

**Exhibition by Design:
Auto-curation in the Age of Algorithms**

When it comes to the topics of automation and artificial intelligence, there aren't many in the world of contemporary art today who are contemplating the real and tangible implications of these latest stages of cybernetic revolution for their field. The general assumption is that art and artists are forever bound by the figure of the curator as their main political, economic and aesthetic mediator. However, some of us who have for a while been thinking about these issues beg to differ. We think that the professionalization and systematization of the art world is so deeply entrenched that, like with other fields of human activity, contemporary art and the process of organizing and exhibiting art will soon be disrupted by automation and the rise of algorithms. This text is an attempt to not only speculate about these upcoming transformation but find their predecessors in the past and present of curatorial practice and show how the reasons for the automation of curating lies in the procedural very fabric of the profession.

Before delving into a deeper discussion about the use of algorithms in curatorial processes, let's take a look how algorithms are understood in the field of computer science. For John MacCormic, an algorithm is "a precise recipe that specifies the exact sequence of steps required to solve a problem".¹ According to MacCormic, the diversity

¹. John MacCormick, *Nine Algorithms That Changed the Future: The Ingenious Ideas That Drive Today's Computers*, (princeton: Princeton University Press,2011) 3.

of existing algorithms point out the fact that most problems are unique and require specific solutions. Hence at the very onset we are dealing with two approaches in solving problems consisted of either finding an existing algorithm which is useful for our purpose or inventing new algorithms for dealing with new and unresolved problems.

If we break down the ways in which humans interact with the world, large decisions are usually broken down into smaller actions. This way, we can see that every interaction is in its core algorithmic as our structural trajectory is defined by a set of quasi-mathematical rules that allow us to create raw estimates how a series of dependent actions can lead to success or failure. Hence, each field of activity can be said to have an algorithmic foundation, that is mostly unseen, as not all rules are ever described or put down. This is why the work of a curator is as much algorithmic as every work process can be recorded and repeated as an algorithm.

Since curatorial practice takes place in the public sphere, the invisibility of its most basic algorithms produces both a magical aura and a disdain for the curator. These positive and negative false images, however, ought not to distract us from breaking down curatorial practice and analyzing its algorithmic core. To start, the blockbuster algorithm is perhaps the simplest one in the toolbox of contemporary exhibition practice. It looks for one outcome only, either the institution's financial or its cultural gain. While it is clear that the blockbuster algorithm does not stand alone, as most curators spice up the process by adding extra plugins or smaller programs, it seems necessary to speak here

in absolute terms because we can only disseminate the true character of algorithms by addressing its ideal form. The aesthetics of the blockbuster exhibition is only the limited implications of its outer form, as much as the attractive color of a car does not prove how well its engine functions. The focus of the blockbuster algorithm is to organize a group of works by a single or a group of very popular and successful artists in order to maximise the yield of the institution and its stakeholders.

The words of Mohammad Khawrazmi from the 9th century AD about mercantile transactions also describe the links between algorithms and the cultural exchange of putting artworks into an exhibition particularly a blockbuster one:

“You know that all mercantile transactions such as buying and selling, exchange and hire comprehend always two notions and four numbers, which are stated by the enquirer ; namely, measure and price, and quantity and sum. The number which expresses the measure is inversely aproortiate (sic) to the number which expresses the sum, and the number of the price inversely proportionate (sic) to that of the quantity. Three of these four numbers are always known, one is unknown, and this is implied when the person enquiring says ”how much?” and it is the object of the question.”²

Kharazmi’s factors, measure (m), price (p), quantity (q) and sum (s) can be translated to the practice of curating: Whenever an exhibition is proposed, there are certain core elements working with and against each other; the Reception of the exhibition (m) is directly related to the current status (p) of the artist in the artworld, if the artist has already been established as a deity of not only the art world but for the public at large

². Mohammad Khawrazmi, known as the father of algebra was an Iranian mathematician whose formerly Latinized name *Algoritmi* is the basis for the term algorithm. See: *The algebra of Mohammed ben Musa*. Edited and translated by Frederic Rosen, 1831, London: Printed for the oriental translation fund, Page 68

this person can be considered for a blockbuster exhibition. While each new exhibition is a new endeavor (q) into the unknown, it is never safe to say how the public, press and collectors will react (s) to it.

