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“Tool of Enlightenment”: The Dreamachine’s Effects for Individual Autonomy

Katie Oates

In a culture like ours, long accustomed to splitting and dividing all things as a means of control, it is sometimes a bit of a shock to be reminded that, in operational and practical fact, the medium is the message.

— Marshall McLuhan

Brion Gysin (1916-1986) was an artist, poet, lyricist, linguist, musician, and performer, but first and foremost he was an experimenter and innovator. Spanning 1935 to 1986, his oeuvre illuminates his extreme interdisciplinarity, a quality that has granted him cult status in New York, Paris, and Tangier subcultures, such as the Beats. Though Gysin’s work has been exhibited worldwide, he is best known for inventing the Dreamachine—an apparatus that uses the flicker effect to produce visual hallucinations in the minds of its observers.¹ He conceived of the machine after what he later discovered was the natural flicker effect from the sun. This occurred in 1958 while he was travelling by bus from Paris to the Mediterranean. As the setting sun shone through the branches and leaves of a tree-lined avenue, the fragmented rays of light, combined with the precise speed of the vehicle, produced flashes of light before him. He described the effect this created as: “An overwhelming flood of intensely bright patterns and supernatural colours

exploded behind my eyelids: a multi-dimensional kaleidoscope whirling out through space. I was swept out of time.”² The brief phenomenon that ended as abruptly as it began—as soon as the bus passed the line of trees—spawned Gysin’s determination to develop a machine that could reproduce the natural phenomenon “at the flick of a switch.”³

The resulting device is a cylinder (usually black, silver, or white) approximately a meter in height and incised with systematically positioned slots that are shaped like tulip buds surrounding a 100-watt lightbulb, which emanates through the metal exterior. The device rotates on a finely calibrated gramophone turntable between 33 and 78 revolutions per minute. The light passing through the spinning cylinder creates rhythmic pulses of light at a rate of eight to thirteen per second—or what is known as the flicker effect. Gysin was the first person to conceive of a device that could immediately reproduce the illusory effects of flicker. The Dreamachine, however, was intended as more than just a device with hallucinogenic properties. Gysin claimed that it had medicinal and artistic applications, with his ultimate goal being for the machine to liberate the mind from rational thought in order to produce new thought patterns.⁴ It was to escape from what he believed was the pervasive control of culture.

Using media theorist Marshall McLuhan and philosopher and cultural critic Walter Benjamin, this paper explores the multi-sensory dimension of the Dreamachine to elucidate how it operates within McLuhan’s concept of hot and cold media, vacillating in the tension between them, as a device that evokes psychological and corporeal sensations. Within this framework, the Dreamachine is an illumination of McLuhan’s famous argument, “the medium is the message.” By extending viewers’ senses, the machine relies upon their participation for the production of meaning. This paper aligns the Dreamachine with other 1960s technological media and artistic uses of stroboscopic light effects that make porous the boundary between mass technological media and the art world, while ultimately proposing a new perspective on the Dreamachine that questions the subjective perception of how it was used: for its effect is something that is not seen, but rather, perceived in the minds, and felt through the bodies, of those who use it. Its value is similarly hinged upon its participatory dimension. Through viewers’ engagement with the machine, it therefore becomes an extension of themselves, and their “sense lives.”⁵ This paper accordingly argues that the Dreamachine was an endeavour to evade control mechanisms of society and ultimately regain the individual autonomy that was lost in the automation of modern-day life.

The Artist and the Dreamachine

Following his natural restlessness and curiosity, Gysin spent the majority of his life continuously passing through various cities and time zones. His sense of place and identity were markedly shaped by his early experiences travelling and by his interdisciplinary studies. Gysin was born in England to Canadian parents, growing up in Edmonton, Alberta, and moving to Paris to study painting in 1934.⁶ He was drafted into the Canadian Army during World War II, where he studied the Japanese language and later produced a series of calligraphy drawings and paintings that reflected his preoccupation with control mechanisms of society.⁷ It was his serendipitous encounter with writer and friend Paul Bowles in Paris in 1950 that left the greatest impact on his subsequent work. What began as a visit to Bowles's villa in Tangiers resulted in Gysin taking up residence in the Maghreb nation for over twenty years. Here, Gysin met writer and visual artist William Burroughs, who would become his closest comrade and collaborator.

