Designing for our new scale: a provocation

Zachary Kaiser, Assistant Professor of Graphic Design and Experience Architecture, Michigan State University (kaiserza@msu.edu)

Gabi Schaffzin, Visiting Lecturer of Design, Massachusetts College of Art and Design (gyschaffzin@massart.edu)

Part I: Growth Hacking and Growth Without Limits

A few years ago, as the startup and venture capital world began, once again, its ascendance to the celebrated status it currently occupies in the American cultural consciousness, a small subgenre of business consulting known as “growth hacking” began to catch on amongst the startup crowd. As design researchers and consultants in the Boston area, we worked in what might be considered a geographic hotbed of innovation—as such, a locale containing some of the most prominent growth hackers. We first encountered the term in 2012 during a meeting with one of its progenitors, who writes that, “Startups are designed for astronomical growth, they aspire to grow at least 30 percent month over month while large companies are satisfied with just 5 percent year over year” (http://www.criminallyprolific.com/).

Growth hacking, like so many business practices in globalized late capitalism, problematically leaves its practitioners blissfully unaware of its more subtle implications, its downstream effects, and its significations about social and cultural values. Growth hacking exhibits an ideology underlying much of the globalized economy—that *growth* in and of itself is an unencumbered good, and that the more a company grows, the better. This attitude, growth-hacking in general, and its accompanying ideology exemplify the multi-tiered *problematique* of the unquestioned value of growth in our contemporary socio-technological moment.

Traditionally, arguments against the value of unchecked economic growth were based on its impact on the environment, including the work of Donella Meadows and others in *The Limits to Growth* (1972). E.F. Schumacher, in *Small is Beautiful* (1973), wrote that, “The modern economy is propelled by a frenzy of greed and indulges in an orgy of envy, and these are not accidental features but the very causes of its expansionist success. The question is whether such causes can be effective for long or whether they carry within themselves the seeds of destruction.” He argued that, "economic growth, which—when viewed from the point of view of economics, physics, chemistry and technology, has no discernible limit—must necessarily run into decisive bottlenecks when viewed from the point of view of the environmental sciences” (p. 31-32).

These seminal arguments against the unchecked value of economic growth are based in environmental concerns with industrial capitalism, the production of tangible consumer goods, and the plundering of natural resources. Indeed, as evidenced by the continued contributions of the Club

of Rome[1] to such discourse, these perspectives are still essential to prompt substantive and behavioral change to benefit (or save) the future of humankind. Arguing, however, that the knowledge economy capitalizes on the "infinite" and immaterial as opposed to the "finite," growth hackers and other innovators might be likely to agree with the premises on which Meadows, et. al. and Schumacher build their assertions, and may not necessarily equate the growth advocated by creative-class entrepreneurs with the dangerous type of growth against which Meadows and Schumacher (and many others) warn. The materiality of *the cloud*—i.e., the server farms, the rare earth metals in the processors running the servers, the harvesting of those rare earths as well as the other materials with which our daily technological infrastructure is assembled, the energy spent cooling the increasing heat produced by ever increasing numbers of servers—are intentionally (and conspicuously) hidden from those of us working in the knowledge economy who use the cloud every day (Walker, 2013). The founders of the next startup prepared to "disrupt" an industry might imagine that if our products are essentially immaterial, the knowledge economy is one that can, and must, grow indefinitely.

The sort of growth upon which the knowledge economy relies, including all those startups being hacked to subsequent rounds of VC funding, should be understood in terms that transcend the physical, natural, and ecological problems that have been so thoroughly documented and debated. This growth, valued by today's knowledge-economy startups and their funders, is fueled by "big data", exponentially increasing computational power, and a plethora of platforms that provide transformative connectivity and the ability to harness all this computing power. Thanks to emerging technologies, the ability to grow a business built on connectivity relies on perceptibly infinite and immaterial resources. Problematically, such tools serve to confirm our biases—that growth is good and that big data and computation reveal universal truths.

These transformative technologies and tools—big data, algorithms and increasing computing power, as well as the platforms that make this data and these algorithms available and enhance connectivity—have underscored the importance of scalability in post-industrial late capitalism. Scalability has always been a factor in the success of businesses: the assembly line was the scalable version of building an automobile by hand; scalability of production is still an important element for the many businesses that produce tangible goods, including hard goods that retain a distinct use-value, such as refrigerators or bicycles. Throughout the decades, scalability — the ability to handle increasing demand or volume, to increase production, or more widely deliver services — and growth, its necessary counterpart, have always been perceived as essential by investors and the public alike.

