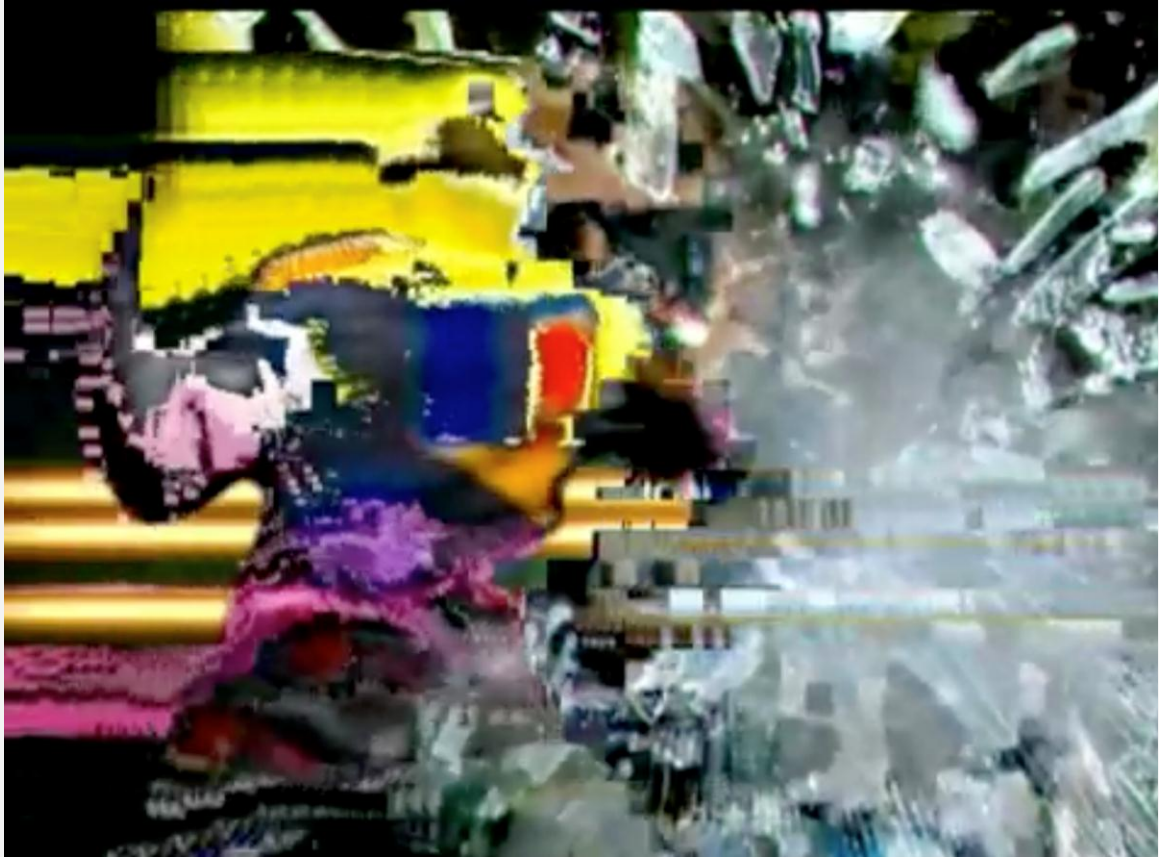


Fig 3. Kanye West Heartbreak music video. Directed by Nabil Elderkin. stills. (2009). Color static and glitch remains trendy in pop culture.



Fig 4. Paul B. Davis and Jacob Ciocci. Compression Study #1 (2007). A 2007 glitch remix of Rihanna's "Umbrella" with the Cranberries "Zombie."

The “field” he alludes to is the colorful backdrop and mise-en-scène for West’s *Welcome to Heartbreak* video. The glitch effects in the video not only emulate Davis’s compression aesthetics, now used by many glitch artists, but also they do so with a markedly simulated DIY, “amateur” aesthetic.³ That is, the *Welcome to Heartbreak* video simulates a DIY aesthetic, but is not actually derived from DIY strategies, nor does it perform any real critique of pop-culture (given its big budget, high tech, and cutting edge technology West and television broadcast corporations have access to).

Welcome to Heartbreak has more to do with the reification of objects into ready-to-wear styles and consumer objects—the bread and butter of consumer capitalism—or what Kim Cascone has termed the “competitive consumption of style.”⁴ If glitch artists seek to unpack and undo the “clean” and highly compressed visual data that make up contemporary computer cultures, then they do so against the tendency of these cultures to weaken press and re-compact not only visual information but new styles, art movement, and design, as such. Thus while the glitch-effects in *WTH* may temporarily disorient or catch viewers off-guard, the glitch-effect in the video is ultimately eye candy: a novelty in its own right used to expand and lengthen visual consumption in the “now” of fashion and pop culture. That which is easy to consume, but still fresh and novel, can and will be consumed more often and more frequently. Granted the video is full of its colorful affects and raw bits of sensory delight, it is nonetheless void of critique, which is how many glitch artists—and their predecessors, whom we will shortly turn to—have approached the genre and their perceived responsibility as media artists in a techno-saturated culture.

WTH is but one example of many from contemporary art, media, and design worlds.⁵ Certainly the fact of glitch’s commodification and social or political neutralization is unfortunate for those who remain committed to critique, but how else to proceed? The central question facing new media artists and designers today thus revolves around the capacity to make lasting and sustainable critical works. The best way to make such art is to learn from the successes and failures of the past. To fail best and “fail better,” as Beckett put it.

