Data Artification

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Abstract. Although artification is an old process, if viewed from a sociological perspective, or even prehistoric, if we accept a fundamentally behaviourist premise, its theory (or a set of theories) is just emerging. Data art and other intersecting forms of art have been around for a while. Data artification, on the other hand, has hardly been discussed in the context of how non-art, i.e. data, is turned into art by artifying microprocesses (Shapiro 2019) or adaptive nano-processes (Dissanayake 2017). The existing body of research done so far in this area emphasize the social functions of artifying things, their makers, and users. The premise of this article is that social amelioration is secondary or even irrelevant in some cases where ratification, instead, plays cognitive and phenomenological roles in the face of intellectual crisis when datafied things and activities that are entangled with our lives in ubiquitous, automated, and over-used ways lose their meaning. Data artification is not concerned with making data aesthetically appealing, hence it should not be confused with the notion of aestheticization. On the contrary, by drawing on the artwork of Fabio Lattanzi Antinori and Nathalie Miebach, I will argue that data artification is intellectually dissident in more radical ways than academia. It is critically meta-artistic and meta-scientific since it deconstructs empty data fetishes and produces new meanings or knowledge-making forms in interstitial and intersemiotic ways.

Keywords: Data artification · Interstitial meaning-making · Intersemiotic knowledge production · Data fetishization · Intellectual discontent

1 Introduction

In English and French, the early meaning of the neologism of artification tended to be pejorative (Shapiro 2004, 2012), though the notion has recently come to encompass a set of critical theories dealing with diverse cases and contexts of transforming non-art to art (Dreon 2018). Dissanayake (2017) views artification as an adaptive/exaptive response to the environment, which informs our aesthetic and ethical intents expressed by ritualized and modified behaviours. Shapiro’s sociological perspective emphasizes its transformative role in changing the definition and status of people, artefacts, and diverse activities that extend far beyond the traditional or any notions of art.

Apart from changing the social status of makers, traders, and consumers of non-art or not-enough-art, artification plays cognitive and phenomenological roles in the production of meaning and knowledge when things cease making sense or are ungraspable in general. The reasons of meaning loss are many, varying from intimate existential crises to collective social instabilities. Data have grown to be ubiquitously
entangled with the ways we live and communicate to the point at which its “plural logic” (Koro-Ljungberg et al. 2019) can no longer provide answers or escapes our attempts to grasp what it means. A data point constructed to signify something in the real world enters a chain of semiotic transformations when it joins other data points to form ever larger datasets. The ties between those single points and what they represent alone and as a cluster are severed in subsequent social contracts of analysis, exchange, and consumption. Once the signifier is emancipated from its origins, it makes itself available for reproduction as an object of desire and control.

For that matter, it is interesting when art does something different with data to provoke our assumptions about its fetishized value and mystified meanings or to challenge the absence of such assumptions. While art may use data as its creative medium, it is not necessarily concerned with critical inquiries into data anxieties, incoherences, and obscurities. Unlike the notion of data art, artification, on the other hand, is heuristically more capable of capturing how intellectual unrest underpins the use of aesthetic means to reclaim and create new meanings or meaning-making forms. Neither is artification a synonym of aestheticization.

I will discuss artifying approaches to data with reference to some artwork of Fabio Lattanzi Antinori and Nathalie Miebach after a brief outline of how data fetishization and artification are entangled. I will position their works as aesthetic prototypes of phenomenological meaning-making to argue that intellectual discontent with how things are is at the root of artification and that existential unease with the obscuring effects of datifying our lives opens new pathways for critically intersemiotic and interstitial knowledge production.

2 Data Distractions and Paradoxes

Data and datafication have become so ubiquitous that we often forgo the difficult questions as to what constitutes data in return for social approval and comfort. Textbook definitions, according to which data are facts, information, or descriptions of things “collected to be examined” (Cambridge Dictionary) or “typically collected together” (OED), are not of great analytical use since they broadly generalize various activities done to collect all sorts of things.