Today, however, with an increasing amount of value created in the realm of the intangible—value drawn out of interactions and connected product-service ecosystems—scalability takes on an entirely new sort-of importance. The dynamic scalability of today's most valuable systems forces us to design with a new kind of scale in mind. It is simultaneously a hyper-granular scale and an extremely big-picture scale: at once zoomed-in and zoomed-out, customized or tailored to each user, yet useful and delightful for all users. As commercial practitioners of interaction and experience design, we are often tasked with such goals, creating either an ecosystem of connected touchpoints or a product or service that integrates multiple sources of data and leverages computation in order to deliver relevant and tailored experiences for users.

[1] The organization that commissioned *The Limits to Growth* by Meadows et. al. (1973)

Part II: Scalability and the Insurance Industry—A Case Study

Approximately a year after the authors were introduced to “growth-hacking,” we were invited to meet with a small, internal group at a large insurance company. During this meeting, employees from various parts of the company—from design to management—discussed some new developments in the insurance industry that were changing the way insurance companies, agents, and policyholders or insurance shoppers interacted. These developments hinge on the three crucial components of designing for digital, immaterial scale: platforms, big data, and algorithms. A few companies had begun to develop systems for matching users with the best quotes from a variety of insurance carriers, similar to the way in which Kayak or Orbitz works for travel.

The quote and purchase process for insurance has traditionally been more complex than buying a plane ticket or renting a hotel room, however. According to the team at the insurance company with whom the authors worked, there are over one thousand data points that an insurance agent needs to know about a customer in order to give him or her a quote that most closely approximates the customer's monthly premium. Only recently, with certain technologies more readily accessible, have companies begun to explore facilitating the purchase of insurance in new ways. As computation has grown more sophisticated and as insurance companies have collected larger troves of data, their actuarial ability to infer certain things about customers based on data of similar customers has greatly improved. These shifts have created an environment in which companies can quickly match a user with relevant car insurance providers, for example, whether or not the user knows a great deal of information about his or her car and driving history. The process of quickly and easily matching users with insurance carriers, typically dependent on hundreds of data points from the individual seeking insurance, is made possible with big data, increasingly powerful computation and algorithms, and platform technologies.

Depending on how a user signs in—she might be allowed or encouraged, for example, to sign in through Google+ or Facebook—there's a lot of data about that user and about his or her habits and behaviors that the matching system could access. Such a matching system would also have access to data about people who are "similar" to a given user. Based on the various pieces of data that the system can collect about a user, either about him or her specifically, or about those to whom the user is connected either socially or categorically, the system can begin to make inferences about the user. The numerous required data points, of which the system may collect a small percentage directly from the user, get populated relatively quickly.

The technologies that make such systems possible—ubiquitous computing and machine learning—allow us both to gather data about the most minute aspects of our daily existences, and then, at the same time, analyze all that data and produce some astounding inferences. Our goal in working with our client was to design a system that would leverage various platforms to gather as much data (“big data”) as possible about a given user, then employ various algorithms (and the proprietary platforms to which they belong) to analyze that data and make inferences and recommendations that would be beneficial to the user and to potential insurance providers.

While enabling important advances in the delivery of services and allowing business to quickly scale, accommodating any increase in users no matter how great, as well as enabling services to handle any amount of incoming or outgoing data, such transformative technological shifts carry important consequences and present new (albeit quite different) problems. First, there are underlying

ideologies driving all of the technologies on which we are building the complex systems and services that we design—APIs, for example—but a lack of consideration of the mere existence of these ideologies leaves us blind to the chance the what is being handed to us through these technologies is more than just neutral or "true." Second, a causal implication of the first, is the way the ideologies underlying these technologies are impacting society as a whole. Understanding this two tiered problematic requires a systemic approach that critiques and expands the boundaries of the systems we are designing. We must be willing to push the boundaries of where we typically might establish the edges of a system or service in order to understand the implications of the technologies we employ in its design (Ulrich, 2000); and while this is nothing new, the systems we leverage in order to design new systems have implications of their own, which is where both a micro- and macro-lens must be applied to the critique of system boundaries. Further, because these new technological developments (sophisticated computation and algorithms, platform technologies, and “big data”) are presented by those who have a stake in their adoption as somehow “objective” or “true,” these technologies are delivered to us seemingly free of affect, free of emotion or bias. To elucidate the problems underlying the tools and technologies that have enabled businesses to scale and succeed in the knowledge economy, we will examine the three key components of such scalability individually: platforms, algorithms, and big data.