Beginning with a set of pigment-based glitches from the European avant-garde, in this article I survey strategies that prefigure twenty-first century glitch art and compression aesthetics through their obfuscation of the norms of visual clarity, representation, and fidelity. I also examine aesthetic practices of the 1960s and 1970s, including early instantiations in photography, film, experimental audio, and analog electronic media, and focuses on key works by Nam June Paik and John Cage. I conclude with an analysis of glitch art precursors in experimental audio and noise music developed in the 1980s and 1990s, and close with two examples of digital glitch selected from twenty-first century art and pop-culture. I thus focus almost exclusively on precursors to the glitch art and compression aesthetic of the twenty-first century. By establishing this prehistory, I wish to draw attention to the value of glitch and compression as dominant cultural forms today, which tend to exist in a tension between reduction and excess, reification and critique, function and failure.

Avant-Garde Precursors

In one sense, the entire history of modern art could be construed as a glitch and compression of Enlightenment epistemology. If compression is the reduction or deletion of ostensibly unimportant data, and glitch art the aesthetic use of discarded and deleted data (i.e. errors) then, according to this view, any visual, impressionistic, expressionistic, or psychological divergence from the clarity and precision of

classical optics or Renaissance-based perspectival representation function as a “glitch” in the formation of rational, cognitive, visual knowledge.⁶ At the same time, such a broad definition fails to address the article's primary goal in delineating a prehistory of techno-glitches in the (primarily) visual avant-garde from the industrial era onwards.⁷

And thus I begin in the age of mechanical reproducibility, where machine-made technical forms for the first time play a pivotal role in art, art making, culture, and aesthetic philosophy.

The introduction of photography in the nineteenth century forced new questions into the domain of painting and art-making. After the relative stabilization of the process in 1839 through the Daguerreotype, and the chronophotography of Étienne-Jules Marey,⁸ painting and hand-illustration lost their long-standing monopoly on the realistic and accurate depiction of the world and its inhabitants. Photography could achieve in a fraction of a second what took hours to paint or draw, and thus painters sought new directions for their practice, beyond and away from classical realism, and into the domains of tonality, abstraction, color, frame, format, and medium (as demonstrated by movements such as Impressionism, Expressionism, Cubism, and Futurism). As Eric Kluitenberg puts it, Cubism's overlapping, fragmented and multidimensional perspective successfully “denied the validity of linear perspective (as it is programmed in the photographic machine), as the 'correct' representation of the world in visual terms.”⁹ Painting's broad and varied responses to photography in the late nineteenth and early twentieth centuries constituted a set of glitches relative to classical aesthetics and then-dominant conventions of visual representation.

New research in the physiological science of optics further aided the epistemic shift away from classicism (which, I argue elsewhere, is a shift towards increased compression). The Impressionist and Post-Impressionist painters in particular followed cutting edge research into optics and argued that all one ever perceived was a series of light and abstract color patches.¹⁰ Advancements in optical science coupled with mechanically reproducible media, as Paul Virilio demonstrated, engendered a new world wherein mechanical speed, acceleration, and technical precision became characteristic of reality and material experience. Humans now had to *learn* to catch up and adapt to this new world, which in turn opened the door for new forms and scales of accident. This kind of “failure,” as Virilio argues, was herein programmed into any technical product “from the moment of its production or implementation.”¹¹

As mechanical errors became commonplace concomitantly with the rise of new mechanically reproducible technology, glitch and error were situated at the core of what it meant to be modern. (This was reflected in much of the art of the time, but not sufficiently addressed in art's history). The images of Futurism, for instance, actively skewed and distorted the coherency of the composition, taking inspiration from the speed and movement of the motorcars and machines of the industrial era. Examples of this revised aesthetic include Giacomo Balla's *Dynamism Of A Dog On Leash* (1912), Carlo Carra's *The Red Horsemen* (1913), and Umberto Boccioni's sculpture *Unique Forms of Continuity* (1913), all of which attempt to compress multiple perspectives and temporalities into a single image-space.

Italian Futurist painter Luigi Russolo, inspired by both Marinetti's poetry and an orchestral performance of a composition by Balilla Pratella, wrote the 1913 manifesto *The Art of Noises* and designed several “noise machines” or intonarumori (noise intoners), with the intention of replacing old world orchestras with the sounds of modernity.¹² His work, in turn, influenced others, including Italian artist and designer

Bruno Munari, who promoted the Futurist-inspired “Movimento d’Arte Concreta” (MAC / Concrete Art) in his 1952 manifesto that also aimed to reconcile art with the new machine ontologies.¹³ Alongside movements like Cubism, Purism, De Stijl,¹⁴ and offshoots from the Russian avant-garde,¹⁵ Futurism poeticized the new speed, the mechanical energy and dynamics of industrial machines, and the fragmentation and compression of modern life they engendered. The subtle distinctions between each of these movements and their approach to the reduction and intensification of time and space and visual media, must be discussed elsewhere. Here, I offer instead the general observation that these techniques and movements together marked bold, often revolutionary attempts to deploy the logic and materiality of industrial and mechanical glitches, noises, and errors as a kind of counter-strategy to the new conditions of industrial modernity. Because these strategies were rooted in anti-communicative, erroneous, or uncompressed visual and sonic forms is precisely why they anticipate contemporary glitch art and compression aesthetics.

