



# TOWARDS A NEW UNDERSTANDING OF AUTOMATISM IN ART

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## **Abstract**

This text proposes a new definition for the term "Automatism" in the art world. In searching for this new definition we begin by exploring the origin of the term in the Surrealist movement, and are inevitably led into a discussion of other art pieces produced through this methodology. We attempt to describe a typology of these sub-varieties of automatic art, and then explore examples within each group. A conclusion towards the essential nature of this new kind of Automatism is eventually reached, and the crucial motivations for its use are discussed.

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## Introduction

Our era is one defined by automation, the human ability to identify patterns and build mechanisms to execute them independently for our own gain. The human drive to automate can be understood as the kindling from which the primordial embers of civilization and the roaring fire of the industrial revolution were fueled. Modernity owes its very existence to this tendency, and as such automation can be found now in every facet of modern society. Automation can be understood not only as a proclivity of humans to mechanize our crafts and industries, but also as a conceptual lens through which we view the world. It is an essential paradigm through which we explain the otherwise impossible abundance of complexity within our universe; a sacred tendency embedded in the behavior of all matter to resist the disorder and chaos sown by entropy. Automation is the manifestation of a fundamental property of complex systems to multiply and evolve into assemblages of even greater intricacy. The contemporary perspective on the very nature of human existence now paints us as mirror images of our own technology: nothing more than biochemical automatons, elaborate machines wrought not from iron or silicon, but of flesh and blood.

## Proposal for a New Definition of “Automatic Art”

It is only natural then, given its integral significance to mankind that we find automation to be a core apparatus in human cultural production. Since the early 20th century automatism can be found as a widely used approach throughout the art-world in which systems and techniques are developed which allow for the production of works untainted by the tyranny of human intentionality. Parallels can be drawn through many seemingly dissimilar art practices through the lens of automatism. These approaches can all be understood to derive their relevance from the implementation of an automatic system which provides insight into an underlying process or phenomena. By tracing the implementation of automatism through art history we find it to be an essential tool, not only for artists of the past, but indeed as an integral conceptual system within the contemporary art scene.

To begin to understand the historical and current utilization of automatism, we must first define what exactly is meant by the term “automatic art”. Within this text “automatism” (a kind of art-making process) and “automatic art” (works produced via automatism) should be understood to be part of an entirely novel conceptual approach towards understanding many kinds of artistic practices. Traditionally in academic writing these terms are associated with the works and techniques of the surrealist movement (where this paradigm was initially conceived), however their use in the following text proposes that for the betterment of art-theory it is necessary to extend our currently narrow conception of automatism into a new kind of characterization which serves to explain the significance of art in the past and inform the production of art in the future.

This new semantic definition, which while inclusive of surrealist automatism, also expands the understanding of automatism to describe a variety of art-making approaches which revolve around the development of formulaic systems or external art producing mechanisms which enable the expression of otherwise inaccessible phenomena. Distinct from the closely related term “aleatoric art” (which delineates art possessing a form somehow determined randomly), “automatic art” can be simply defined as art which

results from a systematic process whose execution involves a degree of indeterminacy (“automatism”). More specifically, we can view automatism as a technique involving two components: the first being a procedure which produces some output according to its parameters, and the second being a substrate from which the parameters are set and which can be understood to be outside the intentional control of the artist. The significance of art pieces which utilize this technique derive precisely from this lack of control on the part of the artist. By absconding some control over the final work, artists implementing an automatic approach allow for a richer understanding of the underlying substrate which guides the automatic action. As can be seen in each of the included examples, automatic art provides a tool through which many hidden systems or phenomena can be better understood via the production of artifacts shaped by the unbiased influence of these substrates. Through the strategic minimization of intentionality, automatic art is able to manifest itself in unexpected and often serendipitously insightful ways. An understanding of this approach is useful, not only because it provides a lens to understand many kinds of art, but moreover because it provides a relevant framework for the production of contemporary art.