Part III: The problematic components of digital/immaterial scalability

Platforms

As intermediaries, platform technologies occupy a precarious cultural and commercial position—they enable the distribution of information without being party to its creation. Through the use of the term “platform,” they simultaneously position themselves as tools on which others “stand,” yet distance themselves from the actual content of the data being distributed (Gillespie, 2012). To use the capabilities of a platform (e.g., an API or Application Programming Interface) also requires the designer to submit to the metrics that the designers of the platform have determined to be worth measuring in the first place. YouTube's API, for example, will give you the most popular videos, but not the least. This is a specific choice made by their platform team that serves the profit-motives of the corporation. The use of platforms to build any scalable product or service, therefore, not only requires a submission by the designers of the service to the business goals and ideologies of the proprietors of the platform, but this submission is also bestowed upon the users of the product or service. The implications of this can be far-reaching—users believing that their Facebook News Feed provides a broad and encompassing representation of the goings on in their network, rather than prioritizing 'happy birthday' or 'congratulations' messages over the possibly more disturbing issues (such as the latest protest action) in a user's local or global community.

Big Data

A reliance on large data sets that aid in design for scale raises further concerns. danah boyd and Kate Crawford (2011) identify a number of provocations related to the use of big data, including the tendency towards apophenia, or finding patterns where there are none. They also allude to a common concern of many civic-focused projects — that of privileging that data which is accessible, rather than relevant — when they note the divides created by the various tiers of technological

know-how and funding required to access certain stores of information. This particular concern also is deeply tied to the frequent use of various platform technologies to capture or distribute large data sets—indeed, the data captured or distributed by any given platform has been deemed worthwhile by the creators of those platforms, therefore shaping the access to data by the users of those platforms.

Embedded both in the computational interpretation of big data as well as the way in which it is collected — what is deemed as "signal" and "noise," what parameters are determined as valuable for measurement — are the ideologies and politics of the organizations and individuals programming the hardware and software capturing and interpreting all this data. Proponents of the power of big data, argues Nathan Jurgenson (2014), tend to distance the researchers from the data, arguing that the sheer quantity of data and the computational analysis of it speak for itself, that passively collected data is objective and that with enough of it and enough computing power, universal truths are imminent. This is the myth of the objectivity of big data. Of social media sites, some of which now traffic in controversial research practices, Jurgenson writes, "The politics that goes into designing these sites, what data they collect, how it is captured, how the variables are arranged and stored, how the data is queried and why are all full of messy politics, interests, and insecurities." We have been seduced by an informational power (Lash, 2002) that comes at the expense of the establishment of a discursive space. This discursive space disappears both at the level of the institution engaging in the collection and analysis of big data, but also at the level of the public "receiving" with open arms the purported objective facts resulting from the analysis of such data.

Algorithms

To keep our heads above the floodwaters of data rushing over us, we increasingly turn towards, and privilege, the interpretive and analytical power of computation and algorithms. And yet, as products and services become more algorithmic in nature, algorithms — to which we have given over our agency as synthesizers and analyzers of information — communicate with one another (Slavin, 2011). These communications between algorithmic systems may, without careful systemic consideration, leave humans as bystanders to exclusively machine-readable communications. Take, for example, the $23.6 million book, priced by an algorithm caught in a bidding war; or, the flash crash of 2010, in which interactions between High Frequency Trading (HFT) algorithms resulted in the loss (and subsequent recovery) of over 1000 points in the Dow Jones Industrial Average (Nanex Research, 2013).

In addition, the functions of the algorithms on which we rely today are based on the ideologies of the individuals and corporations responsible for programming them in the first place. Any algorithm that we use to help us do something, from asking Google Maps to help us find the nearest Starbucks to asking Amazon to help us find the best birthday presents, is infused with the politics and interests of those organizations and various stakeholders that, indirectly or directly, influenced the design of the algorithm itself. The embedding of ideologies is a fact of any designed object or experience (Flusser, 2000; Experimental Jetset, 2005), and is therefore a characteristic that must be underscored about each facet of our newfound ability to "scale."