The blockbuster algorithm has been in circulation for so long that it is highly probable that the last of the four numbers in the above equation, namely the sum, can already be accurately estimated because it is safe to assume that the very famous artists' cultural capital will likely not diminish in the near future. While it is always possible that an unpredicted scandal damage or even destroy the reputation and therefore the worth of big-name artists, since stakeholders from different functions of the art world (ie, museums, private market, art educational institutions, art press etc) have their own vested interest in that particular artist, it is likely that the artist's career can be saved. As evident in controversies surrounding Marina Abramović, the career of those artists who have made it to the Olympia of the art world cannot easily get hurt by events which normally damages lesser-known artists. These include reports about unpaid interns³, dubious crowdfunding campaigns⁴ or controversial comments about indigenous people could stop her trajectory.⁵ A very famous artist can easily deflect criticism of affiliating with a nationalist politician using the free speech as an excuse.⁶ Hence, the bulletproof status of deified artists automatically transfer to the institutions organizing their exhibitions, guaranteeing success.

³. <http://artcity.com/2014/08/06/i-was-wrong-to-defend-marina-abramovic/>

⁴. <https://news.artnet.com/art-world/marina-abramovic-kickstarter-not-getting-money-back-1137332>

⁵. <https://news.artnet.com/art-world/marina-abramovic-aborigines-dinosaurs-608084>

⁶. <https://frieze.com/article/ai-weiwei-defends-selfie-far-right-afd-leader>

One thing we have to keep in mind is that the blue chip famous artists of our time are products of a different artworld than the one we face today. Earlier on, in the short history of modern and contemporary art, certain curatorial control points were nearly set in stone and whenever artists successfully passed them they could then be elevated to the next phase of their careers. These nodes had to do with certain curatorial or geographic reputations. For instance if an artist exhibited in a gallery in London, Paris or New York known for working with certain successful artists in the preliminary stages of their career, she or he would be close to certain that other exhibitions in bigger and better exhibition venues would follow, usually accompanied by reviews or other forms of supporting text in particular art press outlets. This normative ruleset of the older artworld is to a large extent no longer valid, and while certain curatorial institutions can still play proclamations about their role in career progress of artists, there exists no singularly safe road to a bright future for an artist. The ritualised ruleset of old world now has been successfully deconstructed and replaced replacement with emergent curatorial algorithms.

One of the most important tasks of contemporary curators is to write texts about art and artists and how they relate to contemporary moment. Today, the intellectual input of curators alter the path art history and historiography take tomorrow. This is but one of the reasons for the rise of the cultural power of the curator. But how will the ever rise of algorithmic processes alter this situation? A short excursion into the world of technical

research shows us how algorithms could topple one of the pillars on which the pedestal of curatorial power has so far rested securely. The US company Narrative Science has created algorithms able to “write” articulate sport reports. These programs use the same data to which most journalists have access and produce texts that are indistinguishable from standard reporting.⁷ How long before we can see precise algorithmic texts written to describe artists practices or exhibitions? Similar developments have already reached curatorial practices; in 2015, a group of researchers created an algorithm that can predict which movies the curatorial team of the Library of Congress’s National Film Registry will choose to be part of its canon.⁸ These films are widely known and historically significant, meaning even though similar algorithms may not predict which exact emerging artists will participate in the Documenta, curating older and better known artists that are part of the canon is the foundational strategy of the blockbuster museum and the blue-chip gallery exhibitions.

