Beep-Boopatronics

or, This Organ Plays Itself

by

Max Lupo

A thesis exhibition presented to OCAD University in partial fulfillment of the requirements for the degree of Master of Fine Arts in the Interdisciplinary Master's in Art, Media and Design Program

The Open Space Gallery, 49 McCaul Street, March 9 to 14

Toronto, Ontario, Canada, April 2017

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Master of Fine Arts in the Interdisciplinary Master's in Art, Media and Design Program
OCAD University, Max Lupo, 2017

Abstract

Beep-Boopatronics addresses discarded consumer goods, nostalgia, and the creativity inherent in adapting one object into another. Working through the lens of Ian Bogost's *Alien Phenomenology* and Linda Hutcheon's *Theory of Adaptation*, the exhibition and paper *Beep-Boopatronics* explore how objects can be made to communicate with each other, and how that communication, while fragmented, can produce a novel object; in this case, a strange musical instrument. This process was conducted through practice-based research as determined by the application and adaptation of Bogost's Carpentry as a working methodology. The observations within this study dwell on the humour and meaning which can arise from incongruity. The results include new connections between object-oriented ontology and inter-textual adaptation, which were revealed through the project's discourse on translation and porting.

Acknowledgments

My studies at OCAD University were supported by a scholarship from the Delaney Family Foundation, and it is with great gratitude that I thank the Delaney family for their support.

I would like to acknowledge the support and generosity of the graduate faculty and staff at OCAD University, and in particular I would like to thank my advisors, Jessica Wyman, and Ginette Legaré. The time, attention, and support they gave throughout this process was an immensely valuable resource.

I am deeply grateful for the support of my friends and family, as well as the enthusiasm and motivation from my IAMD cohort. Together, we found a way to carry out this seemingly insurmountable task.

To Tanya, Frank, Alba, and Sarah

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Chapter 1: Introduction

This project reflects an obsession with wires, communication, and out-of-date consumer products. In order to do so, this thesis explores systems of translation and adaptation by dismantling objects which are on the outer edge of their usable life and imbuing them with new, but not always explicitly useful, functionality. By creating a juxtaposition between novelty and nostalgia, I assert the creative potential of discarded objects and that the translation of energy and data through those objects is a meaningful process. The wider goal of this project is to subvert obsolescence and point towards a more creative future, where objects and ideas are not limited by their former functions or relationships.

A non-exhaustive list of the materials involved includes: an FM radio, an electric chord organ, PVC tubes, punch cards, and large plastic pillows filled with air. These elements are activated through a series of junctions to create a new system which is entirely logical within its own framework, but mildly absurd from an outside perspective. Prior to this project, the FM radio was converted into an artwork titled *Just Another Beep-Boop Machine* (first created in 2016) which read hole-punched cards in order to play beeps and boops instead of radio broadcasts. The electric chord organ needs a constant supply of airflow to play (think of it as a self-contained electric accordion), and so I replaced its malfunctioning internal fan/motor with an external system of tubes and air-pillows. The *Just Another Beep-Boop Machine* (hereafter referred to as *Beep-Boop Machine)* plays notes electronically, while the chord organ uses keys to release air. The installation presented as my thesis work, titled *Beep-Boopatronics*, is the system I created to make them interact, and through which I consider the value of that interaction.

To set a framework for the writing to follow, I will outline the procession of this thesis paper. First, I will discuss this project's most technical elements in order to establish a working

knowledge of how communication is addressed at the physical level of the work. Second, the theories and terms specific to this project will be elaborated on, before moving into the research questions which drive my artistic practice. Then, I will describe the methodology used to generate the observations which are presented in the final sections of this paper.

1.1 Model of Approach

The elements of this system can be represented by three categories of interaction: input → processing → output. Essentially, some data is received, it is processed, then some result is produced. These three functions can be applied to almost any procedural system, whether it is an electronic circuit, a mechanical process, or a computer program. In *Beep-Boopatronics*, these inputs can be diagrammed to chart their functionality:

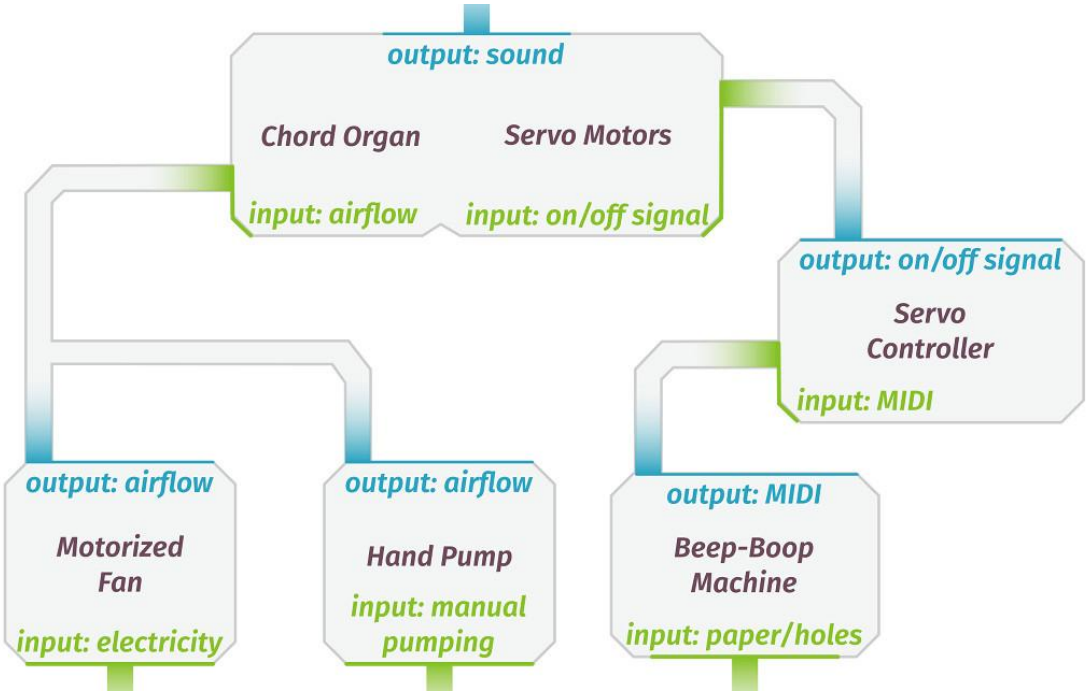

Figure 1. Overall system diagram (inputs and outputs)

This system has two conceptually significant inputs, with the final output being the continuous stream of sound. The inputs on the right can be categorized as "data": the *Beep-Boop Machine*

accepts a roll of paper which provides encoded information (punched holes). This data is read and converted into MIDI (Musical Instrument Digital Interface) before being communicated to the servo-controller. Eventually, the data is expressed when a specific servo motor depresses a key on the chord organ. The second input mode could be called “energy”: the airflow that enters the chord organ is produced by some external effort. Whether it is a manual hand-pump or the new set of external fans, airflow must be generated for the chord organ to produce sound. The air stored in the air-pillows serves as a container for this energy to be deployed within the system, in a sense acting as a battery. The result of this interaction is embodied in the exhibition *Beep-Boopatronics*, where all of these elements come to interact.

The gaps between input| |processing| |output serve as opportunities for links and mergers to occur in order to produce the finished piece. The artwork’s process begins with the *Beep-Boop Machine* receiving light as an input onto a sensor, and once an input is received it must continue its process until an output is produced. The gap between each device is a junction point. In the case of the chord organ, any adequate source of airflow would provide the opportunity to produce sound; one simply needs to find the inlet and adapt another object’s outlet as needed so that enough air can make its way from one to the other. On either side of each category, one can overlay a similar process to mediate each stage of action, producing a new experience.

1.1.1 Perspectives in the System: from Light and Air to Sound

Following from the high-level overview of the objects involved in the exhibition, there is now the opportunity to follow some paths in greater detail in order to better understand the system. The purpose of this exercise is to establish a comprehensive base from which further observations can be made. First, it may be beneficial to tease apart what exactly “MIDI” is in order to help characterize the communication that is taking place. In *The Complete MIDI 1.0*

Detailed Specification documentation from the MIDI Manufacturers Association, the protocol is described as "a hardware and software specification which would make it possible to exchange information […] between different musical instruments or other devices such as sequencers, computers, lighting controllers, mixers, etc." (33). One doesn't need to get mired in the details as it is sufficient to note that MIDI uses "bytes" to communicate, which are transmitted over "UART" (a standard for serialized communication) between devices. This project is possible due to "bytes" being simple messages, and UART being a standard feature on most micro-controllers.