## Outline of the Following Sections

In exploring automatic art it becomes clear that within the field there is a diversity with automatism in regards to its application in the art-world. A rough typology consisting of three genres is presented in the following text, wherein the defining feature of each class can be seen to be tied to the substrate it examines. The use of this categorical rhetoric is motivated not by the assertion that the presented taxonomy absolutely circumscribes the totality of automatic art, but rather because in examining the plurality of implementations of automatism we might better be able to describe its essential tendencies. The first variety of automatism (both historically, and as discussed in this text) is “interpretive automatism”, where we find works which examine and are revelatory towards the thought processes of humans. These pieces utilize automatism in an almost psychoanalytic capacity, in that they probe the workings of the human mind by manifesting themselves in accordance with an individualized interpretation of their generating procedure. The second variety is termed “reflexive automatism”, and as its name would suggest, includes automatic artworks which expose hidden tendencies within the operations which they themselves are generated by. Reflexive automatism can be seen as a useful approach for the introspective analysis of art-making processes and tools through the actual production of art. The third, and most contemporarily relevant strain of automatic art is “data automatism”, in which otherwise imperceptible patterns or phenomena are explored through the systematic collation and visualization of information. As elucidated further in this text, this approach provides an important methodology for art which hopes to make sense of our new world: a reality defined by an overwhelming abundance of information. By delving into the nuances of these three approaches a better understanding of the fundamental nature of automatic art as a whole can be gained.

## Section I: Interpretive Automatism

*SURREALISM, n. Psychic automatism in its pure state, by which one proposes to express - verbally, by means of the written word, or in any other manner - the actual functioning of thought. Dictated by thought, in the absence of any control exercised by reason, exempt from any aesthetic or moral concern.*

—Andre Breton, "The Surrealist Manifesto"

### Definition

In trying to define the core principle at play in the first type of automatism discussed here, “Interpretive Automatism”, a concept of significance is succinctly captured by the word: “Apophenia”. This term, first coined by the German psychiatrist Klaus Conrad in 1958, denotes the human tendency to search for and identify patterns in otherwise meaningless or random phenomena. This tendency manifests itself from the essential purpose of the higher regions of the human brain as a biological implement which exists to make sense out of the dearth of raw information fed to it from the sensory organs. Our overwhelming success as a species is a direct consequence of this unmatched ability to detect meaningful patterns in our surroundings and leverage our understanding of these systems for our own gain. A specific type of this unconscious behavior is dubbed “Pareidolia”, defined as the human tendency to recognize familiar forms in visual and auditory stimuli. Perhaps the most famous examples of this indiscriminate pattern matching are the oft seen face of the “man in the moon” or the occasional discovery of Jesus on a piece of toast.

Interpretative automatism fundamentally involves the apophenic tendencies of humans, and moreover represents an approach to utilizing this behavior as a means of art-production which seeks to avoid the conscious aesthetic decisions which traditionally guide the hand of the artist. In looking back towards our previous bisection of the automatic process into a “generating procedure” and a “substrate” from which the defining parameters of this procedure are set in a manner uncontrolled by the artist’s direct control, we can fit interpretive automatism into this model thusly: In this case the procedure is typically a compositional game, where the eventual final composition is determined by the unconscious urges of the artist to produce forms in accordance to their own interpretations of the emerging composition or the initial suggestions emanating from the game’s rules. The results of this methodology often manifest forms which surpass in originality the kind which would be produced intentionally, in that they derive from inner inclinations of the artist which are unbiased by the more rigid proclivities determined by learned habits of composition, personal desires regarding what is being depicted, and even cultural prescriptions towards aesthetic production. The benefits of interpretive automatism go beyond the mere enabling of unconscious manifestations of serendipitous beauty, being not just a tool for invoking inspiration from the sub-psyche, but also in that its use allows us to study the resulting works and infer from them some properties of how these lower regions of the mind function. These pieces provide a window into the apophenic and pareidolic tendencies of our art-making, and can help to inform us of how these tendencies influence even non-automatic art.

## Surrealists and the Inception of Automatism



Fig 1: *André Masson*, "The Kill" (1944)

As mentioned earlier, the current understanding of automatism in art is linked most prominently with the surrealists. This comes as no surprise, because the concept of automatically produced art has its origins within this movement. Within the founding text for this movement, "The Surrealist Manifesto", Andre Breton begins by expressing the concern that creative expression had become ossified by the mind of the adult artist, calcified in its imaginative capacity by cultural expectations and taboos. As a proposed solution for this issue, Breton suggested that artists should take example from the kinds of art produced by children or the clinically insane (often referred to as "Outsider Art", due to its production by individuals external to the mainstream art-world). Moreover, in this seminal text, Breton points to the potential for utilizing the hypnagogic contents of dreams or hallucinatory trance-states as ideal substrates for the production of art freed from the confines of conscious intentions. This perspective can be seen to be heavily influenced by the theories of Sigmund Freud, who first developed a theory of mind dividing the human psyche into conscious and subconscious territories, and who also championed the importance of dream interpretation.