Dadaism also sought to subvert clear and compressed visuality through a series of decompressed, noisy, political acts. Tristan Tzara—Romanian-born French poet and author of the 1918 Dada manifesto—argued that noise, in opposition to normative views of sound and music, embraced a logic of “complication”, characterized by a “dry and noisy, noisy and monotonous primitivism.”¹⁶ The noisy primitivism embraced by Tzara and the Dadaists signaled a rejection of “natural things,” as well as the (romantic) actions and attitudes of bourgeois culture.¹⁷ Marcel Duchamp’s *Nude Descending a Staircase No. 2* (1912), for instance, depicts the (normally) fluid and organic process of walking down the stairs as a frozen and staggered series of atomized and mechanical units, like those intrinsic to technical media. Duchamp’s less cited readymade, *In Advance of the Broken Arm* (1915) also offers an appropriation of a mass-produced object—a snow shovel—which, when detached from its normative function and placed in the gallery (as with *Fountain*) comes to signify technical failure *through* the human, as opposed to the romance of technical progress *despite* the human.

Duchamp’s *The Bride Stripped Bare by Her Bachelors, Even* (1915-23) a.k.a *The Large Glass*, is key in this narrative because it is through this work that the medium employed to produce the glitch and the depiction of the glitch itself become one. Using such materials as lead foil, fuse wire, and dust, Duchamp assembled two large sheets of glass, sandwiched together and suspended vertically in a gold colored metal frame. Dominant interpretations of the work allude to the mechanization of (modern) love and sexual reproduction, however more pertinent here is the moment in 1926 when the external glass, initially intended to merely “frame” the internal contents, breaks while in transit to the Brooklyn Museum. Upon encountering the fractured glass, Duchamp declared that he preferred the piece this way, and that it was finally complete.¹⁸ In a single stroke, he consolidated chance, accident, technical failure, to lodge a critique against techno-utopia (in glass), to reveal the myth of “transparency” pervasive in the history of visual epistemology in the West, and to question the stable subjectivity of the author.



Fig 5. Marcel Duchamp's *The Bride Stripped Bare by Her Bachelors, Even* (1915-23). After the glass accidentally broke, Duchamp declared the work was finally complete. Image courtesy of ARES and the Museum of Modern Art.

Because the *Large Glass* does not depict a glitch by way of *another medium*, as with *Nude Descending a Staircase* or the other paintings noted above, the glitch here *is* the art—namely, art’s ability to act as a bearer of its own “content.” In other words, content and frame are inextricably bound. The process of looking at and through the broken glass becomes just as much a part of the art as the so-called autonomous object, which is itself broken into discrete, mechanical unit. Herein lies a second set of critical capacities of glitch art: the use of decompressed bits of data and technical errors to call attention to the process of looking itself, to foreground apparatus that constructs perception in whatever medium looking may occur in or through.¹⁹ The *Large Glass* thus uses error and breakage to highlight what is normally invisible and functional in practices of looking and knowing, making visible what is otherwise an unconscious and ideological relation to knowledge and truth.

In the postwar period, the Duchampian legacy of chance, glitch, critique, and appropriation finds expression in the work of a number of modern artists. This includes key players like Jackson Pollock, Robert Rauschenberg, John Cage, various Fluxus artists, Jasper Johns, and Ed Keinholz, among others, all of whom position art as either a process-based aesthetic or as a dematerialized form awaiting actualization by a spectator. Pollock’s painting *Blue Poles* (1953), for instance (though much of his work could be cited here), results from flicking paint across the canvas. The work of experimental musician John Cage is also key, not just for his adoption of chance, but also for his reconfiguration of sound and noise. Where Russolo argued that industrial noises were valid in a musical composition, Cage argued that all sounds were.

Born in 1912 in Los Angeles, Cage was a student of Austrian composer and painter Arnold Schönberg, known for revolutionizing modern music by systematically breaking with harmony, melody, and the “teleological implications of tonality.”²⁰ Following this lead, Cage developed a method for avoiding harmonic melody and, by 1938, had turned to the principles of chance and randomness to explore the capacity for any noise in the sound environment to enter his artwork. Like the glitch in Duchamp’s *Large Glass*, noise for Cage was immanent to the work, that is, both a part of its materiality and intrinsic to its signifying capacity.

As Cage discovered, silence was actually filled with noise. And thus noise became *the* core issue in audiovisual experience.²¹ This new centrality of noise is also illustrated in American artist Robert Rauschenberg’s *White Paintings* (1951), created under an apprenticeship with colorist Josef Albers. These images exerted a strong influence on Cage, due to the way in which they reflected an acute awareness of color that is both relative and ephemeral. The *Paintings* consist of seven large, white, oil painted panels that act as “hypersensitive” mechanisms in the space so that they show a different image, wherever they are installed, by virtue of the way in which they absorb and reflect the surrounding light, dust, and shadows. The pure white panels are thus “dirtied,” not by gestural abstraction, but by the world itself and its surrounding color, just as any surrounding noise in Cage’s *4’33”* (created a year later) would constitute its color and texture. *4’33”*, composed for any instrument, was first performed by David Tudor in 1953 in Woodstock, New York. Tudor sat at the piano and acknowledged the beginning and end of the composition by opening and closing its lid. Anything that sounded in between these gestures became a part of the work.²² Cage’s legacy continued through *musique concrète* and the experimental compositions of Eric Satie, Edgard Varèse, Karlheinz Stockhausen, and Pierre Boulez, to name only four, though colorful visual abstractions were often integrated into their experimental performances, such as the pivotal multimedia event engineered for the 1957 World’s Fair in Brussels.²³

The introduction of electronic audio synthesizers in the 1950s and 1960s brought new levels and modes of experimentation to the genre, as demonstrated in the work of Reed Ghazala,²⁴ now considered the “father of circuit bending”; Christian Marclay’s mutilated vinyl records created in 1979; Yasuna Tone’s 1985 *Solo For Wounded* CD which used sounds from scratched CD’s; or in the work of Masami Akita (aka Merzbow). However, as Ghazala noted later in his life, because of the integrated circuit’s increasingly tighter and smaller development into a single sound and image-processing chip, circuit bending grew more difficult (creating a natural segue into code-based glitch art in the 2000s). Such synthetic noise tendencies were also eventually picked up in punk music, drum breaks and scratches performed on vinyl records, and various other instantiations that are given extensive treatment in historical studies of noise music already in circulation.²⁵