Now, a reexamination of the previous diagram, as it applies to the physical objects involved:

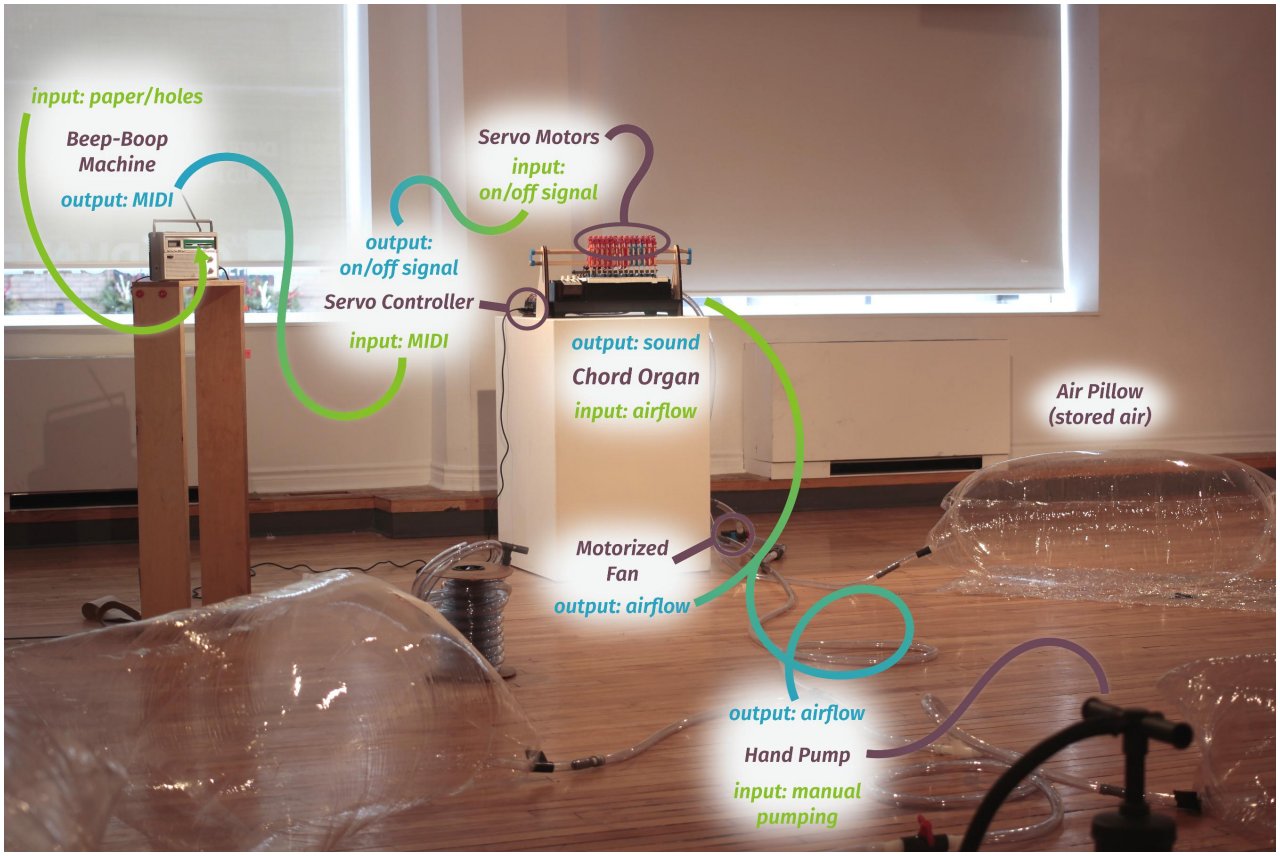

Figure 2. The system's overview, test installation of *Beep-Boopatronics*, January 2017

The chord organ is pictured in the center (a detail of which can be seen in figure 4), and in the top-left corner is the new iteration of the *Beep-Boop Machine.* The 2016 iteration of the *Beep-*

Boop Machine pictured below (figure 3) is an earlier version of the device which used short cards to play quick compositions through the radio's speaker. The basic functionality remains the same: the green light passes through the punched holes, triggering some other process.[1]

The paper's grid provides a map relating to the selections of pitch which are punched into the cards, thus becoming potential data. In its current version, the micro-controller inside the device reads those holes and converts them to MIDI signals.

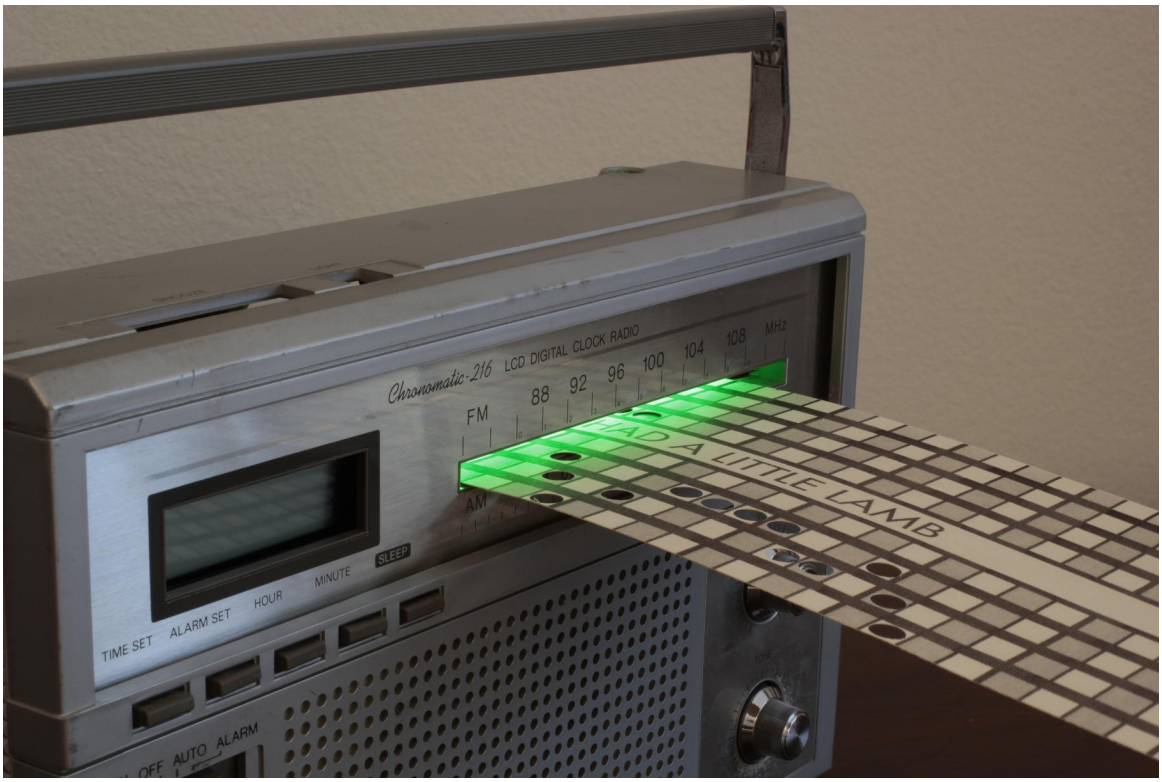

Figure 3. *Just Another Beep-Boop Machine*, 2016

The micro-controller is coded to run a short program which sends either a "note on" or "note off" signal over a standard MIDI cable connected to the device which controls the servos. The servo controller takes the MIDI command and selects the specified servo motor from the array

1.To further clarify, the 2016 and 2017 iterations of the *Beep-Boop Machine* are essentially the same object: the FM radio shell and the light sensors inside remain physically unchanged. The two versions are distinguished only by the updated code which runs on the internal micro-controller, a change which is further detailed in section 4.2.1.

positioned above the keys of the chord organ. Predictably, a “note on” command will depress the specified key, while “note off” will signal the key’s immediate release. Before being converted into the *Beep-Boop Machine,* this object was once a portable radio produced by Realistic, a brand which is now defunct (along with its main distributer, Radioshack). Additionally, the general status of the radio as a portable music player has been superseded by newer consumer objects. Thus, the *Beep-Boop Machine* represents the conversion of a potentially obsolete object into one of novelty, as well as being a converter of signals and messages.

Even with all the conversion of bytes outlined above, sound will not be produced from the system: airflow is still required for the chord organ to function. From the perspective of airflow in the system, it is essential that the flow of air entering the organ be great enough for the exhaust to produce sound. To generate this airflow, the ambient air in the room is drawn into the system either by the manual hand pump or the external fans. As can be seen in figure 2, this air fills up the clear vinyl air-pillows before making its way to the organ. In addition to serving as air/energy storage for the chord organ, the pillows give physical presence to the air in the system and demonstrate that the manual labour of pumping produces air as a usable resource.

This paper began with commitments to adaptation and obsolescence, yet we have somehow wandered into a detailed description of MIDI notes and airflow. The reason is this: the manipulations of air, light, and data in the system are themselves a meaningful series of adaptations. At the center of the system is the chord organ which has undergone heat damage, rendering its outer shell unusable and detuning some of its keys, yet together with the other objects it is integrated into a novel organization: the installation titled *Beep-Boopatronics* (2017).