In practice then, a vast multiplicity of automatic techniques which sought to curtail the intentions of an artist and instead draw from their unconscious proclivities were developed within the surrealist milieu. Examples of these “surrealist games” include *Frottage* (in which pencil rubbings of textured surfaces were used as starting inspiration for drawings), the *Cut-Up Technique* (in which fragments of text were re-arranged and composed into new works of literature), and the amusingly named *Exquisite Corpse* game (in which a single collaborative drawing was produced in sections, each composed by a different artist).

Perhaps the most famous of these techniques is *Automatic Drawing*, in which an artist brought themselves into a state of absent-mindedness, and from within this unconcerned headspace, allowed their hand to be guided upon a canvas by the unconscious trajectories of its own accord. As an example of this technique in action, the above painting by André Masson presented in **Fig 1.** depicts a prototypical automatic drawing, featuring an “all over” composition of roughly calligraphic strokes arranged in harmony beside their neighbors. A more advanced usage of this technique was also sometimes employed, in which rather than using the automatic sketch directly as a finished work, the surrealist artist would instead use it as a foundation upon which a later painting was built. An example of this kind of automatic painting, “Carnaval del Arlequín” by Joan Miro is presented below in **Fig 2.** This variety enabled for an even greater exploration into pareidolic painting, as it necessitated the further reinterpretation of the initial drawing, and consequentially captured the kinds of forms and symbols which sprung into the artist’s mind in response to this substrate. For Miro, automatic painting was a crucial method to enable the expression of his inner life by means of visionary art; standing before his canvas, he once remarked “I never know what I’m going to do—and nobody is more surprised than me at what comes out.” (James C. Harris, 2014). The practice of automatic painting, rather than ending with the surrealist, continues to be an important technique to this day. Other contemporary artists known to utilize it include Cy Twombly, Henri Michaux, and indeed even the author of this paper.





Fig 2: *Joan Miro*, "Carnaval del Arlequin" (1924)

Motivated precisely by the same benefits described to be offered by interpretive automatism earlier in this section, the surrealists saw these techniques as methods not only to bolster the inspirational capacity of the artist and enable him to be surprised by his own creations, but also as a means of producing works which enabled introspection into the hidden internal desires and tendencies of the human subconscious. In inventing these techniques and justifying the theoretical value of their application the surrealists set the stage for the future use of automatism in the art-world. More importantly than merely birthing automatism, the surrealist demonstrated with success the notion that through deliberate loss of control the artist served to gain more than they conceded.

## Instructional Art

Another sub-species of art which can be understood through the lens of interpretive automatism is “Instruction Art”, a polyphyletic grouping which encompasses art pieces characterized by their existence as dematerialized procedures which only take on physical forms when executed. In this sense instruction art pieces can be understood almost as algorithms, meant not to be executed by machines, but humans. Works of instructional art detach the intentions of their artist from the realizations of the work by off-loading the eventual realization of the pieces they imply to a third party. Going back to our core dichotomy, we can characterize the instructions of these pieces as their generating procedures, and the individualized interpretations of their realizations by external performers as the substrate from which their final form is derived.

A prototypical example of this kind of art are the “Event Scores” produced by members of the Fluxus movement. Each score exists as a textual collection of proposed actions which are intended to be executed by participants, though the nature of these actions are often abstract or left intentionally vague. A well know example of an event score being George Brecht’s “Three Lamp Events” (1961), which consists of the three lines:

on. off.  
lamp.  
off. on.

An even more minimal example can be found with Alison Knowles’ “Proposition #1: Make a Salad” (1962), which reads simply:

Make a salad.

These works trace their conceptual lineage back to performance art, though influenced by the post-modern notion of the “Death of the Author” they translocate the role of the performer from the artist to the audience. The specific nature of a performance suggested by the scores is left as an exercise for the reader, open to their own interpretation of how to transform the given text into action.