Burroughs and Gysin were reacquainted in Paris in 1958, residing at 9 rue Gît-le-Coeur's Hôtel Racou—now informally known as The Beat Hotel because it housed key figures from the literary movement at different times throughout the 1950s.⁸ Here, and within the Beat literary circle, Gysin and Burroughs produced their most prolific work between 1958 and 1965, finding equivalent world-views and artistic expression in each other, and through their collaborative experiments. The most radical of these are the cut-up poems and novels and the Dreamachine, which share an underlying impetus: to supersede rational thought through material processes.⁹ Gysin incidentally (re)discovered the cut-up method while clipping newspaper articles on his worktable and observing the juxtaposition of words and phrases as the fragmented pieces randomly mixed together before him, revealing new, surprising meanings. Upon this revelation, Gysin and Burroughs began intentionally cutting up newspaper clippings and randomly rearranging them with the belief that new insights would be revealed by implementing this new mode of expression and generating new texts.¹⁰ They created cut-ups with the aim to liberate words and images from their cultural meanings, rupturing conventional structures of representation, and thus producing new meanings. The physical cutting-up and reconfiguring of linear narratives reflected a psychological reconfiguration that disavowed conventional experiences of reality. As articulated by Danish cultural studies scholar Kasper Opstrup Frederiksen:

Since the word is the limit of thought, the way we have been conditioned to read and react to words ultimately controls our behaviours and our possibilities for thinking the radical new. The

cut-ups are techniques to create new memories and new myths out of the cultural debris surrounding us.¹¹

As such, the goal for the cut-ups, and later the Dreamachine, was to allow the practitioner to intervene in the world by reaching beyond the conscious mind, breaking linear narratives and representations, to reveal new experiences of reality and thus new insights.

The Dreamachine was designed with similar, yet more radical, intent. As noted above, Gysin's determination for the machine's invention stemmed from experiencing a natural flicker effect from the sun's rays and the fragmented trees, upon which he immediately wrote to Burroughs detailing his account. In partnership with their friend and Cambridge University mathematics student Ian Sommerville, Gysin and Burroughs spent an intensive period of time conducting scientific investigations before creating the first prototype in 1960 at the Beat Hotel. The following year, Gysin took out a patent for a "procedure and apparatus for the production of artistic visual sensations," which reads as following:

The invention which has artistic and medical application, is remarkable in that perceptible results are obtained when one approaches one's eyes either opened or closed, to the outer cylinder slotted with regularly spaced openings revolving at a determined speed.¹²

As articulated by executive director of The Drawing Center in New York, Laura Hoptman, Gysin dreamed that the machine would "supersede the controlled words and images of the conscious world."¹³ By generating shifts in consciousness, the machine could undo the bounds of social control and ultimately liberate the mind from ailments—albeit, temporarily.

History of Stroboscopic Light Research

While the Dreamachine was arguably Gysin's most ambitious endeavour, multi-sensory experiences induced by stroboscopic light had long been documented. John Geiger notes that flicker's origins and its relation to visionary experiences are ancient, for "the necessary conditions for flicker can occur spontaneously in everyday life."¹⁴ Such effects have been traced over 200 years. Bohemian physiology professor Jan E. Purkinje was the first experimental physiologist to report on the subjective effects of flicker, describing the natural phenomena that

would occur from the movement of fingers over, and applying pressure to, closed eyes in 1823.¹⁵ Many scientists soon built upon this research with explanations and theorizations about perceived mental images. For example, German scientist and philosopher Hermann von Helmholtz observed that “flicker produced a rosette surrounded by irregular spots, while pressure on the eyeball produced a weaving, maze-like pattern.”¹⁶ In 1886, physiologist L. Wolffberg reported on the illusory effects resulting from similar experiments, as did scientist E. Thompson in 1919. Several optical toys emerged in the nineteenth century as early experiments in motion and perception that were also used for entertainment. For example, Charles E. Benham’s Artificial Spectrum Top, which was the first man-made flicker object for consumers; the Magic Lantern of the seventeenth century; as well as the Kinesiskop; Stroboscope; and Zoetrope. Beyond producing optical phenomena, these toys helped incite investigations into the deeper potential of the brain’s flicker response.

The most important research, particularly for Burroughs, Sommerville, and Gysin, was the work of Dr. William Grey Walter. Head of physiology at the Burden Neurological Institute in Bristol in 1946, his was the most important work to come out of this field, for he was the first to introduce electronic stroboscope to psychophysical experimentation.¹⁷ His work is particularly significant for recognizing that the necessary conditions for photic stimulation could randomly occur in everyday life, drawing the conclusion that “individual differences in brain wave patterns discerned differences in visual imagination.”¹⁸ Walter subsequently presented the first systematic study of flicker, determining five categories of experience based on his subjects’ inventory of mental experiences. Altering the regular mode of consciousness, the flashing light was found to evoke not just visual stimulus, but kinetic and emotional as well. His subjects reported abstract and representational imagery; cutaneous sensations such as numbness or pricking; emotions such as pleasure, fatigue, or anger; feelings of vertigo, swaying, jumping, or the displacement of time; and rarely, epileptic seizures.¹⁹