Maybe algorithms are the death knell of curatorial stars in the near future or perhaps the institutions board of directors or others in charge of financing art institutions will keep the head curators without real power; akin to puppet monarchs. In response to those who argued for the persistence of situated and specific curatorial methodologies which are supposedly immune to automation due to their authenticity, it is possible to propose

⁷. see: <https://www.campaignlive.co.uk/article/algorithm-creativity/1179994>

⁸. Cross-evaluation of metrics to estimate the significance of creative works Max Wasserman, Xiao Han T. Zeng and Luís A. Nunes Amaral PNAS February 3, 2015. 112 (5) 1281-1286; published ahead of print January 20, 2015. <https://doi.org/10.1073/pnas.1412198112>
<http://www.pnas.org/content/112/5/1281>

that beyond the visible surface of conceptual specifics and thematic distinctions, the dominant mode of exhibition making already follows a universal logic; sooner or later, the seemingly unique functions of a curator can be executed by exclusive forms of mechanic intelligence. Curatorial practice, at least at the scale of large museums and galleries, has already become so formulaic and predictable that inevitably it would be more efficient and therefore profitable to subject much of the work to automation.

According to the research we have conducted through talking with assistant curators at some New York museums, large exhibitions are often organized through a hierarchical collaborative effort between the head curator and the curatorial team or assistants. In the beginning, the head curator would select 8-10 key artists for the exhibition whose participation represents the confluence of the interests of board of directors, trustees of the museums as well as that of individuals or corporations who donate large sums of funds or valuable artworks to the institution. Underneath this first layer are the curatorial team who would then find tens of less prominent and often younger and emerging artists whose work in a variety of ways relate to that of the key artists in the exhibition. The affinities between the works of the two groups could be material, formal, conceptual and/or political. However, the works by the lesser known artists would be arranged spatially to not only form a narrative around but to support and further validate the practice of the ten most important artists in the show in a relationship not unlike how cheerleaders relate to the team's athletes, the only difference being some of the people from the cheerleading group might one day becomes members of the actual team. If we

can't call this process algorithmic we can at least refer to it as fully automated luxury curation.

A more radical version of decentralised exhibition, like the last edition of Documenta organized by Adam Szymczyk can be characterized as curatorial balkanisation. By deconstructing the authorship of the director-curator and creating larger and larger curatorial teams, the new algorithmic process of decentralisation forces exhibitions to undergo a cytokinesis transformation, so that where there was one curator before we now have many, but the exhibition is then made up of clusters that are at best only somewhat interrelated.⁹ The danger in this model lies in the fact that these clusters will become autonomous, working against each other, or working on similar trajectories at the same time. These exhibitions do not hold together at the seams and their conceptual ships fly away once the project sets a sail. The Balkanized algorithm, with its apparent newness akin to the Potemkin village of Catherine the second¹⁰, breaks up the curatorial power into small fiefdoms, allowing the monarch curator to still reigns the territory, while his counts and princes use their own algorithms as they wish. The greatest danger of balkanizing the curatorial practice is that the fragmentation can create unforeseeable fissures and structural problems. A case in point is the

⁹. In the last three editions of the documenta between 2012 and 2017, the number of curators ballooned from 4 to 16. While in Documenta 12, the curatorial work was divided between four curators along the lines of artistic media, the following editions each used roughly 15 curators whose work was not communicated with the public in any explicit manner whatsoever.

¹⁰. According to Wikipedia, In politics and economics, a Potemkin village, "is any construction (literal or figurative) built solely to deceive others into thinking that a situation is better than it really is. The term comes from stories of a fake portable village built solely to impress Empress Catherine II by her former lover Grigory Potemkin during her journey to Crimea in 1787. See: "Of Russian origin: Potemkinskie derevni". *Russiapedia*. <https://russiapedia.rt.com/of-russian-origin/potemkinskie-derevni/> Last visited April 25, 2018.

cancellation of Franco “Bifo” Berardi’s performance “Auschwitz on the Beach” during the last Documenta in which the European government’s handling of the refugee crisis was compared to the Holocaust, causing protest by Jewish groups and the general public. The two responses by exhibiton’s director and the curator responsible for the programming of the performance demonstrated both the overlaps and divergences between the two algorithms in handling the crisis.¹¹

Large scale curatorial endeavours, even when they utterly fail, are the foremost forces that spawn new algorithms, since the process of their creation is not always planned beforehand; they become algorithms as other curators begin to replicate their logic. In the last decades we began to expect these exhibitions to be both midwife and mother to a new paradigm in curatorial progressivism.