If any aspect persists in these definitions, it is the notions of collection and collecting. We have been gathering evidence and describing things for a long while, which laid the foundations of knowledge systems based on data storing, indexing, curating, displaying, and other accumulative activities. To datafy things often means to put them into numbers. Collecting and counting are hence entangled in the production, consumption, and possession of data. By inscribing our beliefs and desires on collections, collectors, collectibles, and their measurements, we create fetish objects and routines of regulation and control. In a gripping history of measure, units, and standards, Lugli (2019) zeroes in on how their definitions were used to raise and resolve political conflicts in medieval Northern and Central Italy. Nowadays fetishist slogans such as “data is beautiful” or “data is the new oil” mark the rise of new politicized measures. The recent Covid-19 outbreak reveals how differently each country has been reporting...
its death toll and how quickly the international communities have weaponized those differences.

From a phenomenological perspective, data mean something else each time we count things. Their plural logic invites the exploration of data in terms of other things and experiences. Yet the line between exploration and exploitation is thin. In the context of neoliberalism, data pluralism has failed to translate into equitable power distribution or more radically critical relationships with data, argue Koro-Ljungberg et al. (2019). Quantification and datafication, as measures of veracity or reputability grounded in science, have become a form of economic and political censorship applied on many levels. Both equip us with a sense of truth, but also discursive powers to influence how others think and act. The metrics of public service performance reveals systemic cases of abuse and misuse in which vulnerable groups are disempowered and exploited (Muller 2018).

The hope that academia can be a place of intellectual resistance against the measures of “preapproved desires that deregulation, data autonomy, and efficiency amount to excellence” persists (Koro-Ljungberg et al. 2019, p. 730). But dissident pluralism is a live thing that needs to breathe incessantly and at will. Institutional knowledge production often becomes entangled in social contracts in which sources from where powers and values attributed to data assets come from are obscured (Thomas et al. 2018). For companies to obtain and manage big data to feed algorithms and machine learning, many invisible and underpaid laborers do menial work for a fraction of cost. Amazon thrives on precarious labor of those who annotate huge amounts of data from their homes. Facebook content moderators are routinely exposed to traumatizing content, but the emotional toll that their job takes on is invisible to our decontaminated consumption. The structure of scientific explanation, amongst other things, is informed by its desire to be recognized and rewarded by data-driven bureaucratic machines. In its race for social recognition and financial survival, science can hardly remain impervious to controversies. Genetics, for example, still happens to use genes as contentious units of measuring human intelligence by interpreting correlations as deterministic causal links (Saini 2019, pp. 183–196).

On the positive side, technological fetishism sparks creativity, while a far bigger concern is the theologically persistent propaganda selling the utopias of a better life (Thomas et al. 2018, p. 9). Big data is a clever marketing invention that operates as a form of distraction, argues Few (2018), to screen colonial practices, which not only hide from where labor comes, but also how data is consumed, multiplied, and recycled in asymmetrical ways along the chain of multiple exchanges. In this new context of data colonialism, genetics and biotechnology companies, for example, profit from data capital built by exploiting organic matter along with human hopes and fantasies of reclaimed ancestry. Koro-Ljungberg et al. (2019) warn that data obscurities and paradoxes may cause intellectual paralysis. The alternative response in this ethical & phenomenological crisis is anomie and unrest that lead onto interrogations and resistances through the artifying of what is hidden under the surface of data fetishization.
3 Phenomenology of Artification

Artification does not denote a specific school, movement, or coherent philosophical system. It is rather an old process that takes many shapes and places. It is thus transhistorical and interstitial, and intersemiotic. From a sociological perspective, it emerges whenever human ambition finds a space in which to develop oneself and refine a specialized body of knowledge until it receives a public and institutional recognition taken by (Shapiro 2004, 2012, 2019). Various activities and things that once stigmatized their makers, wearers, traders, and consumers have acquired artistic value over the course of time. Italian painters and sculptors, for example, could not enjoy individual forms of creative production until they emancipated themselves from the guilds. Tattoos used to be the tokens of shame, slavery, and social segregation until their significance was reconfigured through artifying processes (Kosut 2014). The recognition achieved in this way entails social independence, democratization, empowerment, and demarginalization of individuals and social groups.