Part IV: The importance of revealing these problems and a strategy for doing so

The development of an application that matches users with insurance carriers might not, at first blush, seem to carry such high stakes to merit the preceding concerns. As we have endeavored to demonstrate, however, the broader systemic implications of a swift cultural acceptance of such a system are dangerous. When users accept the terms and conditions of such a service in exchange for more "convenience" or "productivity" without understanding the implications of the ways in which the components of such a system are situated in relationship to one another and in relationship to society as a whole, they unknowingly accept a reification and further centralization of the hegemonic power of those already in control. When we fail to understand the ecology of relations that establishes the systems and structures that we take for granted and that exert power on us, we unintentionally curb our own power to shape our world. For example, the aforementioned insurance service is more than just a "service"—it is a collection of interrelated systems each with their own ideologies and biases designed into them, created with certain goals that operate at odds with one another and with the stakeholders in the various systems of which they are a part. When we only recognize the former view of the service, we lose the opportunity to ask how we want insurance to work, whether or not we should need to purchase insurance at all, who should have access to information about where we live, what we drive, with whom we associate. Further, we are unable to question the ethics of the entire project of the calculation of risk itself. By accepting the terms and conditions in exchange for some purported benefit that accrues to us, we have unknowingly affirmed—and encouraged—the authority of those organizations and individuals already in power.

We argue that the informational power that curtails discursive space when those with "the data" invoke their possession of the truth is similar to the hegemonic value held by the words "innovation" and "growth," in that the articulation of these words by those in power closes off discursive spaces: we can't question the value of these terms because their value is implicit (see, for example, *A Strategy for American Innovation*, 2011).

The ideology of big data and its almost-pop-culture positivism (Jurgenson, 2014) —that it embodies some sort-of universal truths—along with the connective power of platform technologies and our collective faith in the possibility and objectivity of computation (Golumbia, 2009) have moved us away from acknowledging the "wickedness" in the purportedly "wicked problems" we should be trying to solve. The transformative power of these tools paired with their immateriality and intangibility end up burying the problems that they create more deeply than ever before. The complexity and messiness of life is cleaned up through computation, not made legible or revealed for our acknowledgement.

As designers of all kinds—graphic, product, interaction, experience, and systemic—are forced to grapple with the immanence of scale through the interconnected systems of big data, ever more powerful computation and machine-learning algorithms, as well as platforms that provide new sorts of connectivity and access to these resources, is there a way to retain an awe for complexity that transcends the inclination to need a "solution" that is "measurable?" How might we reveal and engage with complexity when it is continuously buried more deeply? And furthermore, how might we encourage others to become aware of the ways in which such scalable, computational "solutions" operate in our lives, exerting power, affirming and strengthening already-extant power structures?

There is a perceived "truth" that comes to us by way of the "innovation" resulting from the uniting of platforms, big data, and algorithms, and this truth must be questioned because of the implications that an acceptance of it has on our society. We argue that the most effective way to call into question this supposed truth is through the making and experiencing of works of art; such works of art make tangible the intangibility and immateriality of these structures. Furthermore, such works of art serve to reveal the overly narrow and limiting boundaries applied to the public considerations of systems like the insurance service described above.

Through art, we can, in the words of Bruno Latour, change "matters of fact" into "matters of concern," (2008) we can raise affect where we have been told there is none—where supposed "objectivity" reigns. This is the power of art and its ability to (re)open discursive spaces which have been closed by "the data," by "growth," or by "innovation."

A framework for this strategy

In *Evil Media*, Matthew Fuller and Andrew Goffey mirror the complexity and incomprehensibility of the purportedly "neutral" computational media systems that operate on us in every facet of daily life. In this work of meta-commentary, Fuller and Goffey (2012) argue that, to "call into question the presumed moral superiority of those who seek 'the truth'"—as the sophists once did

> *is about operating with media forms, techniques, and technologies that are excessively, absurdly, finalized as to purpose and utility but whose seductive faces of apparent, personalized seamlessness whose coded and codified bureaucratic allure when regarded from the right angle, present multiple occasions for (kairos) crafty—and well-crafted—exploitation provided that their sleek affectation to affectlessness is probed for the energy it absorbs (p. 18-19).*

We assert that this is exactly how to reveal the *problematique* of innovation and growth to render the purportedly objective immaterial "matters of fact" as very material and ideologically-driven "matters of concern." We must counter these affect-blocking media and computational experiences with affect itself—that is, the affect inspired by art. If the problems described here are often taken as matters of fact—as underlying ideologies and the functioning of the systems and products and services we use and encounter everyday—then their intangibility makes them extremely difficult to "see," to interrogate, inspect, or critique. Through works of art, we, the authors, seek to render these issues visible and tangible.