In the 1960s, Fluxus artists (including La Monte Young, George Brecht, Al Hansen, Dick Higgins and George Maciunas) produced anti-expressionistic, anti-museum artworks that incorporated happenings, chance, experimental music, and audience participation. Two notable examples are Nam June Paik’s *Zen for Film*, which contained nothing but clear leader and thus projected onto the gallery wall only the dust and scratches that accrued on the film over time, and George Maciunas’s *Ten Feet of Film with No Camera*, of which its title is descriptive.²⁶

Often overlooked in considerations of glitch and noise precursors is the “junk art” from the 1950s and 1960s, especially the New York School which, like Fluxus, aimed to renounce creative control and intentionality in their mode of production.²⁷ The work of American sculptor John Chamberlain could also be seen as viable technical precursor to glitch and noise techniques, given the way in which his entire body of work is developed using crushed automobile body parts, reconfigured and repainted in brilliant synthetic colors: literally an aestheticization of un-compressed data. One could also include the re-assembly machines developed by French artist Jean Tinguely, and the work of French cybernetic artist Nicolas Schöffer.

And while he did not work directly with hardware or broken machine parts, Gerhard Richter must also be seen as a proto-glitch artist, given the way he has painted quasi-photorealistic, highly ambiguous images on canvas for several decades. Richter’s paintings often display visual artifacts (blurs, over exposures, or high contrast obfuscation). For instance in *Familie nach Altem Meister (Family After Old Master, 1965)*, the allusion to traditional portraiture is blurred over by both image and “authorial” brush. Well known for this technique, Richter employs this blurring device with the goal of “making everything equally important and equally unimportant.”²⁸ For Richter, imperfection, transience, and incompleteness are natural and given characteristics of memory and experience. This attitude has of course become vernacular in media culture, often illustrated in contemporary video art where, even if there is no technical glitch, there is nonetheless a conceptual glitch or choreographed opacity in visual-cognitive experience (a prime example here is the video artwork of Swiss artist Pipilotti Rist). Richter’s blurs, in both his paintings and photographic works, consistently call attention to the imperfect and always mediated act of perception itself, to the thick matter of noise that ensues between any object and a subject’s apprehension of it. In revealing these invisible processes of representation (albeit one contingent on classical metaphysics) and the apparatus of visual perception, Richter visualizes the phenomenal haze of mediation otherwise concealed in discourses of technological fidelity.²⁹

In sum, almost all of these works have been well traversed within art history's canons. The point here, however, is to emphasize how they simultaneously function in an alternative aesthetic history of error and failure, and as precursors to new media practices in digital glitch in the present.

Photographic and Cinematic Glitches

Early uses of photomontage and traditional montage (including the numerous devices of proto-cinematic history, such as stereoscopes, zoopraxiscopes, or praxinoscopes), represent another set of important glitch precursors, given the way in which these experiments were often concerned with de-compressing visual data from the increasingly smaller and faster visual spaces and units of time the standardized moving image was to. Revealing the edges and limits of these processes and histories thus became the focus of many avant-garde artists and photographers. For instance, when his film camera jammed in 1896, midway through a static camera shot, theater owner George Méliès inadvertently discovered "stop substitution" trick photography, which eventually became integral to the special effects used in his short trick films.³⁰ Consider also the accidentally melted images that combat photographer Robert Capa shot during the Omaha beach landings in June of 1944. As Lindsay Cox explains it, in the rush to get the images to a courier for delivery to the main office of *Life Magazine* a darkroom technician dried the film too quickly and the extreme heat it had been exposed to, melted the film. The emulsion distorted beyond recovery on all but ten of the frames from the four rolls processed. And yet, these surviving gritty images are regarded as some of the best war photographs of all time.³¹ Visual distortion has since become an intentionally applied vernacular effect, displayed in the work of Gerhard Richter, and in a newer genre of video art that intentionally works with a low-fi, or "dirt style" aesthetic.³² The rise of this anti-compression aesthetic moves alongside the rise of "high resolution" photography and film in modern culture writ large.

Another set of precursors from photo and film can be drawn from a host of artists engaged in experimental techniques like film scratching, burning, dodging, over-exposure or other (at the time) non-commercially viable effects. For example, the work of Man Ray and Rene Clair has been cited as key to glitch art methods, as well as Len Lye's *A Colour Box* from 1937: a kinetic film that consists of scratched and hand-painted celluloid. American filmmaker Stan Brakhage, well-known for consistently scratching on film, painting and gluing objects like insects, chemicals, or food onto blank frames, rapid editing, swirling camera work and deliberately out-of-focus images, also serves as a crucial figure in this prehistory. Like Duchamp's *Large Glass*, such techniques use technical breakdown as a means of undermining the so-called transparency of the projected image. Scratches and burns, like Richter's blurs, ask questions about the relationship between viewer, medium, and maker. Brakhage painting colors on clear celluloid, contemporary glitch artist Nick Briz suggests, is analogous to "a hacker punching 1's and 0's into a file to invoke broken shards of colorful pixels exposes the digital medium for what it is."³³ Of course color as pigment and color as number are distinct in each media, and of course there is a crucial difference between computational media and cinematic forms. The former involves a necessary relationship between the code and the interface, which is absent in the latter. Briz's point is nonetheless an intriguing one.³⁴

Andy Warhol was also instrumental in laying the groundwork for the glitch. Key to this discussion is his first use of film in 1963, when he did not completely close the viewfinder of his 16mm Bolex camera, intentionally allowing light to leak onto some of the film and then later refused to edit out these "botched" sequences during postproduction. The resulting frame flashes between edits created dramatic full stop

effects between scenes, a technique that Warhol would come to use throughout the 1960s.³⁵ This initial, intentional flash-cut has since become common today, used as a segue in dramas (between memory in the present tense) or in fast-paced action scenes. And again, the popularity of this anti-compression technique of a "glitched reality," even if it is simulated, denotes a growing concern, I argue, and attempt to respond to and cope with the new demands placed on human consumption, performance, and action by accelerated and increasingly compressed technology.