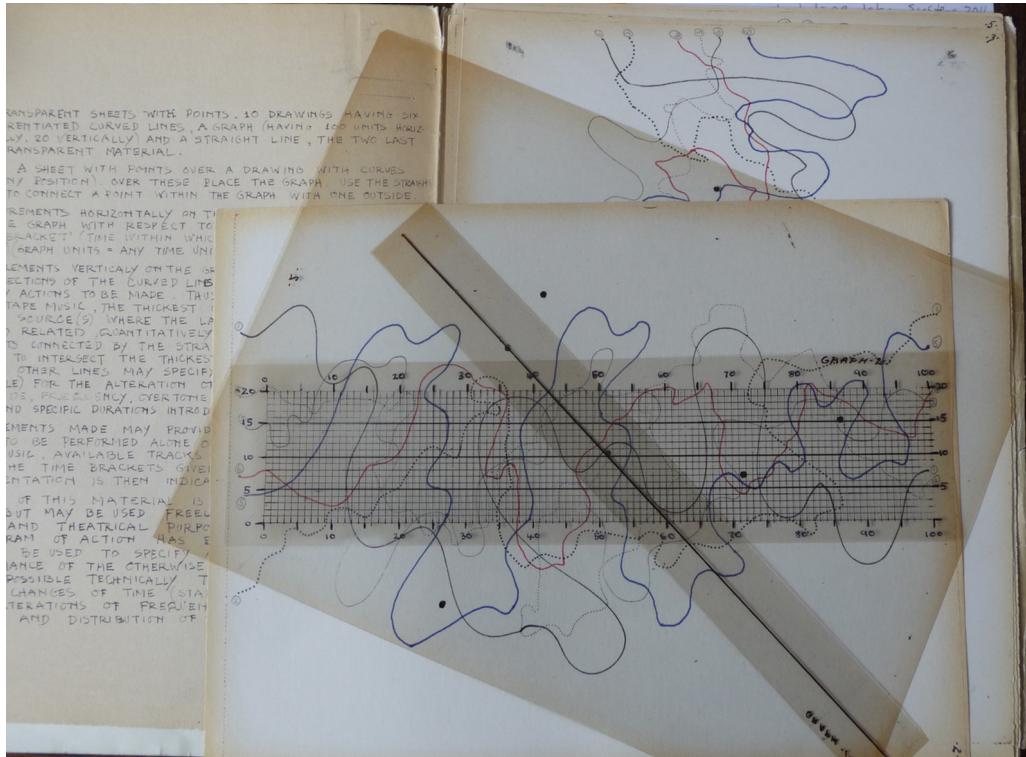


Fig 3: John Cage, "Fontana Mix" (1958)

Another example of instructional art can be found in the experimental musical notions designed by John Cage. The instructional component of these pieces takes the form of visual scores, each intended to represent an encoding of a sonic performance. Abandoning completely the traditional systems of musical notation, Cage's scores more closely resemble works of abstract geometric art, featuring an assortment of curvilinear strokes, graduated lattices and occasional ink splatches, yet they nonetheless suggest a progression conducive to interpretations musical. Once again however, the decision of whether to decode each form as an evolution of pitch, amplitude, or timbre is left at the discretion of the performer.

What then, is the point of instructional art? Once again we return to the notion that by giving up control over the final output of an art-piece, defining it instead in terms of a generating procedure, something of value is gained by these works. In the case of instructional art we find one of the most important benefits to be the enabling of a multiplicity of outputs instead of a single instance. Each salad made or score played represents a new perspective towards the simple prompt which induced their creation. On an individual level each of these instances is important because it provides a view into the personal aesthetic preferences of the performer who creates it (cucumbers or tomatoes, piano or thermin). More importantly however, these instances are revelatory in aggregate because together as a whole they demonstrate the diversity of approaches present in the sum of their implementors. The underlying substrate which guides the

creation of the complete collection, that is, the entire set of performers and their assembly of interpretations, can be analyzed in terms of commonalities and internal differences. The value of instructional art as a form of interpretive automatism lies in this ability to enable us to see behavioral trends and tendencies of humans on a larger scale than the individual.

## Section II: Reflexive Automatism

*The "Strange Loop" phenomenon occurs whenever, by moving upwards (or downwards) through levels of some hierarchical system, we unexpectedly find ourselves right back where we started.*

—Douglas Hofstadter, "Gödel, Escher, Bach: an Eternal Golden Braid"

### Definition

Reflexive automatism, put bluntly, is an approach toward art production which allows for insight into the same process or technique from which it is derived. In contrast to interpretative automatism, reflexive automatism does not concern itself with investigating the thought processes or inner workings of the human psyche, but focuses instead on the implications of procedural systems. In this way works employing reflexive automatism as a methodology can be understood as automatic art pieces which recurse in upon themselves, and in doing so, reveal hidden tendencies or patterns within their generating procedures. The word “mechanical” often springs to mind when exploring these works, in that the processes and tools involved in their production can frequently be viewed as machines or automatons (and in some cases, actually are machines). The operation of these mechanisms or are guided by algorithms or procedural systems which allows us to more deeply understand both the mechanism and these algorithms themselves.