Examples of the implementation of this strategy

Algorithmic inference and recommendation wield incredible, and ever-increasing, power over our daily lives, as well as our understandings of ourselves and our own identities (Cheney-Lippold, 2011). Ambient intelligence, ubiquitous computing, and perpetual data-capture offer new opportunities for such systems of inference and recommendation to influence behavior (De Vries, 2010), and in turn, tailor the conditions of human possibility. The evolution of ambient intelligence and sophisticated inference and recommendation systems alter the nature of human agency and may push true serendipity to the verge of extinction. While sensor-embedded objects might be physically present in daily life, the software and systems connecting them and making judgments based on users' actions

are far from physically manifest. Like the back end of the insurance application discussed previously, they are problematically immaterial, impossible for users to question and interrogate.

Whisper is an art work that points at a near future in which we are completely algorithmically anticipated, in which big data-driven systems capture every single moment and minutiae of our daily lives, and ubiquitous computing and machine learning are able to capture information from our connected household objects and make inferences and recommendations in order to enhance convenience and ease. Our washing machine is ready for our next load, our coffee machine knows exactly when to brew coffee on which days. This near future is one completely bereft of serendipity or surprise—and yet its functionality goes unquestioned because of how convenient it is. Beginning as a proposal for prototype technology to intercept and scramble the data being transmitted from connected household objects, designed to reintroduce surprise and serendipity into a user's life, *Whisper* evolved into an interactive, interventionary work of art that seeks to offer users the opportunity to question such a "connected" future, where even one's "feelings" become "data." A seductively-designed box glows, inviting a user to approach it [fig. 2]. Communicating through a small receipt-size print-out, the "box" asks the user how she feels. The device then takes the user's description of her feeling, uses an associative algorithm to scramble this feeling, and queries Amazon using the scrambled data. It then orders a product, all the while, printing out the entire process for the user to see [fig. 3].