The Dreamachine: Hot, Cold, Effect

Burroughs, Sommerville, and Gysin had all familiarized themselves with Walter’s research by the time they designed and made the first Dreamachine. While the 1950-60s saw a rise in neurological research among scientific communities, this period is also commonly known in popular culture as The Golden Age of Television. The Dreamachine can therefore be situated within the context of television broadcasting. Creative Writing scholar Tan Lin identifies the criterion

for distinguishing television from art objects such as paintings or photographs using Friedrich Kittler's tripartite concept of media, which he divides between storage, transmission, and computation. Lin writes:

For Kittler, certain media, photography and painting most obviously, embody storage, capturing imagery and retaining it, more or less permanently, in emulsion or pigment. In contrast, TV is a broadcast medium—that is, engaged in transmitting or distributing information.²⁰

The Dreamachine can be connected to the television for two primary reasons. First, both objects fit Lin's condition for being "transitory," as neither are "susceptible to storage."²¹ This means, rather than storing and emitting pre-recorded visualizations for viewers to observe, the machine emits rapid rhythmic flashes of light at the precise speed for which the brain's alpha rhythms become stimulated and induce hallucinatory illusions in the minds of viewers. Second, Gysin was the first to equate the Dreamachine with the television by regarding it as the "logical successor to the television" for supplying viewers with the tool to "create their own programming" of illusions.²² He hoped that it would "replace television as the ultimate home leisure component, unleashing visions and changing consciousness."²³ Rather than the pre-programmed content of television broadcast, Gysin predicted that with the aid of the Dreamachine people would encounter permutations of multi-sensory experiences. Using the language of television, Gysin articulated a conception of the machine that would equip people with a tool to experience their own unique sense of reality each time they used it.

Despite Gysin's ambitious prediction and his failed attempts to commercialize an invention to supplant television, the Dreamachine can nevertheless be positioned in the tension between McLuhan's concepts of hot and cold media, illuminating particular tendencies of each.²⁴ McLuhan writes: "A hot medium is one that extends one single sense in 'high definition.' High definition is the state of being well filled with data."²⁵ Low definition, by contrast, simply provides minimal visual information.²⁶ McLuhan uses the examples of film and television to distinguish hot and cold, and to address the participatory dimensions of each, as they relate to information conveyed by media in the "new electric structuring and reconfiguring of life" in which he was writing.²⁷ Within this reconfiguration, film and television are becoming mass consumed for the first time. Hot media such as film allow for less participation than that of cool media, since the visual data in film is presented to the audience in completion and therefore does not require their active participation to contribute to, or fill in, the

missing information. Accordingly, a hot medium is better suited to the “passive consumer,” who can mindlessly absorb its visual properties.²⁸ Conversely, a cool medium like television has incomplete, or fragmentary, visual data, akin to mosaic.²⁹ McLuhan explains that, “because the low definition of TV ensures a high degree of audience involvement, the most effective programs are those that present situations which consist of some process to be completed.”³⁰ Viewers therefore become a necessary component for filling in the visual information under “TV conditions,” sustaining an intimate connection between the medium and the viewer; a connection that is absent from hot media.³¹

Applying McLuhan’s theory to the Dreamachine, then, can illuminate the device as “hot” for the profusion of illusions appearing in viewers’ minds, opposed to the decreased amount of images communicated through cool. A hot medium’s predication on extending one “single sense,” however, lends the machine a “cool” tendency. As documented in Gysin’s experience and in the above noted scientific research, participants often experienced “hallucinations involving more than one sense, perceived changes in body shape, and even the displacement of time.”³² Since the machine has been shown to simultaneously extend multiple senses, this aspect of McLuhan’s definition creates tension in the machine’s placement between hot and cold. Though the participatory dimension is crucial for activating the Dreamachine’s effects, minimal participation is required. A mere two to three minutes of sustained attention in close proximity to it is enough to forge a diametrical relation between audience and machine, thereby prompting the machine to act upon the brain. And while this participation is essential, it is not necessarily the sustained attention that Walter Benjamin contends is required for contemplating “high,” or “pure” art, versus watching low art of cinema.³³ Similar to hot media, cinema for Benjamin demands only a detached state of attention from audiences, therefore requiring low participatory engagement from its viewers. Audiences remain distracted yet alert enough to absorb the visual stimuli on the screen, retaining this mental state as they exit the cinema and enter into the fast-paced world of modern life.³⁴

Tensions between the loss of the “aura” in the age of mechanical reproduction—that is, the originality and authenticity of a work of art—and the new shifts in perception in the wake of film and photography’s advent, had altered the way Benjamin and his contemporaries viewed and experienced the visual world.³⁵ Ambivalent about such transformations, he examines the organization of the mode of “human sense perceptions” in relation to their historical circumstances.³⁶ In the age of moving images, subjects are no longer attentive to contemplate the older, analogue mediums of art, such as painting. They became the object of contemplation through their submission to film’s restructuring of

perception. Benjamin writes: “Reception in a state of distraction, which is increasing noticeably in all fields of art and is symptomatic of profound changes in apperception, finds in the film its true means of exercise.”³⁷ Subjectivity is consequently implicated as symptomatic of this modern way of life, leaving Benjamin to interrogate how to reflect on human behavior after having engaged with, and being absorbed by, these now “inauthentic” images.³⁸