Social amelioration, however, may secondary or even irrelevant, as in the cases discussed in Sects. 4 and 5. Artification is a multifaceted process that adapts, evolves, and reinvents itself. Shapiro (2019) discerns ten ‘microprocesses’ of artifying non-art and not-enough-art. On the adaptive/exaptive level, artifying involves nano-processes such as the modification of facial, vocal or bodily expressions made to elicit not only aesthetic, but also affective responses observed in bonding relationships across species (Dissanayake 2017).

Data art intersects with other forms of information, generative, code, and algorithmic art, which involve various uses of data in the production of aesthetic objects and experiences. None of them lack institutional or academic recognition. Yet the notions of art, art making, and artification do not signify the same things, even though they overlap to some extent. Artification is not complementary to or derivative of art, argues Dissanayake (2017, p. 17). It is foundational to our aesthetic expressions and inventions that may never result in the production of artefacts. Yet, whenever artefacts are created, it is the process of their making that resists becoming a fetish.

One of the ten artifying microprocesses is the tendency to produce reflexive discourse (Shapiro 2019, pp. 271–272; Shapiro and Heinich 2012) around stigmatized, marginalized, suppressed, and otherwise socially invisible activities. “Discursive reinforcement” and “intellectualization” (Shapiro and Heinich 2012) emerge along with the recontextualization of that what is being artified, which in result changes its ontological structure and semiotic significance. Unlike in psychology, in the context of artification, intellectualization plays a positive role since it invents new forms of critical consciousness indispensable to artifying attainments. For the critical mind, disbelief in neoliberal logic and values would be replete with opportunities to deconstruct and estrange data from its habitual definitions and uses anchored in incongruous social contracts.

History is replete with aesthetic inventions which sit comfortably neither with art nor science. They belong in the domains of meta-art or -science created in attempt to resolve phenomenological crises of knowledge whenever the existing forms and systems of knowing and meaning-making become impenetrable, inaccessible or distrusted.
Although often overlooked in the history of science and technology, they are essentially the objects of knowledge that anticipated the scientific articulation and implementation of ideas. Stéphane Mallarmé’s life-time project called *Le Livre* (The Book) is one of many such examples. Mallarmé constructed something that he envisaged to be more encompassing and transcending than any existing media of his time. He did not have technical knowledge or relevant language to articulate what he wanted to deliver. Initially, he was torn between the concepts of theatre and book to name his invention. Yet his intellectual perseverance overcame linguistic and technical limitations. The architecture of *Le Livre* was meant to allow the reader to traverse the text in any way at any point. Underneath its poetic language and resemblance to a book, Mallarmé’s construct, though not completely realized, evokes the literary and scientific ideas of hypertext due to which it could be positioned as its aesthetic prototype.

Since such aesthetic prototypes are created outside the institutional modes of knowledge production, it takes time to recognize their significance at the intersection of diverse disciplines. By asking “When is artification?”, Shapiro and Heinich (2012) place an emphasis on socio-historical contexts in which artifying happens. The when-question also relates to the intimate reasons of autopoietic knowledge production, which may be dismissed or pre-empted within dominating networks of education and scientification. Yet coherent theories arise and go away in science. Even those explanations that persist or prevail as true are socially constructed filters, lens, and screens. Intellectual crisis is not a problem per se, but whether it can be productive is. Unlike the subversive phenomenology and logic of artification, institutionalized meaning-making most often cannot afford being radical and dissident enough or consistent to resist the forms of knowing made to measure.

4 Deconstructing the Data Oracle

Fabio Lattanzi Antinori builds sculptures and installations out of steel, paper, electric paint, data, and other cross-media materials. I met him first in his workshop held in the V&A where he talked about his work made around and with data. Fabio’s encounters with fortune-telling practices, such as South Korean Saju, and their symbiosis with modern business have informed his artwork called *Fortunate Tellers* or *Future Words*. His installations are elegant on the outside, yet critical from the inside.