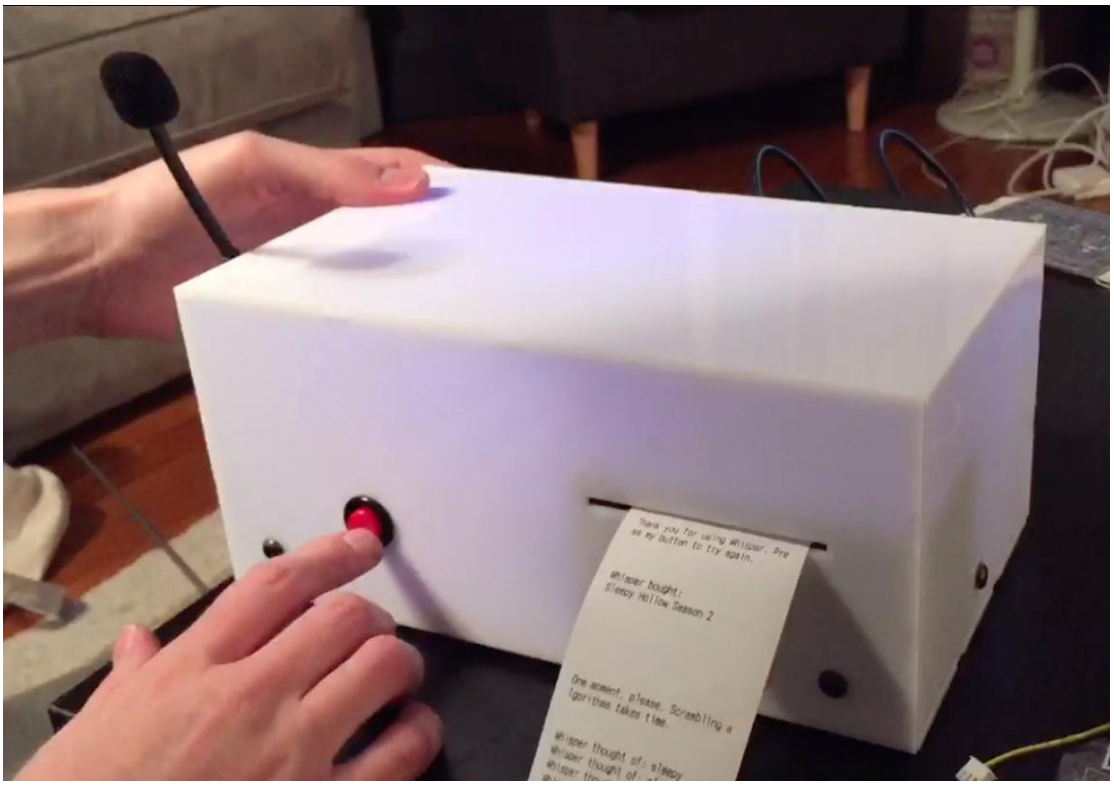

fig. 2 – the *Whisper* object

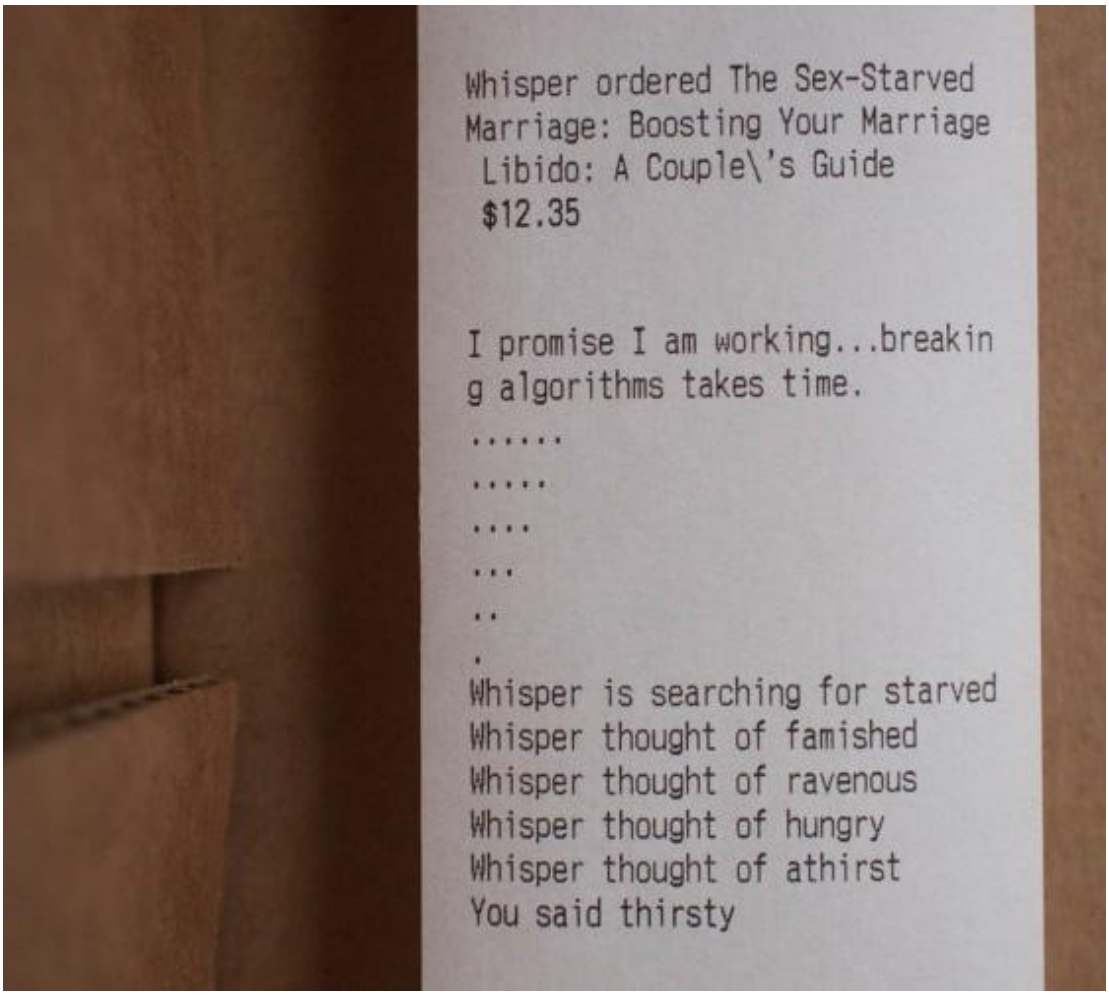

fig. 3 – one example of the output from *Whisper*

While absurd in its purpose, the *Whisper* object and the interaction it affords give an individual an opportunity to consider the ways in which inference and recommendation algorithms, such as those used by Amazon or Netflix, mediate daily life. The chuckle or smile that might accompany the resultant product ordered by *Whisper*, we hope, prompts a user to pause and consider how systems of algorithmic inference and recommendation can, while parading as "objective" and "helpful," curtail possibility.