## Serial Art

Serial art, as its name would suggest, is art which involves a high degree of repetition. Obvious examples of this kind of art are the soup-can silkscreen prints of Andy Warhol, or Josef Albers' series of square paintings. Serialism proposes that iteration can be a powerful tool in art-making, not just for its aesthetic properties, but because repetition of a single form or system of forms enables for the magnification of minute details between these forms that would remain otherwise imperceptible. Typically these works are designed to incorporate a modular approach which allows for duplication of a single form over and over in order to reach an aggregate overall composition. Common techniques towards enumeration amongst these forms include permutations over a sets of initial designs, progressions of self-similar forms, and even the recursive application of a procedure over itself. If once again the word "mechanical" springs to mind in describing this genera, it should come as no surprise why automatic processes are frequently employed in the creation of serial art. Moreover, because by their very nature, works of serial art emphasizes the processes by which they are created, and consequentially can frequently be seen as instances of reflexive automatic art.

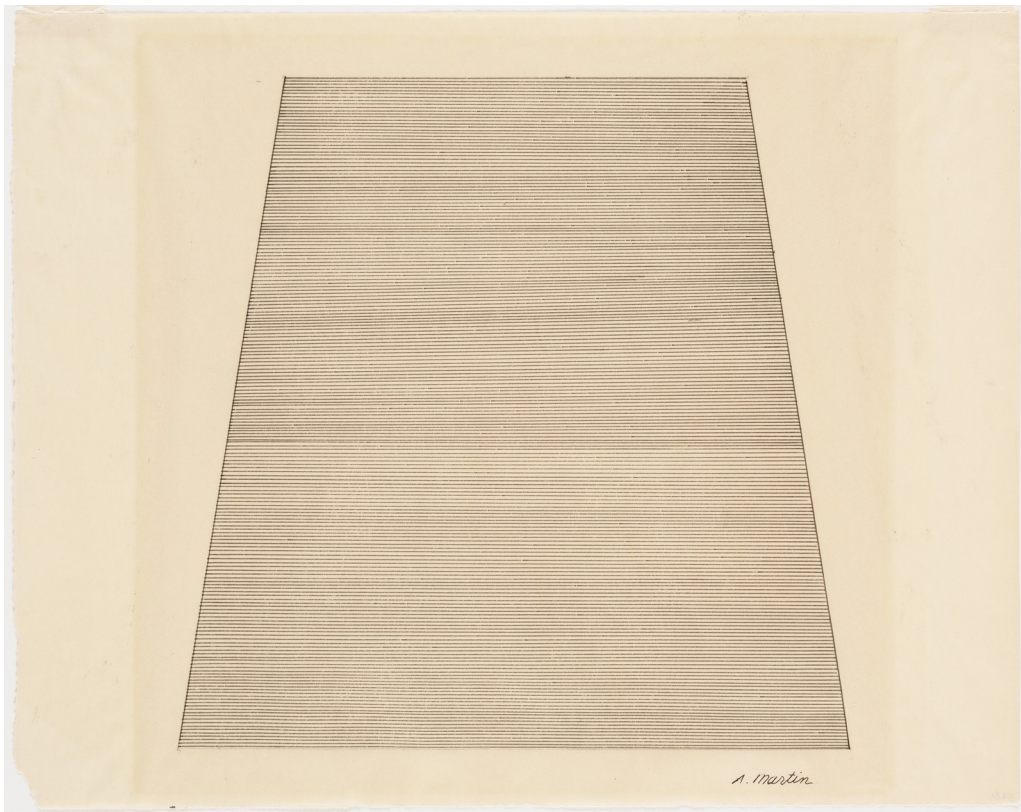


Fig 4: *Agnes Martin*, "Mountain" (1960)



An example of an artist whose work fits perfectly within the definitions of serial art is Agnes Martin, best known for her minimalist paintings and drawings which typically feature simple geometric shapes, patterns, and lattices with prominent elements of repetition. The above work depicted in **Fig 4**. (“Mountain”, 1960) displays a prototypical example of her work. These pieces are characterized especially by the precision and exactness she achieved through a painstakingly meticulous hand-drawn process. Using tape and rulers Martin would delineate the initial structure of her figures with mathematical precision, marking out precisely the boundaries and sequential gradations along the edges of these forms. The initial frame done, she would next fill this geometry fastidiously with a sequence of near identical marks or cells. We can see this process indeed to be another example of automatism, in that Martin’s arrangements derive from a methodical process in which serendipitous or impulsive composition are rejected and suppressed in favor of a nearly robotic system of illustration.