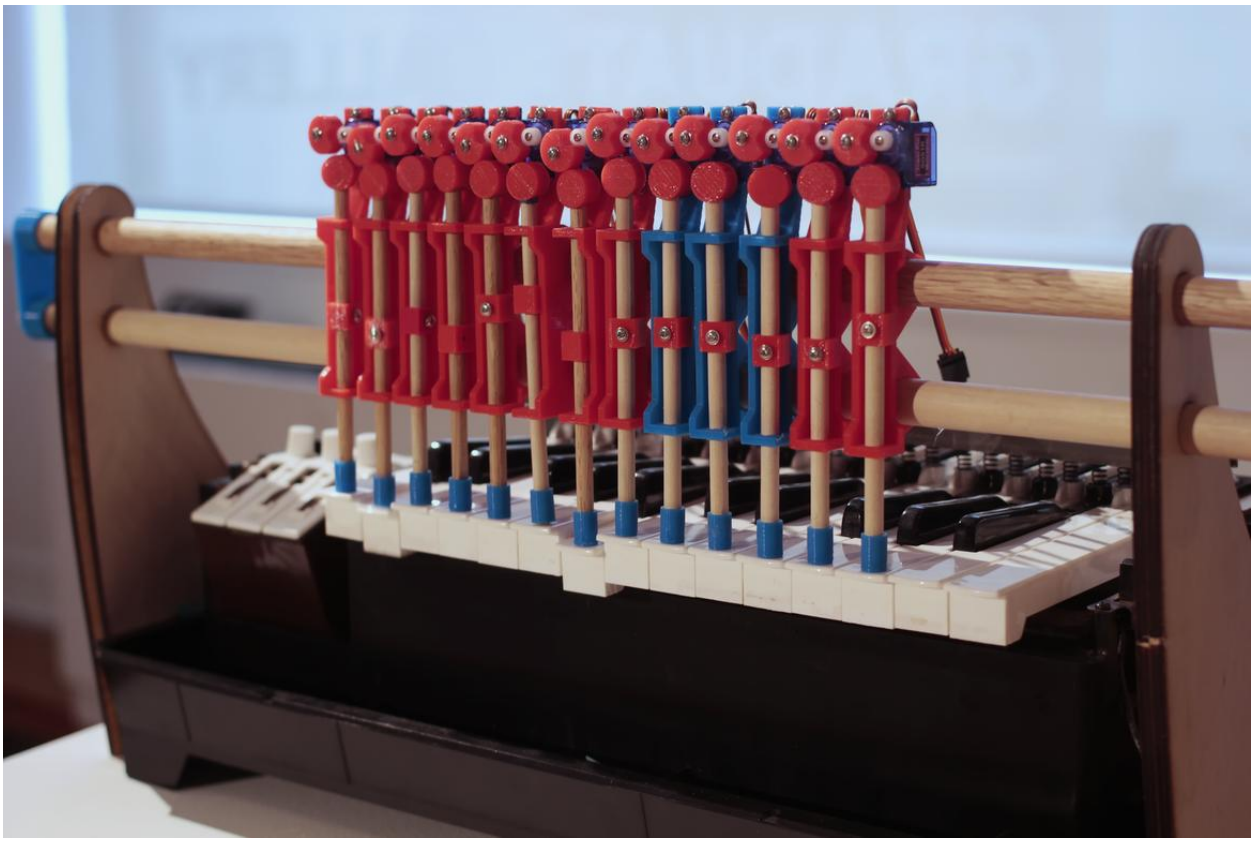

Figure 4. Closeup of the chord organ, with servo motors

1.2 Theoretical Frameworks

As a mode of system interaction, the input → processing → output framework is present throughout this thesis project not only in terms of physical objects, but also with respect to critical studies and theories; by overlapping the connections between different inputs and outputs, wholly new insights can be generated.

1.2.1 Object-oriented Ontology

To establish a consensus between the many authors within object-oriented ontology (OOO), I will offer a definition as a quilt of quotes to express their shared points of contact. Object-oriented ontology is invested with the notion that "the being of objects is an issue distinct from the question of our knowledge of objects" (Bryant 18). This suggests that "objects are deeper than their appearance to the human mind but also deeper than their relations to one

another, so that all contact between objects must be indirect or vicarious" (Harman, *The Third Table* 4), and that an object is "a weird structure that might refer to a 'normal,' middle-sized object such as a toaster as much as it might describe an enormous, amorphous object like global transport logistics" (Bogost 23). In the widest possible sense, an object is just "[…] an *organization* or structure that persists across time" (233-234). For the purpose of approaching this thesis work, both OOO and this project start from the position that each object has an existence distinct from its appearance/use, and as a result communication between objects relies on some form of translation.

1.2.2 Adaptation

In *A Theory of Adaptation*, Linda Hutcheon describes adaptation as:

- An acknowledged transposition of a recognizable other work or works
- A creative *and* an interpretive act of appropriation/salvaging
- An extended intertextual engagement with the adapted work (8)

Evident in that description is the sentiment that adaptation involves the movement from one state to another, from source work to adaptation. The same description pertains to discussions of porting computer programs, as "adapting a program from one hardware system to another is 'porting,' a term derived from the Classical Latin portāre—to carry or bear, not unlike the carrying across (trans + lātus) of translation" (Montfort 52). With all of these terms in mind, I have taken to using the word "port" to describe certain aspects of my practice, whether it is a literal "port" (as in an outlet or inlet) or "porting" as a process of transposing an object from one state into another. This conceptualization aligns with Hutcheon's description of adaptation as being both a formal entity, and a process of creation (*A Theory of Adaptation* 7-8).

1.2.3 Views on Technology and Nostalgia

Technology is too broad a term to leave unchallenged; as a result, this project looks to Jeanne Randolph and Ursula Franklin to summarize what "technology" might contain. In her CBC Massey lectures, *The Real World of Technology*, Franklin states that technology "entails far more than its individual material components. Technology involves organization, procedures, symbols, new words, equations, and, most of all, a mindset" (3). Similarly, Randolph describes technology as a mindset separate from consumer objects when she states, "technology is an ideology. Now what I mean by that is, literal objects are not technology. I do not care what you say about CD-ROM, virtual reality, or modems, et cetera, these are not technology, these are objects. These objects are manifestations of technology" (41). In both cases there is an acknowledgement that the objects which are often nominally referred to as "technology" only represent a portion of the wider ideology they are situated in. Thus, when I am considering my practice's relationship with technology, I am not only thinking about technological processes and objects, but also the framework which presents those objects.

The term nostalgia was coined by the Swiss medical student Johannes Hofer in his *Dissertatio Medica de Nostalgia oder Heimweh*, presented in Basel on the 22nd of June, 1688 (Fuentenebro de Diego and Valiente Ots 405; Lochhead 3). The nostalgia defined by Hofer is a literalization of what it might mean to actually be home-sick. As described by sociologist Fred Davis in *Yearning for Yesterday: a Sociology of Nostalgia,* a Swiss soldier fighting abroad diagnosed with nostalgia may be taken with "profound bouts of weeping, anorexia, a generalized 'wasting away,' and, not infrequently, attempts at suicide" (2). The characterization of nostalgia as an intense affliction is, of course, absent from a contemporary definition, which simply describes nostalgia as: "1. a wistful or excessively sentimental yearning for something past or

irrecoverable" ("Nostalgia"). This yearning for something irrecoverable is where imagination enters nostalgia, as author Svetlana Boym explores: nostalgia pines "for the unrealized dreams of the past and visions of the future that have become obsolete" ("Nostalgia and Its Discontents" 8). It is here that a version of nostalgia useful to this project is found: nostalgia as a focal point for prospects both expected and missed, as a duality of time and place.

1.3 Questions and Rationale

The questions directing this project are:

1. In what ways can my artistic practice foster new relationships between technology, nostalgia, and creativity?
2. Within my practice, to what extent does an object's former intended uses inform an understanding of its future use?
3. To what extent can an artwork generate a shift in critical perspective through its process of interaction?

Question one sets an outline for interaction: how does my practice connect what already exists with a new addition to the object? Question two then confronts the object as a pseudo-artifact, asking: how does the prior understanding of that object affect its position in my practice, and what does it mean to remake that item? Question three attempts to find meaning in the various incongruities my practice generates. Essentially, when I ask "to what extent can an artwork be generative of a shift in critical perspective through its process?", I am asserting that meaning and value can spring from the churn of mundane functionality.

I am eager to analyze my own practice and tease apart my motivations while also connecting my work to discrete areas of study. In this way, the thesis project is a prism through

which to view the aspects of my practice which are already expressed in form, but could benefit from increased analysis. This includes my use of nostalgia as well as my observations on translation and porting. The artwork produced here is mostly created by detaching nearly-obsolete consumer products from whatever market value/context that remained, and inserting into them a new operational logic. In these instances, I am making an appeal to a certain type of creativity which proposes that incongruity, contradiction, boredom, and seemingly useless objects have potential creative value.

1.4 Scope and Limitations

With regard to my stated questions, I could compare this project to Charlie Chaplin's film *Modern Times*, in order to fashion a cultural critique of mechanization and industrialization. Similarly, through comparison to Martin Heidegger's *The Question Concerning Technology,* perhaps a more specific comment could be expressed on technology as that which forces resources into a "standing-reserve" (Heidegger 17). While both of those references were kept in mind throughout this project, my approach to the exhibition *Beep-Boopatronics* follows a narrow line through notions of adaptation, nostalgia, and object-oriented ontology, in reflection of my research interests over the past two years. In the case of translation, my reference points focus on only one broad category with three sub-sections: the inter-textual adaptation of narrative; language; and (briefly) computer programs. Absent from this inquiry are references to biological adaptation, systems theory, or machine learning. In regards to OOO, my choice of authors and texts is dependent on the structure and aims of my argument, as will be further explored in the literature review.

In a more idiosyncratic sense, the limitations of this project derive from a singular speculative device. The questions asked, and the frameworks deployed, spring from a simple

question: what can be made by combining/contrasting/conflating specific elements? In the early chapters of *The Democracy of Objects*, Levi Bryant borrows from Roy Bhaskar's *A Realist Theory of Science* in which Bhaskar uses a transcendental question to build an argument for ontological realism: " […] what must the world be like for science to be possible?" (Bhaskar quoted in Bryant 42). In its general form, it is a beautiful question: what must the world be like for [your area of interest] to be possible? My version of the question poses the query in reverse: what world can be generated, if [translation between unrelated objects] were possible? The question outlines a thought experiment, which is a sort of game played by picking a set of determining factors, and then seeing how they can interact. Thus, *Beep-Boopatronics* starts from the position that one can generate new knowledge, new worlds, by combining a limited number of already existing ingredients.