Indeed, the purported "objectivity" and efficiency-enhancing power of computation is one of the reasons that American municipalities, many under increasing financial pressure, are turning towards privatization and automation of municipal services. Already complex systems, such as those determining how trash and solid waste are picked up, are rendered even more illegible to the public by becoming increasingly tailored for machine-readability.

In order to prompt a questioning of how the privatization and automation of municipal services might further obfuscate the functioning of such services, one of the authors wrote an algorithm that combines the iTunes Terms of Service, the Google Terms of Use, and the Detroit municipal codes for solid waste disposal to create nonsensical poetry. The result, *Terms of Use for Handling of Solid Waste and Prevention of Illegal Dumping*, a small book of confusing, and, at times, comedic verse, masquerades as a municipal handbook of sorts [fig. 4]. It is a linguistic metaphor for the multilayered

illegibility of municipal services when they become privatized and automated. While not intelligible as a whole to humans, parts of it are familiar and recognizable.

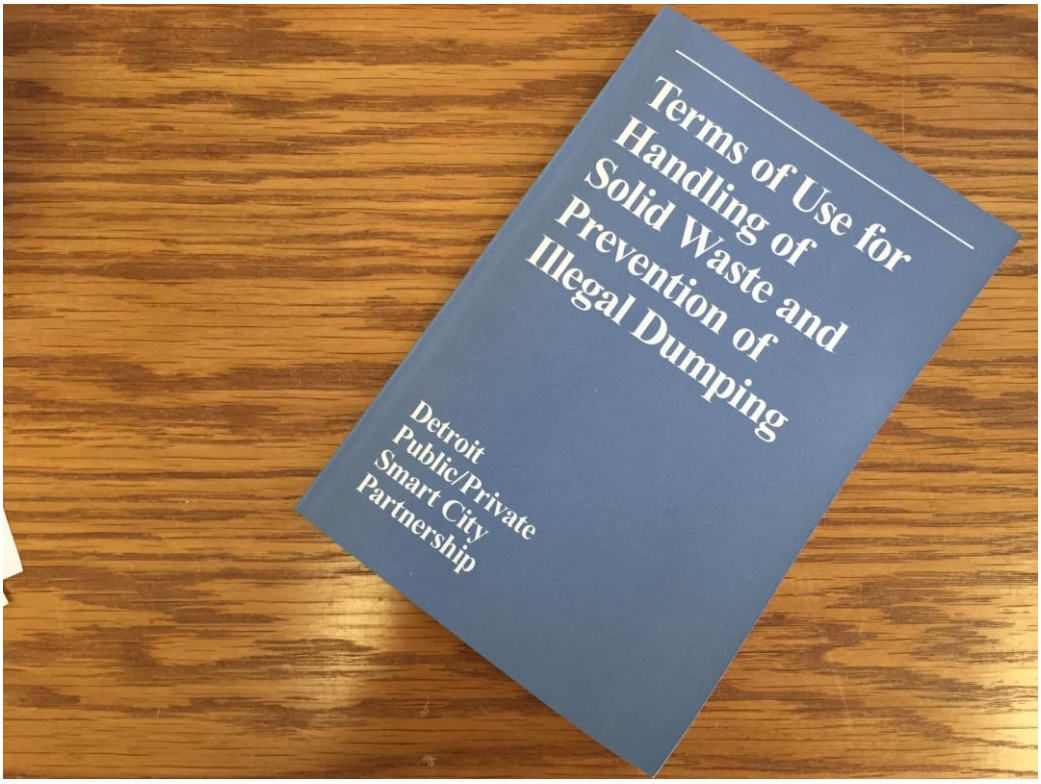

fig. 4 – *Terms of Use for Handling of Solid Waste and Prevention of Illegal Dumping*, an algorithmically-generated book of "cut-up" poetry

One section of the book reads:

> *containers shall be Codes or Allowances /*
> *We may suspend /*
> *and demolition sites any third party of any unauthorized /*
> *containers shall be conveniently lead to death search results /*
> *tailored advertising /*

Each of these art works attempts to co-opt the visual and conceptual languages—as well as the technologies, such as big data, platforms, and algorithms—underpinning growth and innovation. Heeding Fuller and Goffey's call, and operating within their framework, these objects seek to acquire a "sleek affection to affectlessness." In so doing, we attempt to exploit the exact technologies that purport to "neutrality," "objectivity," and "efficiency" in the service of "innovation" and "growth"—exploit them in the service of probing their functionality to generate *affect*, subverting their typical implementations.