Curators don’t have to bother writing their own program from scratch when they can reuse the already existing effective algorithms. For decades now Documenta, the largest and the most significant international exhibition of contemporary art particularly since its 1972 edition curated by Harald Szeemann, has been not only a landmark exhibition but perhaps a meta-algorithm for how new artistic practices from around the world can be exhibited in a global context. Each Documenta, via the figure of its chosen artistic director presents a new process for choosing artists and exhibiting their works. For instance, the 1997 edition curated by Catherine David was an update on how the

¹¹. See the director’s letter:
<http://www.documenta14.de/en/calendar/24356/shame-on-us-a-reading-and-discussion>

emerging video art can be displayed alongside the existing forms like painting, sculpture and installation. The 2002 edition curated by Okwui Enwezor provided the art world with a model for displaying magazines and other explicitly political forms of art, particularly what was then emerging as “postcolonial practices”. In each of these instances the artworld in general followed the trend and in effect used the newly developed algorithm to organize smaller and less significant global and local exhibitions. The usage of commonplace curatorial algorithms creates a system where curation can be done “out of the box”, so it is no longer viable to always push for curatorial experiments if other curators can take corpses of older exhibitions and fill them with newer artworks.

As one can conclude from the above argument, essentially, there is nothing particularly emancipatory or reactionary about automating the curatorial practice and replacing the curator with algorithms since the automated alternative to the old personal and particular methods for curating can be utilized to either build a new art system or to maintain both the existing structures. Knowing that serious reconfiguration of political activities like producing and exhibiting art can only happen as part of larger transformations of political economy and social life, we need to be modest about what to expect from the automation of the curatorial practice. However, we can’t also deny that the emergence of automated and algorithmic curation, like any new paradigm in meditation and communication, can provide ample opportunities for reforming the art world and injecting egalitarianism in the system.

For instance, given the curatorial methodology used by large institutions as described above, if the political economy of museum practice dictates that the most important artists in a large exhibition have to be selected carefully by considering the vested interests of the cosmopolitan elites which are in control of the institutions, then the algorithmic process can ensure that at least the younger and less important artists in the exhibition are selected impersonally and based on real and tangible relationship between their work and that of the more prominent artists in the show. This way, we might be able to stop the corruption from spreading to the curatorial team and immunize the second-tier selection process from human entropy. This bottom up algorithmic reform of curating if coinciding with larger political emancipation projects may even result in the elimination of the curator so we can finally move from our current situation in which the curators on the stage are mostly having no clothes to one in which there is no curator needed on the stage in the first place.

But even though inhuman and invisible technologies can one day replace the human figure of the curator, they cannot in any way eliminate the process of curating as the organizing principle of contemporary art both spatially, meaning in the space of the exhibition, and temporally meaning the space of art history. If to be an artist in the old days, one had to be written into art history, today the path must pass through curated exhibitions and be written into exhibition records such as announcements and catalogues. Now if we can argue that by the unprecedented availability of art data online, both textual and visual, the central role of art history in recording and, to a large

extent, determining the existence of an artist has been diminished, if we can argue that with the increasing power of mechanic vision, non human agents can soon be in a much better position to understand and interpret images and art, weakening the role of the critic and interpreter of art, then it should be easy to see how, resting on these developments, algorithmic curation can actually do a better job of organizing artists and art practices into exhibitions of many kind which themselves must respond to the needs of both the public and the institutions.

We ought not to be afraid of the possible algorithmic takeover of the curatorial field since in the worst case, these new processes can more or less only perpetuate the existing biases and perversions of the current art system. On the contrary and from a political standpoint, in the right time and right place, automation of curatorial practice might accelerate the reformation of the art world or go even further and realize the futurist dream of building a brand new world of art on the ruins of the old.