Benjamin’s discussion of attention can also be related to McLuhan’s articulation of comfort as a means to distinguish between hot and cold, further pulling at the Dreamachine’s tenuous position between hot and cold. He writes:

‘Comfort’ consists in abandoning a visual arrangement in favor of one that permits casual participation of the senses, a state that is excluded when any one sense, but especially the visual sense, is hotted up to the point of dominant command of a situation.³⁹

Similar to Benjamin’s detached state of attention, McLuhan’s “casual participation” privileges the visual. Viewers need not grant cinema, or the Dreamachine, anything more than a few minutes of focus. And while viewers are documented to have often felt shifts in perception, emotion, and sensation, these experiences are subjective and not necessarily guaranteed to occur. As evidenced by Dr. William Grey Walter, John R. Smythies, and previously mentioned scientists, the visual system of the human body is the dominant site of research in stroboscopic light. Patterns, shapes, and colors were all strategically categorized in theorizations regarding the phenomenon of stroboscopic illusions. Privileging the Dreamachine’s visual effects on viewers thus “hots up” its cooler tendencies.

Conversely, in McLuhan’s debate between hot and cold he pushes the discussion of comfort further to consider its reverse—fury. He writes: “in experiments in which all outer sensation is withdrawn, the subject begins a furious fill-in or completion of senses that is sheer hallucination.”⁴⁰ Much like the cool medium of television, which is predicated on viewers’ visual filling-in for completion, the Dreamachine induces such hallucinations when attention is focused on its flickering light. This is particularly true since the brightly emanating light encourages most to engage with it through closed eyes. In accordance with McLuhan then, “the hotting-up of one sense tends to effect [sic] hypnosis, and the cooling of all senses tends to result in hallucination.”⁴¹ As such, the disengagement of oneself from their exterior environment and the detached state of attention required by the machine provides a “cooling off” of its hotter tendencies.

McLuhan’s famous argument, “the medium is the message” is similarly hinged upon human engagement with machines.⁴² For McLuhan, the term media

encompasses all cultural objects: the mechanical machine, electrical light, film, television, literature, music—anything that extends, alters, or enhances the human senses.⁴³ The medium itself is what shapes and commands the scale to which human association and action takes form each time we allow a technology to extend our senses.⁴⁴ Therefore, it is not the content of media that makes it valuable, and thus qualifiable, but that they have become extensions of ourselves, no matter how they are used.⁴⁵ Equivalent to McLuhan's example of electric light, the Dreamachine, as a cultural object, is, as he writes: "pure information. It is a medium without a message, as it were, unless it is used to spell out some verbal ad or name. This fact, characteristic of all media, means that the 'content' of any medium is always another medium."⁴⁶ The "simple flicker machine," as Sommerville labelled it, does not have a message, or meaning, unless it has a viewer, or participant, to receive it.⁴⁷ Once a diametrical relationship is forged between participant and machine, the device becomes an "*extension* of [their] sense lives."⁴⁸ The Dreamachine adheres to McLuhan's principles with the potential for extending, altering, and enhancing all human senses, inducing, as Gysin deemed it, an "extra-sensory" experience.⁴⁹ Participants become the necessary condition for the production of meaning, thereby making the machine reliant upon their engagement with its flickering light. They are the source of content (thereby another media), which is the corporeal and psychological experience it evokes; and the meaning, or the message, is the machine's ability to reveal new insights and experiences of reality.

To account for such extra-sensory evocations, this article now turns to the cornerstone of McLuhan's theory. While he argues that the significance of any cultural object resides in *how* it is used, it is the "*effect*" of this use that generates the "psychic and social consequences of the designs or patterns" of human processes.⁵⁰ McLuhan writes: "Concern with *effect* rather than *meaning* is a basic change of our electric time, for effect involves the total situation, and not a single level of information movement."⁵¹ To examine the Dreamachine's effects then is to consider not just the visual hallucinations produced in the mind—which can range from icons and symbols to entire landscapes—but to consider the entire scale of its evocations. That is, its capacity for "expanding consciousness and increasing awareness," and the ways in which its inventors endeavored to harness this faculty.⁵² It is worth noting in full Sommerville's report about his first test and Gysin's new invention for capturing this reality:

Visions start with a kaleidoscope of colors on a plane in front of the eyes and gradually become more complex and beautiful, breaking like a surf on a shore until whole patterns of color are

pounding to get in. After awhile the visions were permanently behind my eyes and I was in the middle of a whole scene with limitless patterns being generated around me. There was an almost unbearable feeling of spatial movement for a while, but it was well worth getting through for I found that when I stopped I was high above the earth in a universal blaze of glory. Afterward I found that my perception of the world around me had increased very notably.⁵³

