A study of the complexity of function directed by human use and behavior

Elizabeth Grabowski 2014
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EVOLUTIONARY FUNCTIONALISM

A STUDY OF THE COMPLEXITY OF FUNCTION DIRECTED BY HUMAN USE AND BEHAVIOR

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**A book within a book**

**Evolution as a model**

**Questioning time**

**Understanding folds**

**No longer page**

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In simplicity there is complexity, and in curiosity there is design, which is driven by the process. The process is chronological, not linear and a manifestation of the human condition. By enveloping themselves in process, the designer is exposing themselves to the reality of the human condition. They are exploring what it means to be and create. With intention, but not expectation, the designer seeks to learn what potentiality exists in this world. The object is the product of design and the process. The object is the manifestation of the human condition, created through the hands of the designer. What we make is what we are and what we are is designed.

INTRODUCTION

The beginning to the beginning

This thesis is a catalogue of ideas, objects, and designs that are all connected with one overarching concept developed throughout the academic thesis: evolutionary functionalism. Before this idea is dissected, it is necessary to understand the manner in which it was observed. This thesis is a theoretical foundation for this concept that explores its application for designers, curators, and all those that exist in a world of man made "entities". The product is an extensive research based process, not a conclusive space or guideline, and a theoretical foundation for practical application towards designing for human use. The foundation for this concept was created through experimentation, which in this case means that hypotheses were tested without a clear, direct goal, and instead initiated through questioning. That is to say the project did not lack control, but that the project naturally developed through unanticipated exploration, intentionally. The final product is not known, the method is not known, and the results are not known, but there is a logical connection between man made space and things and their relation to the human condition. The unpredictable nature of the process leads to further theoretical development, as it causes the hidden qualities of spaces, objects, and concepts to naturally reveal themselves.

Therefore, the product, this book, may appear to be a collection of seemingly sporadic investigations, but is really the result of the process creating a certain complexity that allows for patterns and realizations to emerge. For this reason the process develops chronologically, meaning one can trace why events occurred and how they affected other decisions, but the results are not linear. Tracing this project, which will be explored in a later section, would not result in a simple, easily interpreted path. So, how does one speak about the development of an idea with such a complex path? By tracing the path chronologically, but not linearly, interpreting the investigations and their apparent meaning or observed phenomena, and exposing the complexity of every decision which wove the next step of investigations. When continuing beyond this page, note this process and how it has influenced this snapshot of a final product. A process in constant flux, morphing with every new discovery, is difficult to capture. This project continues forever, asking more questions, clarifying more details, adding more complexity, but this is where it ended for this academic thesis, in this time and place. Reflect on this thesis as a foundation to an impermanent end, and an introduction to the introduction of the future of design thinking.
*1: [WHEN AN OBJECT BECOMES MORE THAN IT’S OBJECTIVE QUALITIES ACCORDING TO ITS SOCIAL CONTEXT] [DESIGNING FUNCTION FOR THE POTENTIAL VALUE IN COLLECTIVE HUMAN ACTIVITY] [AN ADAPTATION TO AN OBJECT THAT GROUNDS THE OBJECT IN ITS SOCIAL CONTEXT IN ADDITION TO THE PROBLEM IT IS SOLVING] [BEYOND SURFACE QUALITIES]

*2: [HUMAN INTERACTION, EXPERIENCE, COMPLICATED FUNCTION, RATIONAL BEHAVIOR, POTENTIAL FORCE, EFFICIENCY, CRISIS, RUPTURE, ABSTRACTION OF BEHAVIOR] [ICON, STANDARDS OF CONSISTENCY, MUTUAL DEPENDENCE]
SKETCH BOOK 011 A

THURS. June 28, 2013 at 1:00 PM

J. M. Canada

1. Talked on the phone with Morgan. He asked me if I’d heard from you. I told him you were busy with your own projects. He said he was glad to hear from you recently and that he had been working on a few things lately that he thought you might be interested in. I mentioned that I was also working on a few things, but I didn’t want to say too much in case I got the impression that I was interested in something else.

2. I’m still undecided about whether I should change my major. I’m not sure if I want to pursue a career in architecture or if I should stick with my current major in engineering. I think I need to explore both options more before I make a decision.

3. I’m thinking about taking a course in urban planning. I’ve always been interested in how cities are designed and how they function. I think it would be interesting to learn more about the history and development of cities.

4. I’m also considering taking a course in art history. I’ve always been interested in art and I think it would be interesting to learn more about the different styles and movements that have influenced art throughout history.

5. I’m still undecided about whether I should take the engineering course or the urban planning course. I’m not sure which one would be more interesting or which one would be more useful for my future career.

6. I’m also thinking about taking a course in business. I’ve always been interested in how businesses operate and I think it would be interesting to learn more about the different aspects of running a business.

7. I’m still undecided about whether I should take the business course or the engineering course. I’m not sure which one would be more interesting or which one would be more useful for my future career.