Fabio’s other piece which deals with data is called *Datafla...* (see Fig. 1), curated as a part of the V&A collection. This transmedia installation is made of a screenprint on paper covered in electrically conductive paint and connected to a microcontroller board which turns the painted surface into a sensor. Upon a touch, a piece of stock exchange data spanning ten years of the Lehman Brothers’ financial trading will be sung by a soprano voice.

*Datafla...* is built to deconstruct and demystify the fetishized fabrication of trading data. In psychological and social terms, stock markets are clandestine places hidden in plain sight. Our knowledge of what stock markets do and how they operate is disembodied, abstract, and insubstantial, hinging on the symbolic imagery of buildings, contracts, and omnipresent graphs illustrating sale rises and falls. Stock markets give business a quick access to public capital, but not the other way round. The meaning of
financial commodities and trading data are enshrouded in technical jargon, ticker symbols, intermediary facilitation of financial transactions, and the like.

Fabio reifies the data of the New York Stock Exchange in visual, tactile, and auditory ways, thus allowing his audience to experience its fetish materiality up close. His artifying critique lies in the naming, design, and execution of the aesthetic piece, realized as a large rectangular flag suspended in the air. Its semantic and visual association with the flag is evocative of the emblematic and decorative functions of data.

The artwork displays a graphic pattern in white and black dominating the flag’s right side at the bottom. Its decorative quality as if embodies the “data is beautiful” doctrine, but Fabio defetishizes rather than aestheticizes data. This first impression collapses as soon as one discovers that the pattern summarizes the 10-year financial data from before the Lehman Brothers bankruptcy whose detrimental implications for the global political economy translated into far-reaching economic and psychological recession.

By mapping the median of all share prices, Fabio reduced the ten-year data to a small representation, outbalanced by the huge black expanse of deceptive nothingness to show how manipulative the rhetoric of data is. He allows his viewers to realize that the disembodied and elusive data have very tangible effects. This compressed graphic representation provokes the question as to what forces that deflated the long-standing legacy in a matter of weeks remain hidden in the graph.

The operatic component, which is the voice of an English opera singer recorded at Goldsmiths, adds more complex layers of meaning to the artwork. The singer’s performance of numbers and financial symbols was mapped onto trading values. Fabio chose an operatic soprano as the metaphor of the language of high finance since both are associated with elitism. At the highest end of the soprano range, the voice sounds almost hysterical, which makes words incomprehensible (F L Antinori, personal...
communication, 22 May 2020). The voice thus lends anthropomorphic agency to data. Like oracles in Antiquities, its soprano faculties evoke social incoherences and remoteness between the contemporary financial gods and society.

The performing dataflag provides an atmospheric experience. Yet its multimodal and intersemiotic aesthetic consumption is designed to disturb and challenge our assumptions about the materiality, iconicity, objectivity, and stability of data. It reminds us that data have become an ideological interface through which we see and interact with the world.

5 Pataphoric Modelling of Weather Data

Phenomenological approach to data as a means of interrogating its materiality also underpins the sculptures and musical scores created from weather data by Nathalie Miebach. Data often represent complex and continuous things in discrete ways such as numbers and graphic shapes. Nathalie pushes back against the methods of discretization by inventing her own systems of collecting, analyzing, and interpreting weather data, which transgress fluidly the semiotic and symbolic boundaries of knowledge systems.

Figure 2 juxtaposes the music score and the sculpture which Nathalie created by using the weather record of the 1991 Perfect Storm, also known as the Halloween Storm, during which the ship called Andrea Gail sank. The image on the left side features the 2nd Act of the score based on wind levels, barometric pressure readings, and cloud cover during the fatal night. The vertical axis with its four-partite scale from 1 to 12 represents a piano keyboard with its black and white keys.

Fig. 2. Nathalie Miebach, The Ghostly Crew of the Andrea Gail, Act 2, 2011, paper, colored pencil, data; The Winds Kept Roaring Through the Night, 2011, paper, reed, wood, data, 24" × 18" × 20". Reproduction courtesy of Nathalie Miebach.
Composer Matthew Jackfert translated that data into the musical piece called “Shifting Winds” for which the quantifiable elements such as wind and pressure readings provided the fixed tune. The image on the right side shows the sculpture called “The Winds Kept Roaring Through the Night” which is one of many weather sculptures that Nathalie has been building since 2006. Like Fabio, Nathalie seeks to materialize the underlying meaning-making mechanism rather than anything else. Every colour bead and string of the sculpture signifies weather elements that can be interpreted as musical notes (Miebach, “Art made of storms”).