Sommerville articulates an experience that engages with the corporeal and the psychological, rather than a single level or single sense. To focus on the total situation, or the whole scene, is to move beyond the “single level of information.” Gysin illuminates this point further in a 1962 essay entitled “The Dream Machine,” in which he argues that the device makes obsolete previous answers to now outmoded questions about what art, color, and vision actually are.⁵⁴ Describing the optical illusions the machine evokes, Gysin writes: “the elements seen in endless repetition, looping out through numbers beyond number and back, show themselves thereby a part of the whole.”⁵⁵ As suggested by Sommerville’s and Gysin’s claims, participants are purported to envision entire vistas of illusions and experience multi-sensory permutations in continuous sequential motion without rupture, creating an all-encompassing experience of multiplying inner visual fields and sensations.

Returning to McLuhan’s discussion of cinema in relation to effect then, connects the concept of multi- or extra-sensory experiences with Burroughs and Gysin’s intention for the Dreamachine to generate new insights and experiences of reality, while effectively repudiating what they perceived had become natural control mechanisms of society. McLuhan writes: “The movie, by sheer speeding up of the mechanical, carried us from the world of sequence and connections into the world of creative configuration and construction,” generating an arrival of opportunities for “growth and organic interrelation.”⁵⁶ His conception of the movie as the transition from lineal connections to whole configurations is reflected in Burroughs and Gysin’s vision for the cut-ups and Dreamachine to reconfigure singular, linear structures to reveal new psychic vistas. If indeed, as McLuhan writes: “In a culture like ours, long accustomed to splitting and dividing all things as a means of control,” then the ultimate impetus for Dreamachine aligns it precisely with McLuhan’s theory, as an instrument to evade human automation and retain individual autonomy.⁵⁷

Cultural Context

A final key element to this article's examination of the Dreamachine, and of McLuhan's concept of effect, is a consideration of the context in which the machine was made public, and how other artists and filmmakers harnessed the potential of the flicker effect. Following from McLuhan: "the latest approach to media study considers not only the 'content' but the medium and the cultural matrix within which the particular medium operates."⁵⁸ While Gysin's dream of mass producing the machine was never fulfilled to the extent he had dreamed, it did however enter the public realm at a time of heightened social interest in psychedelic devices and events. Writer and editor Leila Hadley, who was also one of Gysin's biggest supporters for the commercialization of the Dreamachine, describes the social climate the first time she met Gysin and experienced the machine:

Psychedelic events were happening all around New York at the time. Kaleidoscope machines whirred and flickered and projected colored slides across ceilings of bars and clubs, as well as changing patterns of colored light on the walls of discothèques, but there was nothing, nowhere, nonesuch that came close to the fascination of the Dream Machine.⁵⁹

Invented in the early 1960s when cutting-edge technology propelled telecommunications infrastructure, including economic, cultural, and political globalization, new media systems seemed unprecedented compared to slower, analogue systems. New media technologies, such as kaleidoscope machines, strobe lights, and the cathode ray tube (CRT) incited a proliferation of medial devices in homes, nightclubs, music stages, and art galleries by mid-decade. The Dreamachine was first exhibited in 1962 in a group exhibition among neo-dada objects at the Antagonismes Salon in Paris. It was then at the Louvre's Muses des Arts Decoratifs and Galerie Iris Clert, also in Paris; as well as the Galleria Trastevere in Rome. In 1964, it was shown at a small gallery in Tangier, Morocco; in 1979 at Galerie von Bartha in Basel; and most recently, it was revived at the New Museum in New York in 2010. Gysin's goal for the machine's display was to create a "chapel of extreme experience" in the gallery space.⁶⁰ He sought to bombard the senses with multi-media installations, including recordings of electronically accelerated or repeated poems and floor to ceiling paintings.⁶¹ Attracting considerable attention, the Dreamachine was met with positive reviews and public reception. They earned laudatory reviews in *Art International* and the

Herald Tribune after opening receptions; and while displayed, visitors were drawn to the whirling, flashing cylinder, entranced by its mystical, visionary capacity. They often walked away giddy or simply immersed in a smiling daze.⁶²

Gysin and his collaborators were not the only ones to experiment with flicker's potential. By the mid-1960s, artists and filmmakers were captivated by stroboscopic light and began to seize it as a medium.⁶³ Filmmaker Tony Conrad was familiar with Walter's discoveries when he started experimenting with the flicker effect as an "exploration of possible compound harmonic structures in flicker perception."⁶⁴ He had taken an elective course in neurophysiology at Harvard in 1959, where Walter's studies were discussed; and although he had never met Gysin, he had heard of the Dreamachine. Conrad undertook his first film, *The Flicker*, in 1965 with the intention of evoking the flicker response within his viewers through the use of cinematic tools. Operating under the same premise as the Dreamachine, *The Flicker's* audience at the New York Filmmakers Cinematheque in 1966 similarly reported "unusual side effects."⁶⁵ As reported by Conrad: "Some people saw insects and birds. Letters or numbers. Many people saw concentric circles—the most was coloured, jiggling mandala-type figures."⁶⁶