While she frequently identified her own practice as a form of abstract expression, Martin’s work seems on first glance to display instead a complete rejection of the glorification of expressive gesture which so prominently defines this movement. This however is not the case, in fact to appreciate the importance of gesture within Martin’s pieces we must see that her apparent struggle against human imperfection represents instead a technique which emphasizes the inevitable manifestation of subtle errors and minute variations otherwise unnoticeable. Each stroke which fills the trapezoidal figure in “Mountain” taken alone would appear simply as a line, it is only juxtaposed against each other in prodigious numbers that we notice the small differences which make each one unique. The human hand as it draws, even guided steadily and with the help of implements, is still prone to microscopic fluctuations and errors. This is what allows us to further classify Martin’s work as an instance of reflexive automatism. By means of a hand operated mechanical procedure, which by its very design attempts to repress irregularity, Martin reveals instead the inescapable tendency for human imperfection to still shine through. Sampling from the substrate of imprecise human-motor control and the inherently chaotic marks of a pencil, this generating procedure actually reveals to us the futility of achieving perfection in our art, as while our conceptual processes may achieve perfection, their operation by the human body will never allow them to fully manifest it.

Another example of a serial art piece which utilizes reflexive automatism is Alvin Lucier's 1969 work "I am sitting in a room". This instance of sound art consisted of Lucier sitting in an enclosed space with a microphone, recording device, and speaker. For the actual piece the artist begins by recording into the microphone the following small monologue:

*I am sitting in a room different from the one you are in now. I am recording the sound of my speaking voice and I am going to play it back into the room again and again until the resonant frequencies of the room reinforce themselves so that any semblance of my speech, with perhaps the exception of rhythm, is destroyed. What you will hear, then, are the natural resonant frequencies of the room articulated by speech. I regard this activity not so much as a demonstration of a physical fact, but more as a way to smooth out any irregularities my speech might have.*

As the monologue indicates, Lucier then played the recording back into the room through the speaker while simultaneously recording the new audio. This procedure is then iterated recursively many times over the audio, resulting in a gradual decay of the original recording. Each iteration the implicit resonate properties of the room are further amplified until they eventually overwhelm completely the original recording.

This piece as an instance of reflexive automatic art can be proven from it's utilization of recursive methodology as a means of revealing hidden phenomena within the very method used to produce the piece. The generating procedure of this work can be seen to be the iterative recording process, while the substrate can be understood as the acoustic resonance of the room. Once again, we see a synergy between the approaches of serial art and reflexive automatism, in that the work derives its value from a repetitive process implemented so as to reveal hidden properties of the process itself.



## Section III: Data Automatism

*Wisdom is dead. Long live information.*

—Mason Cooley, "City Aphorisms"

### Definition

In trying to define our last variety of automatism, we find a close association with a recently emerging field within the contemporary art scene: “information art”. This approach towards artmaking involves three major steps all involving the eventual visualization of some kind of data. The first of these steps is *collection*, in which an artist, either by hand or with the aid of computers, assimilates a large sample of data derived from some phenomena or system. The next step is *collation*, in which the data is aggregated, sorted, or otherwise processed in order to prepare it for the last step. This final step is *visualization*, in which the collated data is summarized and traduced into an aesthetic form which encodes it. Coming back to our definition of data automatism we can see a resemblance between the approach used in information art and previous examples of automatism, mainly in the fact that this approach enables the expression and realization of otherwise hidden systems through the use of unbiased sampling from a phenomena outside the control of the artist. In contrast though to interpretive automatism, where this phenomena is the inner workings of the human mind, or reflexive automatism, where the phenomena is the art making process itself, data automatism allows us to explore external phenomena to both the artist and art piece. In all implementations of data automatism our dichotomy can be applied, with the design of the collection, collation, and visualization processes being the generating procedure, and the external phenomena from which they sample data as the substrate. In particular this kind of automatism presents an extremely useful strategy for understanding the profoundly large amount of data which is now available to artists in many forms including historical records, scientific datasets, and aggregated information collected from the Internet.

## Visualizing Hyperobjects

Professor Timothy Morton coined the term *Hyperobject*, in his 2010 book “The Ecological Thought”. According to Morton Hyperobjects can be described thusly: “Hyperobjects refer to things that are massively distributed in time and space relative to humans.” (Morton 2013, p1). Some examples of Hyperobjects then include: the global ecosystem, the full contents of the Internet, or indeed even the entirety of human society. In short, Hyperobjects are characterized as complex systems, which because of their immensity in scale, age, and/or complexity are impossible to be fully conceived or understood by a single human. Despite this, attempting to probe into the nature and properties of Hyperobjects is becoming an increasingly important task for humanity. In this capacity, data automatism can be found to be an important tool, as it allows for the reduction of enormous datasets into aesthetic forms which can elucidate hidden qualities within these datasets otherwise imperceptible due to their complexity. Moreover, data automatism is of particular value as a methodology for exploring Hyperobjects because it, like all other forms of automatism, seeks to minimize the impact of human biases or tendencies on the eventual art piece. In doing so, data automatism preserves the integrity of the interpretations which can be derived from these datasets by distilling them in their entirety into comprehensible forms, in contrast to other more subjective or experiential forms of analysis.