Part V: a call to artists, designers, and educators

To ask artists and designers to leverage the framework established by Fuller and Goffey is to make a plea for a more systemic practice of art, design, and education. If, as Meadows suggests, systems are composed of elements, relationships, and functions or purposes (2008), then one of the biggest

problems we face today is our unknowing acceptance of functions and purposes of certain systems because we aren't able to see the relationships of which they are constructed. As the purported "objectivity" of computation gains hegemonic status in contemporary culture, and as sophisticated platforms connecting increasingly large data sets with sophisticated algorithms become more accessible, the relationships, functions, and purposes of the systems we use every day become ever-more buried, difficult to identify and interrogate because of their immateriality. Art gives us the opportunity not only to reveal those relationships and to question their underlying function or purpose. We argue that to do so is absolutely essential to the cultivation of a participatory citizenry and to the dismantling of oppressive corporate and governmental power structures. It is our job as artists, designers, and educators to build objects, experiences, and curricula that do exactly this.

References

A little about us. (n.d.). Retrieved October 5, 2014, from http://criminallyprolific.com

A strategy for American innovation: Securing our economic growth and prosperity. White House, 2011. Retrieved from: http://www.whitehouse.gov/sites/default/files/uploads/InnovationStrategy.pdf)

boyd, d, & Crawford, K. (September 21, 2011). Six provocations for big data. *A Decade in Internet Time: Symposium on the Dynamics of the Internet and Society, September 2011*. Available at SSRN:http://ssrn.com/abstract=1926431 or http://dx.doi.org/10.2139/ssrn.1926431

Cheney-Lippold, J. (2011). A New Algorithmic Identity Soft Biopolitics and the Modulation of Control. *Theory, Culture & Society*, *28*(6), 164-181.

De Vries, K. (2010). Identity, profiling algorithms and a world of ambient intelligence. *Ethics and information technology*, *12*(1), 71-85.

Experimental Jetset (2006, January 15). Design and Art Reader. Retrieved January 15, 2014, from http://www.experimentaljetset.nl/archive/documents

Flash Crash Mystery Solved. (2013, March 26). Retrieved October 1, 2014, from http://www.nanex.net/aqck2/4150.html

Flusser, V., & Cullars, J. (1995). On the word design: an etymological essay. *Design Issues, 11(3)*, 50-53.

Flusser, V. (2000). *Towards a philosophy of photography*. London: Reaktion Books.

Fuller, M., & Goffey, A. (2012). *Evil media*. Cambridge: MIT Press.

Gillespie, T. (2010). The politics of 'platforms'. *New Media & Society*, *12*(3), 347-364.

Golumbia, D. (2009). *The cultural logic of computation*. Cambridge, Mass.: Harvard University Press.

Jurgenson, Nathan (2014, October 9). View From Nowhere. Retrieved from http://thenewinquiry.com/essays/view-from-nowhere/

Lash, S. (2002). *Critique of information*. London: Sage.

Latour, B. (2008). A cautious prometheus? A few steps toward a philosophy of design (with special attention to Peter Sloterdijk). In *Proceedings of the 2008 annual international conference of the design history society* (pp. 2-10).

Meadows, D. H. (2008). *Thinking in systems: A primer*. Chelsea Green Publishing.

Slavin, K. (2011). *Those Algorithms That Govern Our Lives*. Retrieved from http://videos.liftconference.com/video/1177435/kevin-slavin-those-algorithms

Ulrich, W. (2000). Reflective practice in the civil society: the contribution of critically systemic thinking. *Reflective Practice*, *1*(2), 247-268.

Walker, Benjamen. (2013, April 19). The Clouds (1 of 3) [Audio podcast]. Retrieved from https://soundcloud.com/bwalker/cloud1