Likewise, this kind of aesthetic appropriation and popularization has occurred with a number of the formerly disruptive and "glitch" editing techniques developed in the experimental cinema, especially within the sub-genre of "structuralist cinema." In a sense, structuralist cinema on the whole can be defined by an intrinsic capacity to push color and image to the extreme of perception, engendering conceptual and physiological glitches. Key structuralist filmmakers here include Hollis Frampton, Paul Sharits, George Landow,³⁶ Tony Conrad, Ernie Gehr, Joyce Wieland, and Michael Snow, all of whom developed a highly formalist and often materialist form of cinema by foregrounding the role of the medium—the cinematic apparatus—in the production of vision. This effect figures prominently throughout this body of work, although key examples are Conrad's *The Flicker* (1966), which investigates perception through use of stroboscopic effects (alternating black and white frames) at various frequencies, and a number of Sharits' films, including *Epileptic Seizure Comparison* (1976) or *Piece Mandala* (1966), where colors are introduced in stroboscopic high-frequency patterns. These glitches are effective in the way they intervene into normative modes of perception, calling attention to the very act of cinematic viewing itself, and anticipate a later generation of glitch art, where breakdown, disruption, and error also work to call attention to the material and political logic of the technology, albeit in electronic and liquid crystal form.

Electric Glitches

As celluloid gave way to the cathode ray tube frenzy of the 1960s, alongside the psychedelic counter-culture and birth of personal computing, automated software, the Internet, and liquid and plasma screens in the 1990s, glitch and anti-compression aesthetics—or simply, the stylization of technical error—became an increasingly salient feature of the cultural and artistic landscapes. The more intensified a technical system, the more error and breakdown figure as potent metaphors of dysfunction and anti-communication in material critiques of the media. Thus a paradox lies at the heart of the electronic glitch: the more one attempts to control, to functionalize culture through new technologies, the more does one also proliferate glitches and errors, making these undesirable and unwanted phenomena all the more available to the mechanisms of critique. Because examples of visual electronic glitches are numerous, I will limit my analysis of electronic glitch precursors to key instances in analog video and televisual art, citing two examples from feminist art practices with electronic media, video synthesis, and electronic audio glitches, respectively.

When ABC executives saw the use of analog television static in a segment of comedian Andy Kaufman's *Andy's Funhouse* (1949-1984), they immediately feared viewers would mistake this false static for actual broadcast problems and change the channel. But this was precisely the reaction Kaufman sought. His intentional simulation of television static aimed to catch people off-guard, confronting them with their own processes of viewing. Similarly, Korean-born glitch-pioneer Nam June Paik also generated abstract electronic imagery that caught television viewers, and the art world, off-guard. Paik's *Magnet*

TV (1965) is the definitive example here. The piece consists of a cathode ray tube (CRT) television set, on top of which a magnet rests to distort the signal. The magnet was powerful enough to draw and detract the high-speed electronic phosphors shooting through the electronic gun, actively and intentionally deforming the “normal” broadcast television image to form instead colorful traces and abstract patterns on the screen.³⁷



Fig 6. Name June Paik, Magnet TV (1965). Using a magnet, Paik distorted the otherwise “clean” televisual signals. Image courtesy of Paik Studios / Nam June Paik Estate.

If glitch, error, and noise have consistently been framed as Other within Western aesthetics, what better companion to this project of critique than feminist praxis: also marginalized as the “Other” within the long history of Western culture and patriarchy? Bringing these two themes and histories together, one finds Joan Jonas’s *Organic Honey’s Vertical Roll* (1973), a video-performance piece that incorporates mirrors and masks, as it intentionally offsets the vertical blanking signal on the analog video camera,

depicting a misalignment between self and mediated subjectivity.³⁸ Traditionally cited as an early feminist video artwork, the piece also serves as an unacknowledged precursor to Mary Lucier's *Dawn Burn* (1975) and *Bird's Eye* (1978), which provide empirical records of the distorted optical effects of light burned directly on the video camera's "eye." For the former, Lucier aimed the camera's lens directly at the sun, burning the camera's vidicon tube in real time and thus inscribing in it the calligraphic abstractions of light, while in *Bird's Eye* she aimed a laser directly at the camera lens, producing an analogous but visually distinct effect.



Fig 7. Joan Jonas. *Organic Honey's Vertical Roll* (1973). Video, black and white. Jonas intentionally misaligns the vertical hold in the video camera to create a sense of distortion and failure. Image courtesy of Electronic Arts Intermix, New York.