Andy Warhol similarly captured the possibilities for flicker in his later practice. Employing the medial devices of cathode ray tube (CRT) and strobe, works such as *The Chelsea Girls* (1966), *Exploding Plastic Inevitable* (1966-67), and his *Shadows* series (1978) used flicker to expand the visual field, or environment, for viewers.⁶⁷ *EPI* in particular incorporated television, film, music, and strobe to generate an expansive "intermedia environment" in a series of live performance experiments.⁶⁸ Bridging the underground music and film communities, these events were, as editor Gary Needham reflected in 2014, "about the audience."⁶⁹ The intersection of artists, objects, and audience forged a participatory dimension, much like the Dreamachine, in which all were encouraged to engage with their surroundings. Through the simultaneity of multi-dimensional media, Warhol produced an immersive "electronic environment" that demanded a level of attention that was unlike the slower, analog medium of painting that fostered Warhol's iconic images.⁷⁰ The active audience participation required by Conrad's and Warhol's works further aligns them with the Dreamachine, as the media's dependency on viewership forges a reciprocal relationship wherein effect becomes activated. These works also show the extent to which artists used the flicker effect to create a collaborative, multi-media experience for their audiences. Artists, filmmakers, and musicians used flicker to engage audiences and create expanded fields of multi-sensory experiences, while evolving their own practices. These works by Conrad and Warhol are only a few examples that elucidate the rapid expansion of technological media incorporated into artistic practices following

from the Dreamachine's invention. They evidence an evolution of the boundary between mass technological culture and the art world, wherein it increasingly became porous and subject to manipulation and experimentation.

Conclusion

For Gysin, the immediacy with which the Dreamachine evoked its effects made it a revolutionary apparatus. And while McLuhan and Benjamin were primarily concerned with the negative social consequences that are simultaneously introduced with new technologies, Gysin envisioned the possibilities of harnessing the psychological extension of humans to machines for what he perceived was a pathway to new insight. By extending ourselves to the Dreamachine, he believed we could radically alter ourselves through shifting states of consciousness, coming to realization as autonomous individuals who would be liberated from the constraints of social control. Rather than acting as threat, or what Benjamin deemed, "psychic immunization" against the dangers of potential fantasies and delusions, Gysin and Burroughs saw their technological innovation as an enhancement for the mind.⁷¹ The contemporary moments when Benjamin and McLuhan were writing, and when the Dreamachine was invented, are separated by over half a century, however the technological shifts that each saw are correlative.

The age of mechanical reproduction and the age of electronics incited revolutionary alterations in human association and processes, and in our involvement with media. Shifts from mechanical technologies to those of automation were conceived by McLuhan as shifts affecting alterations in depths of involvement with technology, whereby media became extensions of human associations. New patterns involving integrations of humans with machines thus enacted automation and eliminated manual, and thus controlled, operations. The social implications engendered by tensions between the loss of "aura," or authenticity, and new modes of perception prompted Benjamin's and McLuhan's hesitation regarding such newly accelerated modes of living and perceiving the world, which Dreamachine's tenuous position between hot and cold reflects. Burroughs and Gysin, however, saw revolutionary potential in new modes of perception. For them, the effects of mass technological advancement meant opportunities to supersede the control mechanisms of society through psychological reconfigurations of reality using such processes and devices as the cut ups and the Dreamachine; rather than internalizing and subscribing to regulative systems of capitalism and structures of conformity. By heightening sensory awareness, regaining control eliminated by the automation of modern life,

and effectively aiding in the reclamation of individual autonomy, the Dreamachine became a “tool of enlightenment.”⁷²

* * *

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Notes

¹ Originally deemed “Dream Machine,” the term was later changed for marketing purposes.

² John Geiger, *Chapel of Extreme Experience: A Short History of Stroboscopic Light and the Dream Machine* (Berkeley, CA: Soft Skull Press, 2003), 10-11.

³ Ibid.

⁴ Laura Hoptman, “Disappearing Act: The Art of Brion Gysin,” in *Brion Gysin: Dream Machine*, ed. Laura Hoptman (New York: Merrell, 2010), 120.

⁵ Marshall McLuhan, “The Medium is the Message,” in *Understanding Media: The Extensions of Man* (Cambridge, MA: The MIT Press, 1994), 19.