Chapter 2: Literature Review

2.1 The Hidden World of Objects

In *Alien Phenomenology, or, What it's like to be a thing*, philosopher and video game designer/critic Ian Bogost describes a flat ontology, in which " […] *all things equally exist, yet they do not exist equally*. The funeral pyre is not the same as the aardvark; the porceletta shell is not equivalent to the rugby ball. Not only is neither pair reducible to human encounter, but also neither is reducible to the other" (11). Bogost borrows this horizontal view of being from Lacanian psychoanalyst and philosophy professor Levi Bryant (who, in turn, derived it from Manuel Delanda in Bryant 112) to assert that even though some individual objects may agitate others in significant ways, all objects have access to an independent ontological status (Bogost 12). Bogost draws from (and quotes) Bryant's *Democracy of Objects* when he notes that "there is no 'super-object' [. . .] that would gather all objects together in a harmonious unity" (Bryant, quoted in Bogost 12). Bogost mobilizes this notion to explore new territory, and as a result he offers this: "instead of the plane of flat ontology, I suggest the point of tiny ontology. It's a dense mass of everything contained entirely–even as it's spread about haphazardly like a mess or organized logically like a network" (21-22). The text *Alien Phenomenology* is largely concerned with approaching the core of "tiny ontology" through increased and creative speculation.

To lay the ground work for increased speculation, Bogost uses the compression of all being into a single point to raise the analogy of a black hole, a comparison he uses to develop his own concept of alien phenomenology. The black hole is a rich metaphor as it is a phenomenon which may be infinitely dense, and may contain entire universes, but "we can never know, because even if one could approach a black hole, time would slow down for the observer because of gravitational time dilation. Speculation is thus required to consider the implications of being

within a singularity" (22). For Bogost, the unknown is the "alien", and its speculation can be conducted through means of a number of methods including Carpentry, which points toward my main reason to draw from this author: his description of Carpentry offers a framework for practice-based research which I will activate as a methodology.

The work of both Bryant and Bogost contains numerous references to Graham Harman's[2] writing and lectures. I have been careful to select specific points of reference from Harman's body of work, namely *The Third Table = Der Dritte Tisch* from 2012, and *Immaterialism: Objects and Social Theory*, published in 2016. In *The Third Table*, Harman describes Sir Arthur Eddington's parable of the two tables, in which we are faced with one table representing the everyday, and the same table as rendered by physics (5). In his description, Harman seeks to delineate what he calls "real objects" through a critical analysis of these two tables, arguing that the "real table is in fact a third table lying between these two others" (6-7). In this text I appreciate the conciseness of Harman's argument, and I find resonance in the description of an event as the third element generated out of the consideration of two separate things.

The text *Immaterialism* is useful in the way it describes certain connections between objects as a symbiosis, noting that "if we wish to avoid the absurdity of treating all cataclysmic and frivolous events as equally decisive in the life of an object, we need a standard that can isolate those relatively rare events that transform an object's very reality" (44). The standard offered by Harman is an object-oriented method which proposes that "entities have neither an eternal character nor a nominalistic flux of 'performative' identities that shift and flicker with the

2. Graham Harman currently holds the title of Distinguished Professor of Philosophy at SCI-Arc in Los Angeles. Harman's object-oriented philosophy serves as a key reference point for both Bryant and Bogost as can be seen in Bogost 5 and Bryant 26.

flow of time itself" (45). Instead, an object can shift through specific turning points, which are asymmetrical and non-reciprocal (45-46). Positioned as a social theory, Harman's immaterialism provides a tool-set to describe how an iterative process outside of the object can shift the object itself.

2.2 Incongruity and Humour

Perhaps unavoidably, humour is present in my project: as the air pillows deflate, and the sound of the organ slowly dissipates, laughter seems an entirely appropriate response. I look to Henri Bergson to contextualize how humour-through-incongruity positions the comic element as a meaning-making device. In his text *Laughter: an Essay on the Meaning of the Comic*, Bergson develops a theory of humour through an analysis of comic elements in movements, situations, and words.

To frame his analysis of a cumulative comic form, Bergson describes a protagonist attempting to complete a grand result; the protagonist, however, finds that, "to cover a good deal of ground only to come back unwittingly to the starting-point, is to make a great effort for a result that is nil" (45). This leads Bergson to observe that the humour in a futile situation is not solely the result of a lack of proportion between cause and effect; rather, the comic moment occurs because the lack of proportion signals a causal imperfection which necessitates an immediate corrective. As Bergson notes, "this corrective is laughter, a social gesture that singles out and represses a special kind of absentmindedness in men and in events" (46). That is to say, an incongruity may not only reveal a distance between expectation and result, but also what occupies that distance; for Bergson that means the absentmindedness of lived experiences (45), a confirmation that the world is not an orderly and rational place.

Albert Camus also addresses incongruity in his essay *The Myth of Sisyphus.* For Camus, an incongruous experience is a window into the absurd. Camus succinctly states: "[t]he absurd is born of this confrontation between the human need and the unreasonable silence of the world" (26), meaning that the absurd does not reside in any given object, but is born from confronting a contradiction (27). This contrasts nicely with the example of meaning-through-incongruity offered by Julian Haladyn's[3] description of the term "boredom". As Haladyn describes in *Boredom and art: passions of the will to boredom*, published in 2015, boredom references a continuum of experiences which confront an individual's approach to finding meaning in the mundane. This includes a profound sense of detachment which manifests as either "[…] a *no* boredom or a *yes* boredom. These boredoms […] are distinguishable on the level of a subject's willingness to see meaninglessness not as an absolute end in-itself but in the possibility of the end being a prelude to creating meaning" (92). When I describe my practice I often begin by explaining how my work contrasts nostalgia with novelty to produce an uncanny experience; a moment of incongruity which can be expressed through the language of humour, the absurd, or boredom.

2.3 Adaptation and Translation

Thomas Leitch, a scholar in literature and cinema studies, asserts in *Twelve Fallacies in Contemporary Adaptation Theory* that the theoretical rigor applied to adaptation theory has not been sufficient. Leitch argues his point through the analysis of a dozen interlinked fallacies, hoping to "claim for adaptation theory more of the power it deserves" (139). Notably, many of the fallacies he hopes to untangle are assertions of the inherent value of certain media or

3. Julian Jason Haladyn is an art historian and professor in the Faculty of Liberal Arts & Sciences and School of Interdisciplinary Studies at OCAD University. He has also written about boredom in the context of Andy Warhol's practice in his paper "Empire of *Boring*: The Unbearable Duration of Andy Warhol's Films", published in *Kinema: A Journal of Film and Audiovisual Media 35* (Spring 2011).

approaches, whether that be an assumed hierarchy between novels and films (154-156), or the baseline assumption that fidelity is the most appropriate metric for evaluating an adaptation (161-162).

I believe the core of Leitch's arguments suggest that he is pining for a realist theory of adaptation, which acknowledges the position of source work and adaptation but is not limited by assertions of a fundamental hierarchy between one or the other. As Leitch says, "though novels and films may seem at any given moment in the history of narrative theory to have essentially distinctive properties, those properties are functions of their historical moments and not of the media themselves" (153). Within that assertion, I see echoes of Bryant's statement that "we must not say that an object *has* its qualities or that qualities *inhere* in an object, nor above all that objects *are* their qualities, but rather in a locution that cannot but appear grotesque and bizarre, we must say that qualities are something an object *does*" (69). In this framework, the work of an object (whether it is a physical item, or a cultural object) is never done. A baseball cap may appear blue in daylight, but in other lighting conditions it may seem green–that its fibers were dyed a particular colour is an important facet of the baseball cap, but it does not completely foreclose other "actions" of the object[4]. Similarly, while cultural works created in the medium of film are prone to certain characterizations, future artists will expand that medium into unforeseen territories.

Within adaptation studies, other valuable texts include Linda Hutcheon's[5] *A Theory of Adaptation* (2006, revised 2013), Walter Benjamin's *The Task of the Translator,* as well as an interesting text titled *10 PRINT CHR$(205.5+RND(1));:GOTO 10*, which addresses adaptation

4. This example is a shortened and adapted version of the analogy of the blue coffee mug found in Bryant 169.
5. Linda Hutcheon holds the title of University Professor Emeritus of English and Comparative Literature at the University of Toronto. Some of her notable texts are: *Irony's Edge: The Theory and Politics of Irony,* and, *The Politics of Postmodernism*, among many others.

through the proliferation of a single line of computer code (the book's title)[6]. The value in addressing these texts is the nuance they add to the term and concept of "translation". In Bryant's *Democracy of Objects*, the author tries to describe how interactions between objects occur through processes of translation, and to do this he borrows from Bruno Latour, Jacques Lacan, and Niklas Luhmann, eventually leading him to state: "all objects are mediators with respect to one another, transforming or translating what they receive and thereby producing something new as a result" (179). His observation is well reasoned, but there is room to push further, especially with regard to his choice of language. Using "translation" as a placeholder term for the series of transformations he describes but not mining the concept of translation through its position within forms of inter-textual adaptation is a missed opportunity. I believe the frameworks and ideas proposed in the field of narrative adaptation can provide value to this discourse. Thus, in this thesis project, the voices of Benjamin et al. are invoked to inform the notion that all objects translate one another.