Throughout the 1960s and 1970s, numerous video artists and engineers experimented with the materiality of video by using video synthesizers and new computational technology. This genre of art eventually became known as video synthesis.³⁹ American artists Steina and Woody Vasulka are pioneers of this art form, the "first of a generation to 'open the box': [to] literally to rip apart pre-set commercial, manufactured media systems."⁴⁰ They re-appropriated television parts toward various low-cost systems, such as the Vasulka Imaging System, as well as a range of audiovisual tools or "machines" built in collaboration with electronic engineers and technicians. *Reminiscence* (1974), for instance, used the Rutt/Etra Scan Processor to apply Portapak footage of a walk taken by Woody through a farmhouse in Moravia, the artist's childhood home. And while the Vasulkas' synthetic, noise-saturated video art

certainly stands as an important precursor of contemporary glitch practices in circuit bending and digital glitching in electronic media, others must also be noted.

In addition to the work noted above, however, Nam June Paik's key contributions to the art of video synthesis warrants more than a mere footnote. Because they have been discussed in detail elsewhere, I will only flag a few, key pieces here. Paik and Shuya Abe's *Raster Manipulation Unit* (1970), for instance, which as Rosa Menkman notes was developed to "disrupt data streams" from "an incoming television signal," is key to setting the stage for a new kind of visual grammar that becomes predominant in glitch art. Paik worked alongside a number of other artists to experiment with video synthesis at the time, including pioneering video artist and talented engineer Eric Siegel, who in 1968 manipulated Einstein's face in hot pinks and purples, offering only two of numerous examples of analog glitches in video synthesis (other examples from the work of Stephen Beck, Dan Sandin, and numerous others, again, the details of this generation must be expanded on elsewhere). In many ways, this entire generation of synthesizers, as with structuralist and experimental cinema, were used and designed by artists only to produce visual and conceptual glitches in conventional and pre-programmed viewing experiences. In short, the same argument regarding glitch in photomontage and structuralist film applies here: the artists used color abstractions to reroute expectations of what media *should* be used for, and as such the technical glitches, errors, and malfunctions were material, physiological, and crucially, cultural in the ways in which they subverted expectations for media reification and visual consumption.⁴¹

Sound Out

Experimental electronic music from the 1980s and 1990s is perhaps the most recent precursor to twenty-first century glitch art. This generation introduced a "new strain" of glitch to music, which, as Steve Goodman argues, loosely revolved around the concept of a "bug."

For sound theorist Kim Cascone, the then-emergent genre of glitch music was "characterized by a preoccupation with the sonic artifacts that can result from malfunctioning digital technology, such as those produced by bugs, crashes, system errors, hardware noise, CD skipping, and digital distortion."⁴² The new sonic glitch (or bug) inscribed scars on on the apparently pristine surfaces of science and engineering's ideals of audio fidelity and crisp sound (as Lucier's laser did to the video image). The electronica and noise music movements were principally alternative and dance-based, with its sub-genres including house, techno, electro, drum'n'bass, and ambient music.⁴³ But already by the early 1990s, as Cascone explains, techno music had settled into a formulaic, glitch-laden genre, which served a more or less aesthetically homogeneous market of DJs and dance music aficionados.⁴⁴ As Cascone argues, the release of Oval's "The Politics of Digital Audio" in June of 1996 marked an important turning point for the incorporation of glitch within the lexicon of underground digital audio. In other words, the critical capacity of the glitch had been neutralized. But as we have seen, a neutralization of noise in music had *already* occurred. That is, while the group is known for introducing scratching and mutilated CDs to produce fragmented, electronic sounds, the stage was already set—through precursors like John Cage—suggesting that while these trends in electronic music of the 1990s may have been pushed up against industrial and commercial norms, these very strategies had already been politically neutralized.⁴⁵

This returns us to my introductory claim that glitch art and compression aesthetics are positioned in fundamentally ambivalent relations to themselves both as genres and as counter-strategies to the culture

industry. As soon as a work or aesthetic strategy can be nominalized and classified, subjected to genre, convention, and reproducibility, it can no longer carry the transgressive or disruptive capacity it once had.⁴⁶ This trajectory applies to all of the work noted above where the use of feedback and video, or simply scratching on film, no longer has the same defamiliarizing, "glitch" effect, but in its reification becomes familiar, even aesthetically comfortable. As Cascone observes, while glitch and noise may be "tactic[s] of subversion," they eventually "become fashion."⁴⁷

At the same time, Dutch-based glitch artist Rosa Menkman maintains that the critical function of glitch will persist as long as new technologies continue to emerge.⁴⁸ To put it differently, the capacity of glitch or anti-compression for critique may endure insofar as those who construct and deploy them are vigilant and responsive to correlative changes in culture, society, and especially to the rapidly shifting conditions of our technological habitus. Like-minded artists and theorists continue to come together in related glitch practices and glitch art events, screenings, and festivals in numerous cities and online venues throughout the world, including symposiums like GLL.TCh/H, BYOB, and BENT Circuit Bending Music and Art in New York. On the ground, these glitch communities are driven by the same DIY ethos of 1990s net art communities, albeit with a twenty-first century, global scope. Indeed, many glitchers maintain that there is also something distinctive about their community. Glitch artist Nick Briz holds to the rich diversity at the festival he organizes—a balance between commercial and hacker-punk types. For Briz, "glitchers partake in glitch art for very different reasons. We have plenty of 'punks' present but we also had designers who work at ad agencies."⁴⁹ In other words, glitch art coexists *within and through its own reification*. Reification, nominalization, and gentrification are necessary orders of business for glitch (art) to exist at all. My point is simply to highlight the growing gap between glitch and noise as a visual style and its disavowal and denial in media and industry practice.