⁶ Gysin spent time with the Surrealist group in France until the following year, at age nineteen, when André Breton had his painting removed from the group exhibition at Galerie Quatre Chemins in Paris, prompting his expulsion from the group. Gysin believed this time had cursed his career, leading him to blame subsequent setbacks on it. This experience is frequently cited in detailed accounts of Gysin’s life, such as John Geiger’s *Nothing is True Everything is Permitted: The Life of Brion Gysin* (New York: Disinformation, 2005).

⁷ Guy Brett expands upon the significance of Japanese on Gysin’s practice, which also relates to the ideas behind the later cut-ups and Dreamachine: “Calligraphy performs an interrelation between the personal fantasy and idiosyncrasy of the

writer/painter and the impersonal, universal energy which he or she invites to flow through them into the brush.” Guy Brett, “Gysin Known and Unknown: The Calligraphic Paintings,” in *Brion Gysin: Tuning in to the Multimedia Age*, ed. José Férrez Kuri (London: Thames & Hudson, 2003), 61.

⁸ Today the hotel is named Relais Hotel du Vieux Paris, though they market themselves as The Beat Hotel.

⁹ The term “novel” is used loosely here. While these books have become categorized within this genre, they do not seamlessly fit its qualifications because their disjunctive narratives are not intended to be read cover to cover and are often semi-autobiographical. Other collaborations include the books of cut-ups, *Minutes to Go* (1960, also with Beat poets Gregory Corso and Sinclair Beiles) and *Exterminator!* (1960), as well as their scrapbook-style text *The Third Mind*, which was originally completed in 1965 and contained instructions for various forms of cut-ups. The book was published in 1977, though not in its original form. Gysin also wrote an early script for the filmic versions of *Naked Lunch* and edited several novels for Burroughs. Burroughs continued making cut-ups post-Dreamachine when it supplanted Gysin’s interest in them. These include the *Nova* trilogy, consisting of *The Soft Machine* (1961), *The Ticket That Exploded* (1962), and *Nova Express* (1964).

¹⁰ Versions of the cut-up method date back to Dada poetry and Surrealist language experiments.

¹¹ Kasper Opstrup Frederikson, “The Way Out Invisible Insurrections and Radical Imaginaries in the UK underground 1961-1991,” Doctoral Dissertation, University of London, 2014, 174.

¹² Geiger in Hoptman, “Disappearing Act,” 120.

¹³ *Ibid.*

¹⁴ *Ibid.*

¹⁵ Purkinje published his findings in *Observations and Experiments Investigating the Physiology of Senses* (1823) and *New Subjective Reports about Vision* (1825).

¹⁶ Geiger, *Chapel of Extreme Experience*, 13.

¹⁷ Walter authored 170 scientific publications, including two books: *The Living Brain* (1953) and *Further Outlook* (1956).

¹⁸ Geiger, *Chapel of Extreme Experience*, 17.

¹⁹ Published in the journal *Electroencephalography and Clinical Neurophysiology* in 1949. It is also important to note, research by Walter and John R. Smythies shows that three to four percent of people experienced adverse reactions in

stroboscopic light experiments. Although uncommon, flicker could induce epileptic seizures in those not normally suffering from this disorder.

²⁰ Tan Lin, “Disco, Cybernetics, and the Migration of Warhol’s Shadows into Computation,” *Criticism* 56, No. 3 (Summer 2014): 484.

²¹ Ibid.

²² John Geiger, “‘A Great Something Else’: A Summary of Brion Gysin’s Life,” in *Brion Gysin: Dream Machine*, ed. Laura Hoptman (New York: Merrell, 2010), 20.

²³ Geiger, *Chapel of Extreme Experience*, 91.

²⁴ Beginning in 1964, Gysin exerted great effort over the following 20 years in his attempt to secure investors and manufacturers to mass produce the Dreamachine, which was inevitably hindered by lack of funds. He did, however, gain limited success in 1979 when Basel-based publisher Carlo Levi produced a limited-edition series of Dreamachines for exhibition at Galerie von Bartha. Hoptman, “Disappearing Act,” 122. In 2016, Soleilmoon Recordings also launched a production of Dreamachines, which is still featured online for a hefty £600.00, although unavailable for purchase. Most recently, Apple purchased the official website, *Dreamachine.co*, launching a “DreaMachine” app, and advertising it as “The Key to Creativity.”

²⁵ Marshall McLuhan, “Media Hot and Cold,” in *Understanding Media: The Extensions of Man* (Cambridge, MA: The MIT Press, 1994), 22.

²⁶ Ibid.

²⁷ Ibid. McLuhan’s text was originally published 30 years prior to the 1994 edition.

²⁸ Ibid, 31.

²⁹ McLuhan describes TV programming as a “mosaic image” in “Television,” in *Understanding Media: The Extensions of Man* (Cambridge, MA: The MIT Press, 1994), 335.