2.3 Artistic Practices

The artists discussed in the sections below offer valuable reference points through their interactions with performance, installation, and sound, but this project also owes a debt to a number of other artists, including Alvin Lucier, Kuai Shen, and Layne Hinton, among many others.

2.3.1 Diane Landry

The work of Diane Landry is of particular interest to me as she not only provides a reference point for instrumentalizing ready-made objects, but also provides new language to

6. Notably, the book was written through a process of communal authorship by ten authors. Among the list of authors are Ian Bogost, and Nick Monfort. Nick Monfort, an author of interactive fiction, and associate professor of digital media at MIT, is also the book's editor. A pdf version of the book is distributed freely at http://10print.org/

characterize that practice. In describing Landry's work, Eve-Lyne Beaudry notes that "the use of everyday objects as raw material is one of the cornerstones of her approach, which proposes alternative readings of the meanings we usually attribute to familiar things" (282). Thus, our practices share a similar base, from which I can draw both inspiration and contrast. Crucially, Landry's approach to a ready-made object "represents a starting point for the creative process, offering a new way of looking at reality by extracting from it fragments of domestic life" (283). Here there is evidence of a connection between Landry's work and my own interests in Bergson's incongruity, namely that the subversion of an existing object can provide new insight into the conditions which produced that object.

Aside from a particular approach to objects, I am also interested in Landry's merging of performance and installation. As Beaudry describes, "Landry's amalgam of the spatial properties particular to sculpture […] and the temporal aspect specific to performance involves a special combination of space and time for which she has coined a new term, 'mouvelle' works" (286). This combination of the two disciplines centers on two different approaches to the body. In the first case, the body is introduced through a surrogate, as in Landry's piece *Flying School* in which a set of umbrellas is mechanized in order to expand and contract with the intent to express the rhythm of human breathing (286). Alternatively, the body may be introduced as a mechanism which performs within the installation, linking the two sides of her practice and creating a "total mouvelle work" (287). In the case of mouvelle works, Landry's practice helps to establish my own project's argument by laying a foundation for performance-based installations. I follow a similar approach to installation: I am present as a force of activation in the artwork, though the object can act independently. The chord organ at the center of the artwork needs air to function,

and when I am present in the gallery, that air comes from my own actions (using an air-pump, or assembling the fans).

2.3.2 Marla Hlady

As Shannon Anderson describes in her *Canadian Art* profile of Hlady, the work *Playing Piano* (2006–08)

> […] pays homage to the history of prepared pianos, and Hlady's careful alterations to the way we see and experience the instrument's sonic qualities bring the beauty and complexity of its inner workings to the fore […] the musical component is slow and resonant, creating a melancholic mood that crops up again and again in her oeuvre (94).

The piano seems to be the fulcrum around which the interplay of sound, experience, and mechanics pivot. Aside from the similar use of the piano as the site of this interaction, the other predominant similarity between this piece and my own work is the focus on a procedural experience. This contrasts with an experience which is defined by a specific narrative or a sequential aesthetic experience. The key distinction to be made is that an artwork focused on procedure offers an experience which is durational without also invoking narrative.

Some of the differences between my own work and that of Hlady are only materially relevant (DC motors versus servos, perhaps), while other differences which *seem* only localized to materials are situated at the core of the project. Specifically, Hlady has taken a player piano and extended it into a prepared mechanical instrument, while my desire is to re-formulate a player piano where there was none and then introduce a new source of energy for delivering sound. This difference illustrates a shift in focus, rendering sound as the exhaust produced out of the interaction between divergent processes. Further, my project is invested in de-centering nostalgia and exploring translations of energy and data within a system. The importance in

drawing on Hlady's work is to situate my work within a particular field, and acknowledge the ground already explored.

2.3.3 Cat Hope and John Cage

Cat Hope, an Australian musician and academic, has written both about the development of visual musical scores as well as the adaptation of works by Alvin Lucier through engagement with digital technologies. In her journal article on the latter subject, Hope describes how software offers many opportunities for exploration, but hardware interfaces (such as micro-controllers) sometimes impose specific restraints; as she concludes, "out of the large selection of Arduino boards available, the Arduino Mega board was chosen due to the fact that it has 14 possible PWM outputs" (Hope, James, and Tan 32). While overtly technical, this statement resonates with me as it points toward the trade-offs made when attempting to port a creative work down into the (sometimes harsh) specificity of wires and bytes. In Hope's writing on the *Decibel Score Player* (a software environment for expressing musical notation as an interactive illustration), she outlines the considerations to be made when adapting musical works by other composers into a graphic representation. Again, I find resonance here, as my own project is involved in developing a novel notation system for the *Beep-Boop Machine* (as can be seen in figure 3, this consists of a grid of dots punched into paper).

The alternative composition system in this project also has a tangential relationship with some of the work by American composer and artist John Cage. Specifically, a composition created by Cage (prior to his time at the New School) titled *Music for Carillon I*, uses a grid as the orienting system. As author Brandon W. Joseph notes:

> The score of the piece consists of twenty-four 3-by-10-inch sections of quadrille graph paper […] read from left to right, each of the inch-wide horizontal segments is equivalent

> to one second of performance time, while the vertical axis corresponds in a relatively indeterminate manner to the disposition of high, middle, and low tones (82).

Though our approaches are different, what our compositions share is the use of a grid to allow registered points to be translated into movement or sound, in the manner which Joseph calls a "map of pitch-time coordinates" (83). This notion, and Cage's use of indeterminacy in composition, make him a frequent point of reflection as I conduct this project.

Chapter 3: Research Methodology

I take practice-based research to be a self-reflexive method capable of producing insights and data within an artistic project. As author and artist Graeme Sullivan notes, "the artist is the key figure in the creation of new insights and awareness that has the potential to change the way we see and think" (70). As a result, the practice-based researcher can work "*through* the use of media and technologies to expand knowledge of the processes and practices of art" (70). This is a concept echoed by Henk Borgdor, as quoted by Sullivan: "art practice qualifies as research if its purpose is to expand our knowledge and understanding by conducting an original investigation in and through art objects and creative processes" (79). From these quotes I highlight two relevant observations: art practice qualifies as research if it produces new knowledge, and this knowledge can be produced through the act of creating the work itself. Utilizing practice as a method, I understand "methodology" to mean the underlying logic for the application of that method. With this in mind, I offer Carpentry as the orienting logic of my method as it applies to this thesis project.

3.1 Carpentry

In *Alien Phenomenology, or, What it's like to be a thing* Ian Bogost's chapter on Carpentry includes the subheading "Constructing Artifacts That Do Philosophy" (85), which provides a concise summary of the section to follow. The suggestion here is that through the making of objects one can explore a philosophical question beyond what can be written about a philosophical question. Bogost asserts that as opposed to the writer, "the carpenter […] must contend with the material resistance of his or her chosen form, making the object itself become the philosophy" (92–93). To build his definition of Carpentry, Bogost blends the ordinary sense of the word with Graham Harman's and Alphonso Lingis' notion of "the carpentry of things," a

phrase which refers to “how things fashion one another and the world at large” (93). Thus, in my understanding, the logic of Carpentry suggests that through the creation of things a critical perspective can be expressed by material engagement. Furthermore, this expression is not communicated through representation, but through the thing’s interactions as an object.

Carpentry provides a sense and orientation to the data within this project. Specifically, Carpentry as a methodology is a meaning-making process where the data/artworks/objects produced are understood based on their capacity to explore processes of translation and adaptation. In this way, Carpentry can be categorized as a speculative-qualitative approach to critical realism in which the object's reality is explored through creation and action. Critical realism maintains that the causal links between the actual, the real, and the empirical are often latent (objects can withdraw from the qualities they manifest), and as a result objects cannot solely be reduced to their empirical qualities (Bryant 49; Clark 169). Thus, it is the duty of Carpentry to try to “capture and characterize an experience it can never fully understand, offering a rendering satisfactory enough to allow the artifact’s operator to gain some insight into an alien thing’s experience” (Bogost 100). Of course, since Carpentry is responsive to the material resistances in play, the “alien things” under consideration within this project (processes of adaptation, and the disjunction between nostalgia and novelty), will be explored as far as the material forms allow.