In conclusion, a glitch's ability to disrupt and challenge assumptions about choice, media consumption, and the ongoing compression of every day life and desiring practices in digital culture rest almost entirely on the particularity of its use and circumstance. As this history has shown, what might have been a critical glitch yesterday most likely will not be so today or in the future. At the same time, what was commercially viable in pop culture last year, or twenty years ago, may next week be used in a new, unforeseen and politically progressive way. While one aspect of the future of glitch and noise is already inscribed in the sand—namely, its failure—the particular capacity for glitch and noise to disrupt or pose critical questions in other unforeseen ways is still active and potent, insofar as technology is itself always changing. It is from within this ongoing, transformative process that artists, media makers, and filmmakers find the appropriate mode for expressing the desire for social and political change, despite the frequency and inevitability of failure.

¹ Numerous audio and video noise and glitch plug-ins are available in iZotope's "warp" function for audio and Instagram, "iColorama", and "Hipstamatic" for photography, which imitate analog imperfections with faux vintage lens flares and lomographic discolorations.

² Paul B. Davis, "[Define Your Terms \(or Kanye West Fucked Up My Show\)](#)"

³ And ultimately, as Davis himself points out, the work is actually a kind of "anti-compression aesthetic" because it decodes and un-compresses digital information otherwise compressed in a common "clean," video file.

⁴ Cascone, GDI, 17-18.

⁵ For instance, glitch and noise are featured in television shows like Nickelodeon's *iCarly*; MTV's advertisements for *The Biggest Loser*; Chairlift's *Evident Utensil* (2009), and Rihanna's *Rude Boy* (2009) video games like *Kane and Lynch 2: Dog Days* (2009); and feature films such as *Cloverfield 1* (2008), *Paranormal Activity* (2007), *42* (2013), and *REC 3* (2012). Also see Rosa Menkman, *The Glitch Momentum* (Amsterdam: Institute of Network Cultures, 2011), 57.

⁶ For instance, see Jonathan Crary, *Techniques of the Observer: On Vision and Modernity in the 19th Century* (Cambridge: The MIT Press, 1992); Rosalind Krauss, "Grids," *October* 9 (Summer 1979): 50-56; and Jacques Rancière on the *The Aesthetic Unconscious* (Cambridge, UK: Polity Press, 2009). In literature, one could draw on analogies from Joyce's *Ulysses*, T.S. Eliot's *Waste Land*, or William Faulkner's *The Sound and the Fury*.

⁷ In my forthcoming book, I argue how compression functions within a broader history of human ontology, namely through the narrowing and filtering out of "error and failure" within acceptable and predominant definitions of the human and human experience. Carolyn L. Kane, *Chromatic Algorithms: Synthetic Color, Computer Art, and Aesthetics After Code* (University of Chicago Press, 2014)

⁸ Marey's work directly inspired the use of simultaneity in Frantisek Kupka's work.

⁹ Eric Kluitenberg, "Transfiguration of the Avant-Garde / The Negative Dialectics of the Net," *Nettime* (Jan 2002).

¹⁰ For more on this see Jonathan Crary, *Techniques of the Observer: On Vision and Modernity in the 19th Century* (Cambridge: The MIT Press, 1992).

¹¹ Sylvère Lotringer and Paul Virilio, *The Accident Of Art*, trans. Mike Taormina (Cambridge: MIT Press, 2005), 98; Paul Virilio, "The Primal Accident," in *The Politics of Everyday Fear* ed. Brian Massumi (Minneapolis: Minnesota University Press, 1993), 212.

¹² Paul Hegarty, *Noise/Music: A History* (New York: Continuum, 2007), 14.

¹³ According to Pierpaolo Antonello, the manifesto was actually written in 1938; Tim Barker, "Aesthetics of the Error: Media Art, the Machine, the Unforeseen, and the Errant," in *Error: Glitch, Noise, and Jam in New Media Cultures*, ed. Mark Nunes (New York: Continuum, 2011), 42; Henri Gabriel, "The Hanging Mobile: A Historical Review" *Leonardo* 18; 1 (1985): 40-42.

¹⁴ Even though De Stijl favors simplicity, it is still concerned with fragmenting and simplicity a pre-existing complexity and fragmentation in the modern experience.

¹⁵ Including cubo-futurism, abstractionism, rayonism, and suprematism, with artists like Mayakovsky, Gontcharova, Kandinsky, Larionov, and Malevich.

¹⁶ Tristan Tzara, "Dada Manifesto 1918," In *The Dada Painters and Poets* 2nd Edition, ed. Robert Motherwell (Cambridge: Belknap Press / Harvard University Press, 1981), 80.

¹⁷ Xtine Burrough, "Add-Art and Your Neighbors' Biz: A Tactical Manipulation of Noise," in *Error, Glitch, Noise, and Jam in New Media Cultures*, ed. Mark Nunes (London: Bloomsbury, 2010), 82.

¹⁸ Rosalind Krauss, *The Originality of the Avant-Garde and Other Modernist Myths* (Cambridge: MIT Press, 1986); Natasha Powell, *Who is Marcel Duchamp?* Accessed April 10,

2013: <http://www.people.vcu.edu/~djbromle/contempo3/natasha/art5pgMarcelDuchamp.htm>

¹⁹ See: Peter Wollen, "Godard and Counter Cinema: *Vent d'Est*," *Afterimage* 4 (Autumn 1972): 6-17.

²⁰ Jonathan Fineberg, *Art Since 1940* (New York: Prentice Hall, 2003), 174.

²¹ As already determined by Claude Shannon, Abraham Moles, and Warren Weaver in their work on information theory in the 1940s (illustrating what I have elsewhere referred to as glitch ontology).

²² Not coincidentally, Cage had referred to Rauschenberg's blank white panels similarly, as "landing strips." See: Richard Kostelanetz, *Conversing with John Cage* (New York: Limelight, 1988), 70; Fineberg, *Art Since 1940*, 178-179; Douglas Kahn, *Noise, Water, Meat* (Cambridge: MIT Press, 1999).