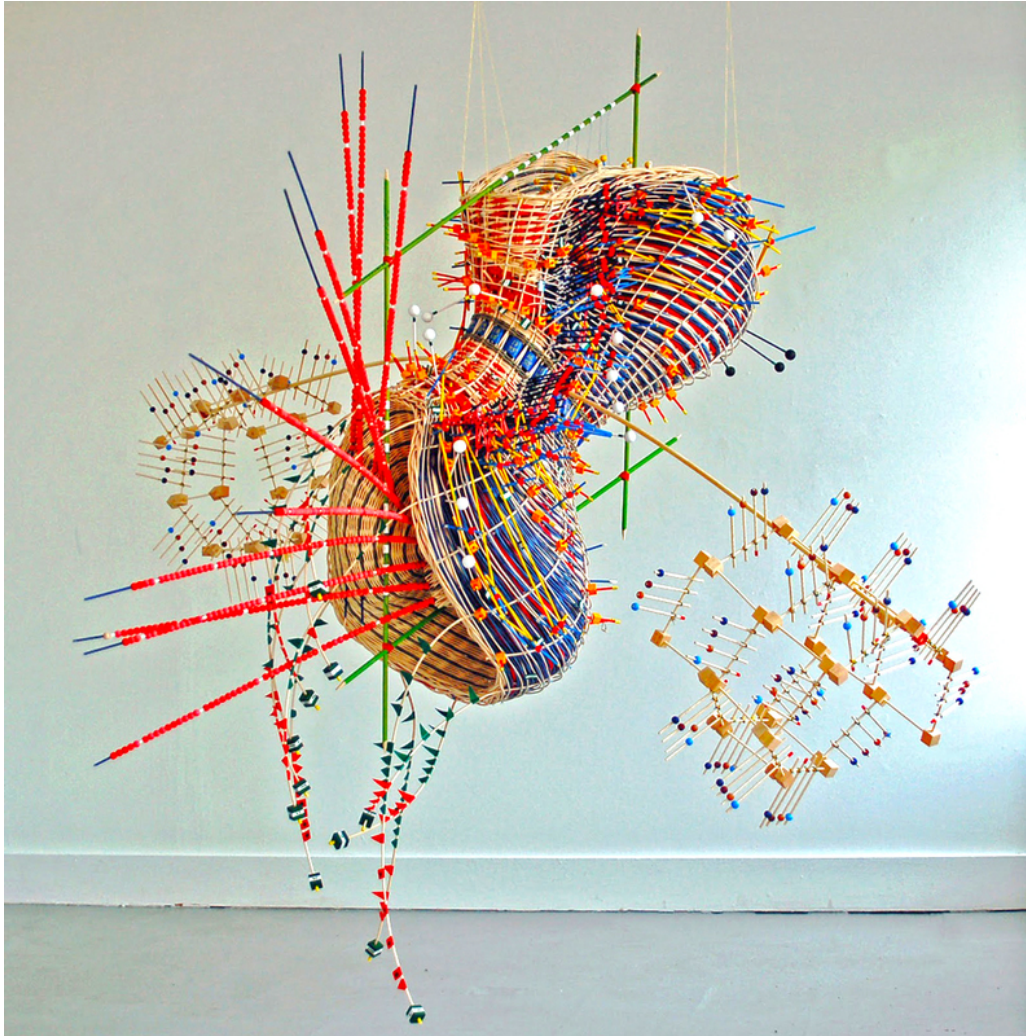


Fig 5: *Nathalie Miebach*, "Warm Winter" (2007)

An example of data automatism employed as a methodology to explore hyperobjects, the “Changing Weather” project by Nathalie Miebach provides an excellent model of this approach in action. The series consists of numerous polychromatic sculptures hung from the ceiling, which in form resemble large geometric mobiles. While the dazzling array of shapes and colors protruding from these works may initially seem arbitrary, they are in fact highly ordered, being a complex encoding of fluctuating environmental data. The piece pictured in Fig 7. above for example, titled “Warm Winter”, represents a dataset Miebach collected between December 2006 and January 2007 while living in Cape Cod. Each morning she would proceed to the beach and measure by hand several parameters including: temperature (air, water, & soil), wind speed & direction, tides, and moon phases. Once a month’s worth of this data had been collected, Miebach compared it with