3.2 Research Design

The practical application of Carpentry as a methodology relies on a specific approach to creation, aligned with a careful attention to the individual objects involved in artwork. To provide a case study of this process, I will draw attention to this blue piece of 3D-printed plastic

attached to a fan (this is an internal component of the larger artwork, and may not be visible in the installation):

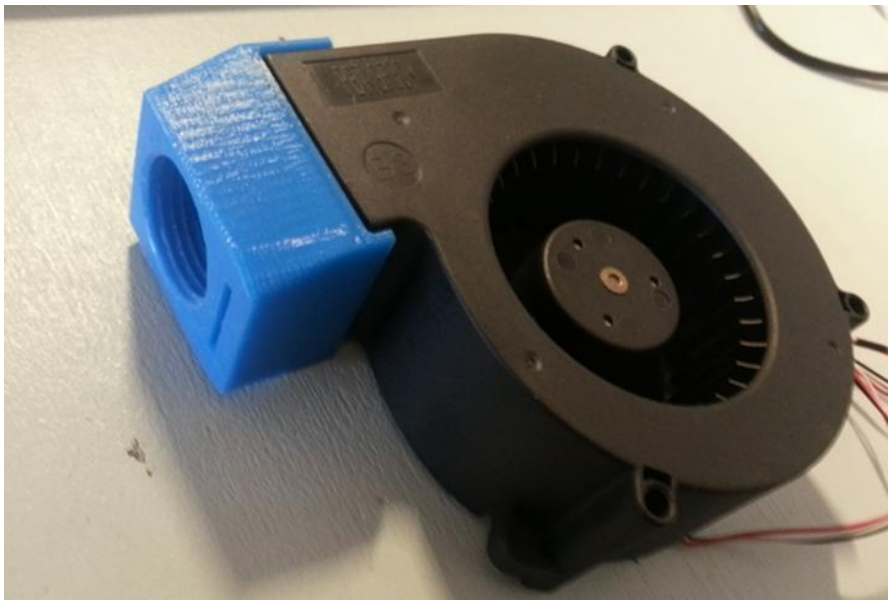

Figure 5. Blue adapter thing with fan

It is an adapter. As noted earlier, the chord organ which produces sound in the artwork needs a constant supply of air to function, and that airflow must come from somewhere before being routed to the organ. I have selected a specific type of fan for this purpose (to be used when I am not there to pump air), but to be functional it needs to enter the system in some way. At an earlier stage of this project I attached a three-quarter-inch PVC tube inlet to the organ, and this proved valuable for connecting PVC tubes from the organ to a variety of couplers, valves and so on. However, the fans selected come from a different domain entirely: they are made by the electronics company SONY, and have no immediate relationship to PVC tubes. The square outlet of the fan needs to be translated into an output suitable for the round inlet of the PVC connectors; an adaptation of some kind must occur. Hence, we have the object pictured above, a literal, functional, “adapter” which makes the project possible. The blue adapter’s round opening is threaded to allow a PVC tube coupler to be screwed into the square base (a more detailed

breakdown can be seen below, in figure 6). I am invoking this detail here to highlight how Carpentry mediates my development of the project: I claim that my project is about the processes of adaptation within a system, and as such my project must include objects which act out that functionality.

I want to find meaning in process, value in translation, and creativity in discarded things, and as such the wires, protocols, and ports which comprise the system of artworks need to speak. The value of Carpentry rests in the meaning it provides to my earlier articulation of a system as being comprised of input→ processing → output. Within this project, the travel of airflow and data make manifest a system totally dependent on continuous translation: the MIDI signals weave through the wires from one micro-controller to another, while air constantly churns through various tubes, couplers, and ports before terminating at the organ. Within the framework of Carpentry, these actions resonate not only as the sound and movement produced within the system, but also manifest as a discourse on the nature of portability.

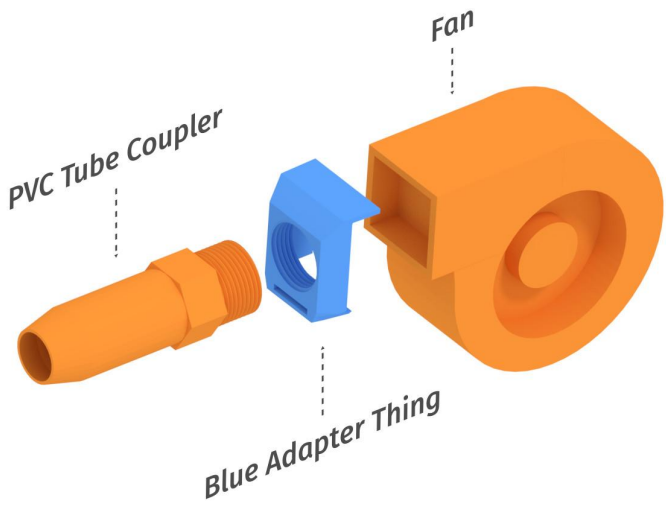

Figure 6. From square fan to round port

Chapter 4: Directed Observations

With this collection of tools and theories, what kind of work can be done? How can these inputs work together to develop a deeper understanding of my practice? The tasks which remain are focused on a reflection on my interventions into nostalgia, translation, and object-oriented ontology. The expression of this inquiry both includes (and derives from) the exhibition *Beep-Boopatronics*, which this thesis paper is centered on elucidating.

4.1 Nostalgia and Novelty

The oscillations of nostalgia as a duality of time and place are a central aspect of my work. For Boym, a specific type of nostalgia, termed "reflective nostalgia", avoids pretending to rebuild a mythical home; instead, "this type of nostalgic narrative is ironic, inconclusive and fragmentary". Nostalgics of this type are "aware of the gap between identity and resemblance; the home is in ruins or, on the contrary, has been just renovated and gentrified beyond recognition" (*The Future of Nostalgia* 88). This nostalgia is not concerned with restoring the past within the current moment, but rather manifests as a contemplative knowing. This is typically how nostalgia enters my work, where an object, like a 1980s FM radio, brings with it certain connotations. Perhaps the viewer of the work has specific memories of staying up late at night listening to a favourite station, or perhaps the electronics brand (which is now defunct) has a particular resonance or, in the most general case, the look of the object vaguely indicates that "this is something familiar". Noting the nostalgic potential of all three scenarios, the question for the work now becomes: what value does this bring to the project?

Following Boym's observation of the distance between identity and resemblance, nostalgia provides a gap which can be subverted. In *Irony, Nostalgia, and the Postmodern*, Linda Hutcheon gives a description of how this ironic gap functions in nostalgia. Hutcheon begins with

the observation that what nostalgia and irony share is an “unexpected twin evocation of both affect and agency–or, emotion and politics”, arguing that to call something ironic or nostalgic relies less on the object than on the quality of response:

> Irony is not something in an object that you either "get" or fail to "get": irony "happens" for you (or, better, you make it "happen") when two meanings, one said and the other unsaid, come together, usually with a certain critical edge. Likewise, nostalgia is not something you "perceive" in an object; it is what you "feel" when two different temporal moments, past and present, come together for you and, often, carry considerable emotional weight. In both cases, it is the element of response–of active participation, both intellectual and affective–that makes for the power (“Irony, Nostalgia, and the Postmodern”).

This description aligns nicely with Bryant's assertion that objects do not necessarily inhere particular qualities, but can be seen to act out certain functions if a set of external relations is present. This is important because it indicates that an object acts out nostalgia as part of the limitless potential of memory. In a situation where the viewer has some knowledge of the object, my intervention initiates a logical break: the FM radio no longer plays broadcasts but is the input for a separate system whose internal sense is unknown. That is to say: from the position of the viewer, the object seems poised to act out a nostalgic function, but instead it renders some unknown, novel functionality.

The presence of an unknown or shifted functionality within an object presents an opportunity: the object exists as an instance of recognition without repetition. The object resembles something from the past, but its current identity denies association with that nostalgic representation. Whether it is a FM radio which now beep-boops, or an organ-that-plays-itself which now exists where there was none, the viewer is confronted with an uncanny[7] object, acting

7. In this paper I use the word “uncanny” to denote a strange familiarity. Thus, when invoking this term I am not just calling the object “mysterious” or “odd”, but pointing towards how the changed object breaks with its former functionality. This concept comes from Freudian psychoanalysis and was perhaps first introduced in Sigmund Freud’s 1919 essay *Das Unheimliche* (Royle vii).

beyond how it might be assumed to function. Similar to narrative adaptation, there is some amount of pleasure "which comes simply from repetition with variation, from the comfort of ritual combined with the piquancy of surprise. Recognition and remembrance are part of the pleasure (and risk) of experiencing an adaptation; so too is change" (Hutcheon, *A Theory of Adaptation* 4). The work in this project acts as pivot point between nostalgia and novelty, providing a potential opportunity for an uncanny encounter.

4.2 Translation in and through the work

Porting and translation–each of these describes a movement from one state to another, and this movement itself is deep with value. As noted in the text *10 PRINT CHR$(205.5+RND(1));:GOTO 10,* in the world of computer software, "ports" are typically created because the original program is unable to be executed on contemporary hardware or software environments. Thus, a port facilitates the creation of a whole new thing which is, by design, meant to respond to the realities of a given (new) environment; "as such, porting reveals what in a program is particular to its source context, suggests many potential approaches to what is essential about the program, and explores how that essence may be portable to a specific target context" (Monfort 61). In this way, the porting of source code from one domain to another is a design challenge as well as an inquiry into the nature of the objects being approached. Important in this process is that computer source-code exists as a text which can be read, but also as a compiled program which can be executed. Thus, as Carpentry suggests, many of the insights to be gained by porting "are not available through token-by-token analysis of code. They require closely considered reading, writing, and execution of code" (61). This establishes the reasoning and functionality of my project: the system is revealed through its ports.

4.2.1 Porting and Iteration

In the exhibition *Beep-Boopatronics*, the *Just Another Beep-Boop Machine* receives data in the form of light hitting a sensor, an action which is ported throughout the system. As noted earlier, within the *Beep-Boop Machine* there is a small micro-controller which runs a short, looped program. In 2016, the program was initially written for this purpose: when a light sensor is activated, a musical note is selected, and that note is played through the radio's speaker. Within *Beep-Boopatronics*, the data must move between multiple devices, and so a standardized form of communication was needed to move information around. Not wanting to re-invent too many wheels, I selected MIDI for use as a communication system based on its use within music production and for the relative simplicity of its specification. To make the *Beep-Boop Machine* MIDI-capable, I needed to port its initial functionality from producing sound on a speaker to sending data over a wire. This process required that I deepen my understanding of how my program dealt with time, how MIDI messages are sent, and how the *Beep-Boop Machine* hardware reads data.