Nathalie (Miebach, “Art made of storms”) admits that experimenting with the data medium in aesthetic ways was her intuitive way into science. Her concern to make scientific data more relatable to human experiences and thus live is a recurring theme (N Miebach, personal communication, 25 May 2020). Her techniques of data collection are radically immersive since she indiscriminately exposes herself to various weather conditions. By exercising intersemiotic transitions from weather to music and sculpture, Nathalie creates a new practice of multimodal meaning-making, which privileges phenomenology over ontology. Her artefacts illustrate how knowledge and knowing can transcend specialized, vernacular, confined, obscured, circumscribed, untranslatable, and otherwise semiotically enclosed boundaries of disciplinary knowledge codification. The intersemiotic plasticity of her approach challenges the deterministic views that media boundaries, though mobile, are inherently permanent (Eide 2016). The ethical implication of Nathalie’s artifying practices is that her uses of data are not depletive but rather procreative. Her semiotic invention might not be an easily replicable, reproducible, and portable knowledge system, which, on the other hand, prevents itself from becoming the means and locus of exploitation.

Many other inventions involve metaphorical thinking reflected in language use. *Horseless carriage*, for example, used to refer to the early motor cars in English. The modern use of the Icelandic word *sími* for telephone is rooted in its old literal meaning “long thread”. The ontological structures of inventions depend on those metaphors. Nathalie’s systems are both metaphoric and pataphoric since she conceptualizes one thing in terms of another, but also stretches her imagination until a new form of meaning-making emerges.

Some inventions, like the ones by French artist Mallarmé or Indian mathematician Srinivasa Ramanujan, are slowly making their way at their own pace into the history of science. The phenomenologically idiosyncratic processes of how they were created, on the other hand, are more likely to be overlooked as discoveries. Intellectual artification escapes the temptations of becoming an institution, which makes it inherently dissident. However, the lack of recognition of intersemiotic and interstitial artwork as a form of technological discovery or scientific explanation deoxygenates the systems of knowledge-making.

6 Conclusions

The spirit of intellectual avant-garde has faded, speculates Latour (2004, pp. 225–226). Indeed, the neoliberal programme and policies of science supposed to converge academia, industries, and politics may have played their role in colonizing the wild
frontiers of dissident intellectualism. Perhaps intellectualism has become less loud and more private in the ways it articulates its ideas. Or perhaps its visibility is subject to change in the historical lens through which we see intellectuals differently now than then. In hindsight, the French avant-garde of the interwar period may seem to have been creating as if on the precipice of or in anticipation of disaster. Perhaps this image of the old avant-garde casts too long shadow to appreciate the quiet forms of rebellion persisting nowadays.

The data artwork of Fabio Lattanzi Antinori and Nathalie Miebach are dissident in their own introspective ways. Fabio’s artification deconstructs the spectral operations of stock markets, thus exposing them as immaterial fetishes. Nathalie, on the other hand, interrogates the materiality of data to discover intersemiotic meanings in autopoietic ways. Fundamentally, they both produce aesthetic models, discourses, and micro-phenomenological systems of knowledge informed by their intellectual discontent with how things are made or presented to be known.

Some of their works have already entered museum collections, and thus have become embedded in the institutional networks of value production, which in the long-term may obscure their interstitial nature and subversive processes by means of which they came into being. While artification may gain social recognition for things and their makers, no vessel of institution or codification can contain and retain it, which has secured its transhistorical longevity and productivity as an instrument of social or intellectual self-making. Each case of artifying amasses a body of unique lore in between the established disciplines, systems, and approaches as well as outside its regimented definitions and practices. From the perspective of exploitative data systems, a study of such interstitially produced autopoietic knowledge would be a subversive practice by itself.

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