²³ The event included a number of electronic sounds and visual abstractions housed in a structure designed by architect le Corbusier.

²⁴ In the 1960s, Ghazala began observing a shorted out amplifier emitting "synth" sounds after which he began to intentionally reproduce in his work.

²⁵ For instance, in 1982 DJ Grand Wizzard developed this "scratching" sound by accident, after which it became a key textural instrument in his music and what followed in the 1980's. See: Hegarty, *Noise/Music*; Douglas Kahn, *Noise, Water, Meat*; Kim Cascone, "The Aesthetics of Failure: 'Post-Digital' Tendencies in Contemporary Computer Music," *Computer Music Journal* 24; 4 (Winter 2000): 12-18.; or *Scratch Dir*: Doug Pray (Firewalks Films, USA 2001).

²⁶ In addition, Aldo Tambellini's *Black Films* (1965-7) used clear leader as a scroll.

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- ²⁷ For instance consider the work of Jackson Pollock, or Erhard Walther, whose experiments with art “informel” in the 1960s employed error and chance as generative tools. See: Michael Linger, “From Being to Seeing: Michael Linger on Franz Erhard Walther,” *FORUM International* 4 (1990): 50–55; Tim Barker, “Aesthetics of Error: Media Art, the Machine, the Unforeseen, and the Errant” in *Error: Glitch, Noise, and Jam in New Media Cultures*, ed. Mark Nunes (New York: Continuum, 2011), 45.
- ²⁸ Ben Luke, “Richter In The '60s: The Breakthrough Decade” Sotheby’s (April 3, 2013). Accessed April 10, 2013: http://www.sothebys.com/en/inside/BlogHome/Access/sotheby-s-at-auction/2013/04/richter_in_the_60s.html
- ²⁹ Also see the work of contemporary artist John Horton, who takes this technique one step further by painting images that emulate the distortion of corrupt digital files.
- ³⁰ Frank Kessler *On Fairies and Technologies in Moving Images: From Edison to the Webcam* (2000) 39; Lindsay George Cox, “The Birth and Rebirth of the Glitch” Master of Arts Thesis, Centre for Animation and Interactive Media School of Creative Media. RMIT, Melbourne (April 2009), 16.
- ³¹ Lindsay George Cox, “The Birth and Rebirth of Glitch,” 16.
- ³² For further discussion of this, see Chapter 5 of Carolyn L. Kane, *Chromatic Algorithms: Synthetic Color, Computer Art, and Aesthetics After Code* (forthcoming, University of Chicago Press, 2014).]
- ³³ Nick Briz, in *GLI.TC/H READER[ROR] 2011* ed. Nick Briz, et al (Unsorted Books, 2011), 55.
- ³⁴ Tom Gunning has contested this point. However, I tend to side with Rosalind Krauss in allowing for a fundamental distinction between the digital and cinematic form. See Rosalind. E. Krauss, “Frame by Frame.” *Artforum* (September 2012): 416-419.
- ³⁵ Lindsay George Cox, “The Birth and Rebirth of Glitch,” 16.
- ³⁶ In Landow’s *Film* (1965) sprocket holes, edge lettering and dirt particles appear throughout.
- ³⁷ Segments of Paik’s other works, such as his contribution to *The Medium is the Medium* (1968) are also part of this prehistory, but must be explored in detail elsewhere. See: Carolyn L. Kane, “The Electric ‘Now Indigo Blue’: Synthetic Color and Video Synthesis circa 1969” *Leonardo* vol. 46, no. 4 (2013): 360-366.
- ³⁸ Vertical blanking is essentially equivalent to frame rate in the cinema. See: “Organic Honey’s Vertical Roll,” Electronic Arts Intermix. Accessed April 2, 2013: <http://www.eai.org/title.htm?id=531>
- ³⁹ For further discussion of this, see Chapter 2 of Carolyn Kane, *Chromatic Algorithms*.
- ⁴⁰ *Vasulka Lab 1969-2005*. Exhibition curated by Yasmeen Baig-Clifford (April 2006). Archives of the Electronic Arts Intermix, New York.
- ⁴¹ Rosa Menkman, “The dominant,” blog post: <http://gli.tc/h/blog/2010/09/25/the-dominant-continuing-search-for-a-noiseless-channel-has-been---and-will-always-be---no-more-than-a-regrettable-ill-fated-dogma/> Accessed April 7, 2013.
- ⁴² Kim Cascone in *Audio Culture: Readings in Modern Music* (Bloomsbury Academic, 2004), 393.
- ⁴³ For specifics see the work of Gantz Graf by Autechre and Szamar Madar by Venetian Snares. Also see: Kim Cascone, “The Aesthetics of Failure: ‘Post-Digital’ Tendencies in Contemporary Computer Music,” *Computer Music Journal* 24; 4 (Winter 2000): 12-18. And of course the work of Aphex Twin and Autechre are included here.
- ⁴⁴ Kim Cascone, “The Aesthetics of Failure,” 18.
- ⁴⁵ German precursors should also be noted, such as Achim Szepanski.
- ⁴⁶ Raymond Brassier, “Genre is Obsolete” *Multitudes* No. 28 (Spring 2007).
- ⁴⁷ There is also the so-called glitch aesthetic (“grunge” rather) emulated in the print based work of graphic designers David Carson and April Greiman.
- ⁴⁸ Personal correspondence with Rosa Menkman, December 23, 2012.
- ⁴⁹ See Nick Briz’s video entitled, “[A New Ecology for the Citizen of a Digital Age](#)” (2009)