The object in question already had an input → processing → output pattern clearly established, but it needed to be augmented for this project to continue. The 2017 iteration of the device was a turning point, after which the object's capabilities were fundamentally shifted. A type of "symbiosis" emerged in the sense offered by Harman in *Immaterialism*, where a symbiosis is described as a non-reciprocal event early in an object's lifespan which results in a deeply changed object (118-121). As a practical matter of conversion, the important question to be solved was: (even with the help of existing software libraries) how could I change a system designed for one purpose into another, understanding the limitation imposed by my hardware and software environment as well as by my particular skills and interests. And this leads to why this

lengthy anecdote has been invoked: this process of porting, just like the process of narrative adaptation, is a process of investigation into the source, filtered through a set of sensibilities or restrictions. As Hutcheon notes, "adapters are first interpreters and then creators" (*A Theory of Adaptation* 18), who generate new knowledge about the systems in play through the creative act of doing.

4.2.2 Translation and OOO

The perceived links between object-oriented ontology and inter-textual adaptation derive from how each discipline conceives the value of individual objects. In analyzing the clichés or theoretical truisms in adaptation discourse, Linda Hutcheon notes that "film is not supposed to be good at getting inside a character, for it can only show exteriors and never actually tell what is going on beneath the visible surface" (*A Theory of Adaptation* 57-58). This is a cliché Hutcheon dismantles by pointing to examples, such as Joseph Strick's film adaptation of *Portrait of the Artist as a Young Man*, which show how "sound and avant-garde film devices can work to signal interiority nonetheless" (58). The analysis of this cliché ends with a small nod to Carpentry, when Hutcheon summarizes her observations by saying, "the truisms of theory need testing against the realities of practice" (63). In my view, the criticism of these clichés shows a similar observation as Harman, when he states that, "for if objects were nothing more than their current expression in the world, they could not do anything differently in the time that follows" (*Immaterialism* 10). Objects, media, and artists grow and change, as do the effects they impart upon the world.

To further address this point, an individual object (or an individual film) cannot be used to assert a blanket truism which narrows the ability of all objects of that type. As Leitch says, "though novels and films may seem at any given moment in the history of narrative theory to

have essentially distinctive properties, those properties are functions of their historical moments and not of the media themselves" (153). This notion orients my selection and handling of the found objects within my practice. For example, the FM radio and the malfunctioning chord organ were selected to work together in part because of their shared history as music and entertainment devices. From this starting position, through *Beep-Boopatronics* their previous roles are expanded into a new musical instrument.

Comparisons between OOO and inter-textual translation can also be raised when the transposition of meaning is discussed. As Walter Benjamin articulates, "the task of the translator consists in finding the particular intention toward the target language which produces in that language the echo of the original" (258). This follows the perspective of OOO, as Bogost notes: "objects try to make sense of each other through the qualities and logics they possess. When one object caricatures another, the first grasps the second in abstract, enough for the one to make some sense of the other given its own internal properties" (66). In either case, the echo, or "caricature" is an interpretation of the initial message, facilitated in part by the translator but formulated by the receiving object. Interpretation is often required and problematic, as the reading of one language, film, novel, or MIDI signal is always a translation/adaptation in both the inter-textual and object-oriented sense.

4.3 Incongruity, Absurdity, Sound

In terms of ironic reversals, the incongruity of a re-presented situation provides an opportunity for diversion. Henri Bergson, observing the humour in viewing a repeated scene, notes that "we may be shown only one, provided the other is really in our minds. Thus, we laugh at the prisoner at the bar lecturing the magistrate; at a child presuming to teach its parents; in a word, at everything that comes under the heading of 'topsyturvydom'" (48-49). The "topsyturvy"

scene presents a recognizable environment in which the elements in play have been inverted. This sort of mad-cap reversal is a potential resolution to my nostalgic inversions, described earlier in this paper. In general, the function follows a repeated format: the results of one process are expected, yet an unanticipated product is produced. In Bergson's concept of the ludicrous in events, this "may be defined as an absentmindedness in things, just as the ludicrous in an individual character always results from some fundamental absentmindedness in the person" (52). The "absentmindedness" alluded to here is a reminder that events, and persons, often follow no determinable series of causation, and moments are filled with coincidences, absurdity, and boredom.

As noted earlier, Bergson's comic element in situations shares a commonality with Camus' concept of the absurd. Camus' discourse follows the notion that "to an absurd mind reason is useless and there is nothing beyond reason" (34). If there is such absentmindedness in events, and if reason is useless, then the comic and the absurd are similarly deployed as defenses in a struggle to survive the "confrontation between the human need, and the unreasonable silence of the world" (26). Under any name, these notions present an opportunity for a process, or mundane experience, to give way to a new critical perspective. Laughter, boredom, and absurdity all describe a framework in which insight can be created from mundane, repeated processes, or a perceived gap of meaning. My work enters this discourse through its relatively complex process of ports (from light, to MIDI, to servo movement, to air), placed in contrast to the chord organ's relative simplicity: in its original working form, the chord organ just needs to be plugged into a wall outlet in order to function.

Within *Beep-Boopatronics,* air comes into the chord organ, and is stored in large plastic pillows. Data flows into the *Beep-Boop Machine* and is routed via MIDI to a servo controller.

The terminal device in the system is the chord organ which receives air and whose keys are pressed down by the servos corresponding to the MIDI note message received by the micro-controller. There is some enjoyment which results from the visual experience of seeing these objects all working in conjunction with each other–at some level, the system was designed with the visual experience in mind. However, the sound produced within *Beep-Boopatronics* warrants special consideration: sound is present as the initiating force of the project, as well as the continuous result of the system.

4.3.1 Sound as System, Sound as Opportunity for Adaptation

One composition created for *Beep-Boopatronics* contains a randomized sequence of notes on a minor pentatonic scale. This composition exists on a roll of paper which is fed into the *Beep-Boop Machine* and can be taped to form a loop, forcing the chord organ to play a continual stream of notes. This is a process selected to produce a seemingly un-ending arrangement which still has a defined and mostly pleasing aesthetic. The amount of air pressure in the system will determine the loudness of the notes being played, thus the volume is also randomized to an extent. One function of the sound produced from the organ is its presence as a signal: beyond the clicks of the servo motors, if sound can be heard from the organ, the system is churning and working in a complete way. In the context of the project's inquiry, the sound feeds into what I have described as a seemingly absentminded, potentially absurd event: once airflow has reached a peak, the sound continues, and continues, and continues, and while it may be somewhat pleasing (though, eventually, somewhat grating), it has no rational "end". And so here, after this long series of translations of data, of physical manipulations of pumped air, we are presented with a continuing series of sounds which never quite resolves as a melody. The sound is a manifestation of a series of occurrences which are mediated by rolls of paper, an FM radio, tubes

of PVC, and tiny servos–but the sound presented does not immediately serve to explain those occurrences. The result is a moment which is a bit absurd, maybe even a bit boring, but certainly qualifies as a comic moment where the process and result meet to point out the inanity of the system.

More than an ostensibly absurd moment, the sound in the system presents another opportunity to engage with adaptation. The paper fed into the *Beep-Boop Machine* can be used to play any composition which fits into the confines of its system of representation; to that end, I can experiment with different ways to engage with sound. The randomized composition described at the start of this section provides a particular mood: the slow play-through of the minor pentatonic scale feels pensive and almost somber. That composition provides a comic contrast to the motion and drollery which surrounds it: the constant pumping of air, paired with the odd air-pillows which slowly deflate if there is a lapse in effort. Moving beyond that initial random composition, I, as the system's designer, get to also insert myself as a composer. To that end, I choose to build on my previous use of indeterminacy while bringing my discussion on translation back into the realm of inter-textuality.

The selection of a source work to adapt into a compatible composition requires a consideration of the limitations and quirks of the system. Due to a combination of small design decisions throughout the creation of the *Beep-Boop Machine*, the key consideration is that there is no way to keep metered time during a composition, and as a result, playing a composition more than once might not yield the exact same performance. These factors combined point toward John Cage's composition *A Room* (1943), which has no imposed time signature, can be played with or without preparations, and sits well within the limited octave range of the chord organ (Cage 33–35). Thus, *A Room* plays well to the quirks of my strange musical instrument.

This process of adaptation will be completed in advance of the exhibition's opening reception, and will offer me the opportunity to place myself in the role of adapter in a way that I have not yet experienced during this project.

Chapter 5: Conclusion

I am prone to introducing my interests and obsessions with the qualifier, "for better or worse," as in: for better or worse, this project reflects my fixation with wires, communication, and out-of-date consumer products. Of course, the phrase really means: if these obsessions are an aspect of my personality and approach to making artworks, then it is my responsibility to diligently pursue them whatever conclusions may come. In this particular instance, I have focused on creating a juxtaposition between novelty and nostalgia and studied how the translation of energy and data through the objects within my practice may generate interesting effects and meaning.

The artwork developed out of this process is a strange combination of odds and ends: a de-electrified chord organ, a *Beep-Boop Machine*, and many large pillows of air. Connected by a series of inputs and outputs, the system plays out an absurd comic moment where all of the machinery forces airflow and data into a small instrument, playing an indecipherable tune. These objects have been mobilized to expand their previous functions and expectations for the purpose of discovering what can be made out of them, even though they are on the edge of their own obsolescence.