both historic and global records of the same parameters to ensure accuracy. Upon the final calculation of these adjusted figures she begins to build the sculpture, using natural reeds to weave an elaborate basket. Each pair of latitudinal reeds divides the basket into a vertical section representing an hour of the day, while longitudinal reeds divide the basket into segments representing day within the month. In this way Miebach is able to effectively build a cylindrical lattice capable of encoding chronological events. Upon this lattice she attaches beads and protrusions which use color and spacial alignment to encode specific data-points from her environmental observations. Not only are these baskets immensely aesthetically pleasing to observe, but moreover, by examining the actual structure of these forms we are able to infer patterns and tendencies within the meteorological dataset from which they are derived. An essential feature of art utilizing data automatism can be found within these works: the capacity for this methodology to provide an unbiased summation of phenomena otherwise too large in scope or complexity to comprehend or interpret.

## Conclusion

In having finished our examination of these three varieties of automatic art, we now return to our original characterization of the essential nature of automatism. Previously it was stated that the primary paradigm which underlies all forms of automatism is the intentional absconding of some aspect of control over the final work on the part of the artist. What then, is the point of this behavior? Why does it behoove the artist to abandon some portion of their creative process, and delegate it instead to some anonymous process or mechanism of their own design? In answer to these queries we can identify three essential properties of automatism. For each of these properties we find two resulting virtues which give significance and utility to the concept of automatic art.

The first property relates to the concept of indeterminacy, which is the ability for automatic art to produce unexpected results which can surprise even the artist themselves. These “Happy Accidents” result in our first virtue, *Serendipity*, which further described is the the ability for the results of automatism to exceed even the creative capacity of the artist which produces them. The second virtue enabled by indeterminacy is *Multiplicity*, which describes the ability for art produced with automatic methods to manifest themselves in a (sometimes even infinite) number of variations, and by extension to also enable a diversity of interpretations for these resulting pieces.

The next property implied by the design of autonomous art-making mechanisms is the liberation of the artist from the art making mechanism itself. A consequential result of this divorce between artist and automaton is the ability for this mechanism to reference itself, leading to the virtue of *Reflexivity*, being the capacity for automatic art making systems to examine and express phenomena interior to themselves introspectively. Yet another virtue enabled by this self-referentiality is the potential for automata to be applied to themselves recursively. In being able to do so, automatic forms of art can be autopoietic in nature, by iterating over the development of their form autonomously. From this we get the virtue of *Complexity*, or the capacity for automatic art to exceed the limitations of intricacy, detail, or scope implied by human design that they would otherwise be circumscribed by.

Our finally property shared by all automatic art as a result of loss of control is the ability for the eventual results of the generating procedures to sample from their underlying substrates in a fashion independent from the artist’s own biases, dogmas, or proclivities. Our penultimate virtue then, is the quality of *Ergodicity*, which can be explained as the tendency for the inherent self-similarity found in many natural phenomena to allow them to be understood holistically through the random sampling of smaller subsections of the total system. Which brings us to our last virtue, *Objectivity*, which is the implication that by removing qualitative biases towards the final results of an automatic art piece by their artist, we gain a more accurate overall view of their true nature.

Together these six virtues (*Serendipity*, *Multiplicity*, *Reflexivity*, *Complexity*, *Ergodicity*, & *Objectivity*) provide not just an explanation for why many artists of the past have utilized automatism, but indeed motivations for why this novel paradigm could be useful in the production of the art of the future. This text proposes that it is through acceptance towards loss of control, the mechanization of our art making tools, and the provocation of runaway aesthetic teleology that art and the dialog which surrounds it can advance, evolve, and flourish.

## Sources

### Figures

Fig 1. - “The Kill” taken from: <https://www.moma.org/collection/works/78790>

Fig 2. - “Carnaval del Arlequín” taken from: [https://en.wikipedia.org/wiki/File:The\\_Harlequin%27s\\_Carnival.jpg](https://en.wikipedia.org/wiki/File:The_Harlequin%27s_Carnival.jpg)

Fig 3. - “Fontana Mix” taken from: <http://rizomatika.blogspot.com/2018/09/john-cage-fontana-mix-notation-1958.html>

Fig 4. - “Mountain” taken from: <https://www.moma.org/collection/works/36262>

Fig 5. - “Warm Winter” taken from: <https://beautifulnow.is/discover/nature-science/sibling-rivalry-sculpture-created-by-nathalie-miebach-intersections-artists-master-line-and-space-exhibition-courtesy-of-akron-art-museum>

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