³⁰ Ibid., 319.

³¹ Ibid.

³² Geiger, *Chapel of Extreme Experience*, 10.

³³ Walter Benjamin, “The Work of Art in the Age of Its Technological Reproducibility: Second Version” in *The Work of Art in the Age of Its Technological Reproducibility and Other Writings on Media* (Cambridge, MA: The Belknap Press of Harvard University Press, 2008), 24.

³⁴ Ibid., 42.

³⁵ Ibid., 23.

³⁶ Ibid., 315.

³⁷ Ibid., 240-241.

³⁸ Versus what Benjamin writes is the “unique value of the ‘authentic’ work of art,” which is the “quintessence of all that is transmissible in it from its origin on, ranging from its physical duration to the historical testimony relating to it. Since the historical testimony is founded on the physical duration, the former, too, is jeopardized by reproduction, in which the physical duration plays no part.” Benjamin, “The Work of Art in the Age of Its Technological Reproducibility: Second Version,” 22.

³⁹ McLuhan, “Media Hot and Cold,” 32.

⁴⁰ Ibid.

⁴¹ Ibid.

⁴² Ibid., 33.

⁴³ Ibid., 9.

⁴⁴ Ibid.

⁴⁵ Ibid., 7. This concept is reminiscent of the concepts in Michel Foucault, *Discipline and Punishment: The Birth of the Prison*, 2nd ed., trans. Alan Sheridan (New York: Vintage Books, A Division of Random House, Inc., 1995).

⁴⁶ Ibid., 8.

⁴⁷ Geiger, *Chapel of Extreme Experience*, 49.

⁴⁸ McLuhan, “The Medium is the Message,” 19.

⁴⁹ Laura Hoptman, “Disappearing Act,” 120.

⁵⁰ McLuhan, “Media Hot and Cold,” 26; McLuhan, “The Medium is the Message,” 8.

⁵¹ McLuhan, “Media Hot and Cold,” 26.

⁵² Geiger, *Chapel of Extreme Experience*, 47.

⁵³ Ibid., 49.

⁵⁴ Published in *Olympia* no. 2 with Sommerville’s essay, “Flicker,” alongside DIY instructions for constructing at-home Dreamachines.

⁵⁵ Geiger, *Chapel of Extreme Experience*, 62.

⁵⁶ McLuhan, “The Medium is the Message,” 12.

⁵⁷ Ibid., 7.

⁵⁸ Ibid., 11.

⁵⁹ John Geiger, *Chapel of Extreme Experience*, 5.

⁶⁰ For a spiritual analysis of the Dreamachine see Mojeanne Sarah Behzadi, “Iridescent Spirituality: Early Experiments in Expanded Cinema,” thesis, Master of Arts (Art History), Montreal, Quebec, 2017.

⁶¹ Geiger, *Chapel of Extreme Experience*, 63.

⁶² *Ibid.*, 64.

⁶³ The Dreamachine was used extensively by musicians as well, such as The Rolling Stones, Paul McCartney, Kurt Cobain, David Bowie, Marilyn Manson, Iggy Pop, DJ Spooky, The Mars Volta, Paul Bowles, John Giorno, Genesis Breyer P-Orridge, Ira Cohen, and many others.

⁶⁴ Tony Conrad, "Is This Penny Ante or a High Stakes Game? An Interventionist Approach to Experimental Filmmaking," *Millennium Film Journal* 43/44 (Summer 2005): 101.

⁶⁵ Geiger, *Chapel of Extreme Experience*, 75.

⁶⁶ *Ibid.*

⁶⁷ Tan Lin, "Disco, Cybernetics, and the Migration of Warhol's Shadows into Computation," *Criticism* 56, No. 3 (Summer 2014): 511.

⁶⁸ *Ibid.*, 483.

⁶⁹ Needham was co-editor of *Warhol in Ten Takes with Glyn Davis* (London: BFI, 2013); Mike Pinnington, "What is Andy Warhol's Exploding Plastic Inevitable?," *Tate*, Nov. 27, 2014, accessed April 2, 2017, <http://www.tate.org.uk/context-comment/articles/andy-warhol-exploding-plastic-inevitable>.

⁷⁰ Victor Bockris and Gerard Malanga, *Up-Tight: The Velvet Underground Story* (New York: Cooper Square Press, 2003), 91; Images of slower, analog medium of painting include such series as *Marilyn*, *Campbell's Soup*, *Elvis*, *Banana*, *Mickey Mouse* to name a few.

⁷¹ Walter Benjamin, "The Work of Art in the Age of Its Technological Reproducibility: Second Version", 38; B.C. Ter Meulen, D. Taby, B.C. Jacobs, "From Stroboscope to Dream Machine: A History of Flicker-Induced Hallucinations," *European Neurology* 62, no. 5 (2009): 318.

⁷² *Ibid.*