To point toward future possibilities for interaction, there are a number of divergent explorations which can be mapped onto this thesis project. A unifying notion to bridge OOO and inter-textual adaptation might be the idea that there are, simply, no truly interpretable objects. A succinct synthesis of this idea can be found in Miguel Tamen's introduction to *Friends of Interpretable Objects*, wherein he claims that "there are no interpretable objects or intentional objects, only what counts as an interpretable object or, better, groups of people for whom certain objects count as interpretable and who, accordingly, deal with certain objects in recognizable

ways" (3), a statement which further addresses the instability of translation and meaning, and certainly warrants future investigation.

Within the scope of what *Beep-Boopatronics* could make comment on, there is the matter of entire other domains which can be explored. At the level of cultural critique, this project could be positioned more strongly as a discourse on planned obsolescence, the right to repair, commodity culture, and so on. This thesis paper is a type of origin story, where the installation *Beep-Boopatronics* was elucidated from the point of view of my current interests and sensibilities. In the future, I will explore how the installation changes if I align it with samples of video work, or change my mode of interaction as a performer. In the installation's current configuration, humour and incongruity are highlighted to the point of absurdity, but a deadpan presentation may facilitate a more pointed critique of commodity culture. *Beep-Boopatronics,* as a practice-led investigation of things and how they interact, demonstrates how a discourse on objects can serve to illuminate diverse domains. This is an opportunity, and responsibility, I will continue to pursue in all of *Beep-Boopatronic's* variable manifestations.

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Appendix A: Extra Things

Included in this appendix are a selection of images from the exhibition's installation.

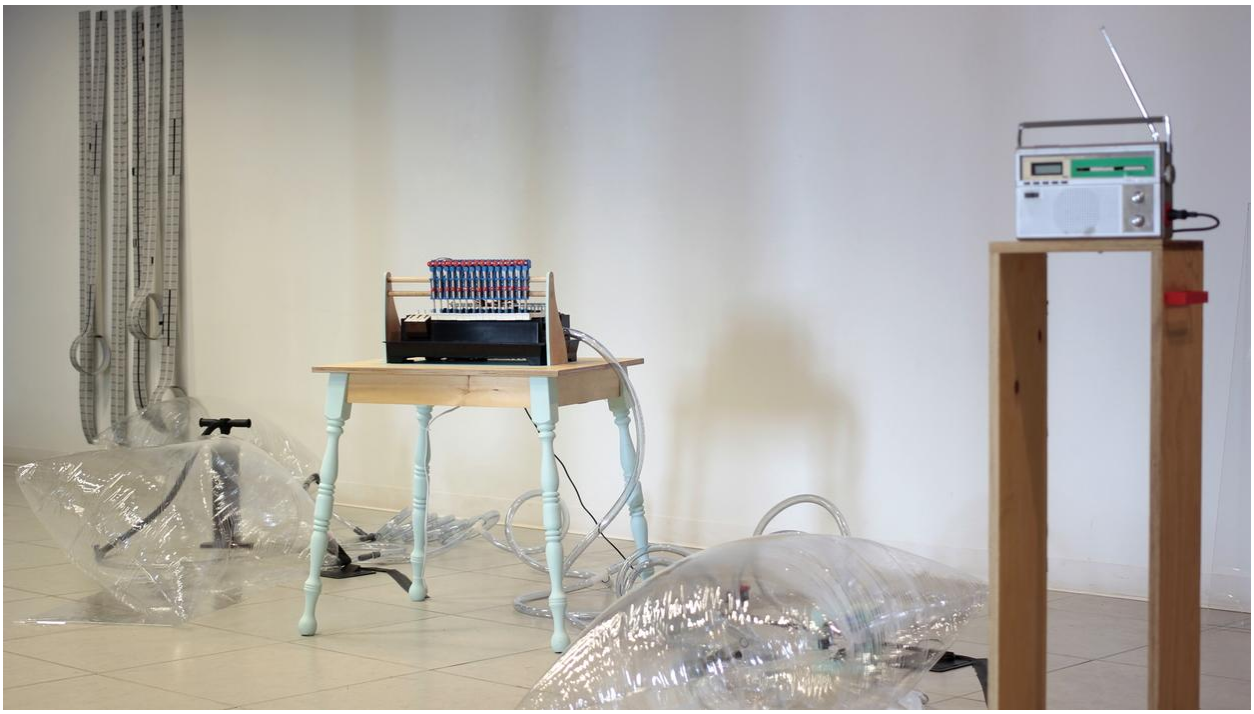

Figure 7. Installation of *Beep-Boopatronics* at 49 McCaul

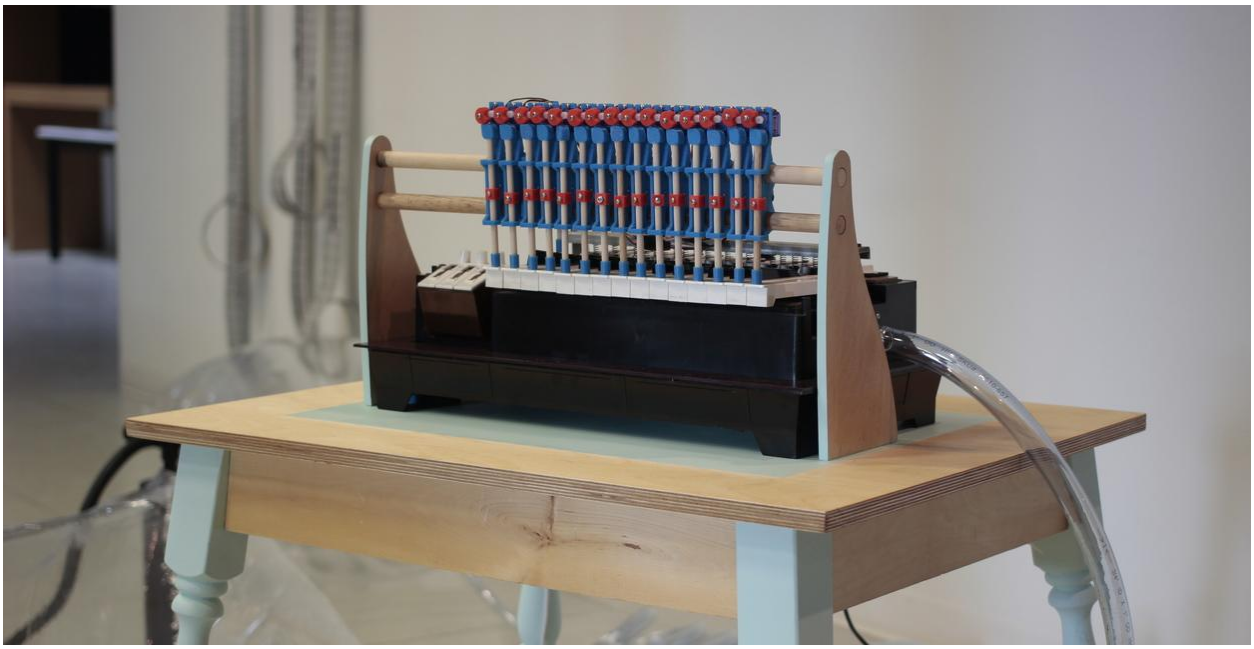

Figure 8. Close-up of the completed chord organ

Figure 9. Applying pressure on an air pillow

A complete demonstration of how the elements come to work together can be found here: https://youtu.be/8uhFDAcKuHk. Below there are two frames from Charlie Chaplin's *Modern Times* (1936). Clips from this film were shown in a room adjacent to the installation space in order to bring in visual energy, in case I was not available to act in the installation.

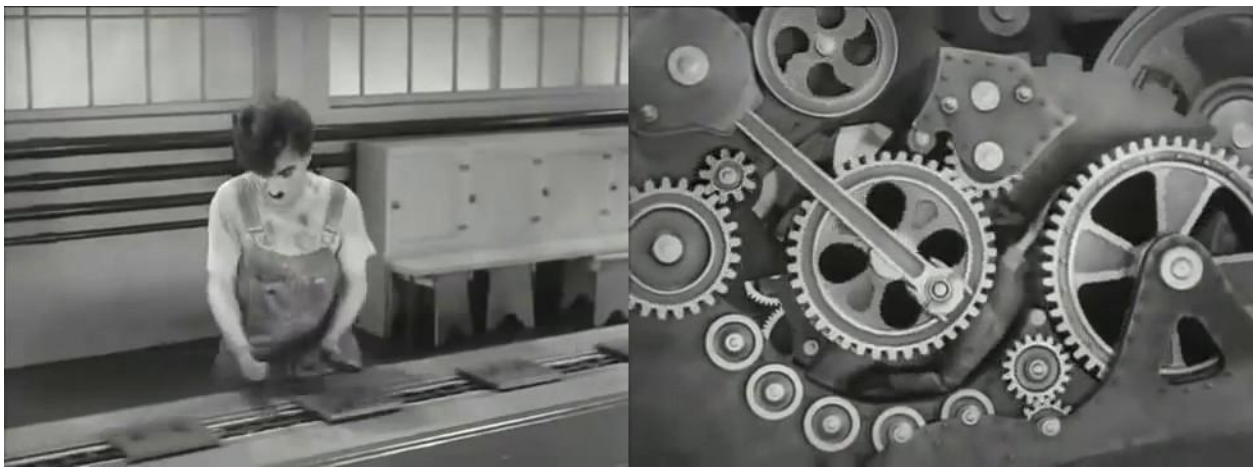

Figure 10. Still frames from Charlie Chaplin's *Modern Times* (1936)