8. I’m also thinking about taking a course in art history. I’ve always been interested in art and I think it would be interesting to learn more about the different styles and movements that have influenced art throughout history.

SKETCH BOOK 012 A

I have strava ridden before. It is necessary. Be aware of it. Recognize it.
According to the philosopher, nonorganized, organic, based on sensory abilities. Proceeding from a passive mind rather than the internal world. Pertinent to the characteristics of an individual's personality, individual, relating to the self.

Objective facts, real-life observable results. Something that each effort or action is intended to attain or accomplish, purpose, goal, target. And, can determine relating to the body.

Tolerance, an object perceived needs. Any action or activity proper to a person's living.

Organization - the governing rule. To form an or into a whole consisting of interdependent or coordinated parts.

Organizations understanding what it means to be human.
**INTRODUCTION**

**EVOLUTION**

**THE BEGINNING**

Syllabification: ev·o·lu·tion

Pronunciation: /ˌevˌˌloˌoSHˌn/

**NOUN**

1. The process by which different kinds of living organisms are thought to have developed and diversified from earlier forms during the history of the earth. The idea of organic evolution was proposed by some ancient Greek thinkers but was long rejected in Europe as contrary to the literal interpretation of the Bible. Lamarck proposed a theory that organisms became transformed by their efforts to respond to the demands of their environment, but he was unable to explain a mechanism for this. Lyell demonstrated that geological deposits were the cumulative product of slow processes over vast ages. This helped Darwin toward a theory of gradual evolution over a long period by the natural selection of those varieties of an organism slightly better adapted to the environment and hence more likely to produce descendants. Combined with the later discoveries of the cellular and molecular basis of genetics, Darwin’s theory of evolution has, with some modification, become the dominant unifying concept of modern biology.

2. The gradual development of something, especially from a simple to a more complex form: the forms of written languages undergo constant evolution.

3. Chemistry the giving off of a gaseous product, or of heat.

4. A pattern of movements or maneuvers: silk ribbons waving in fanciful evolutions.

5. Mathematics, dated, the extraction of a root from a given quantity.

**Origin:**

Early 17th century: from Latin evolution(n-), “unrolling,” from the verb evolvere (see evolve).

**AUTHORS NOTE**

Evolution: the process by which things change as they are subjected to environmental and physical pressures.


“Sometime the problem is a rational one and sometimes it is an artistic one. We always may be sure that every man-made thing arises from a problem as a purposeful solution.”

George Kubler
The Shape of Time
FUNCTION

Syllabification: func·tion
Pronunciation: /ˌfˌNGkSHˌn/
NOUN
1. An activity or purpose natural to or intended for a person or thing: bridges perform the function of providing access across water. Vitamin A is required for good eye function.
1.1 Practical use or purpose in design: building designs that prioritize style over function
1.2 A basic task of a computer, especially one that corresponds to a single instruction from the user.
2. Mathematics: a relationship or expression involving one or more variables: the function (bx + c)
2.1 A variable quantity regarded in relation to one or more other variables in terms of which it may be expressed or on which its value depends.
2.2 Chemistry: a functional group.
3. A thing dependent on another factor or factors: class shame is a function of social power.
4. A large or formal social event or ceremony: he was obliged to attend party functions.

VERB
1. Work or operate in a proper or particular way: her liver is functioning normally.
1.1 (function as) fulfill the purpose or task of (a specified thing): the museum intends to function as an educational and study center.

Origin:
mid 16th century: from French fonction, from Latin functio(n-), from fungi 'perform'.

EVOLUTIONARY FUNCTIONALISM

The particular design process discussed in this thesis has been termed evolutionary functionalism, which is the recognition and interpretation of existing habits of human behavior that influence the designer to explore the potentiality of human action. Organisms evolve in an ecosystem according to different environmental conditions that pressure or demand change. The process of evolution is chronological, but not linear. This means that the evolution of an organism occurs in time, but does not occur at a designated rate of change or with a predetermined outcome. Scientists can only predict the future evolution of organisms and trace the results of past conditions to adaptations. Evolution is also site specific because conditions of one environment might affect an organism to change differently than if it was in another environment. An organism is subject to evolution based on whatever environmental pressure presents itself. There is no goal or ideal form in evolution; it is simply a physical response to environmental conditions. For clarification consider the following scenarios: In a stable environment, organisms may directly evolve as different conditions present themselves. There is no immediate crisis that requires the organisms to adapt quickly. However, in the event of a significant change to the ecosystem the organism are under greater pressure to change in order to survive. For example, an ice age or a new species introduced to an environment disrupts the ecosystem’s rate of change. The organisms within the environment either live or die depending on their physical attributes, and the surviving organisms pass on their genes and create an adaptation. Therefore, not only is the rate of evolution dependent on the conditions that present themselves, but it is also simply a formal and functional response to different conditions, not an effort to be an ideal organism.
Evolution as a model can be applied to the design process through the exploration of the existing functions of spaces, objects, and other man-made phenomena; hence, evolutionary functionalism. The experiments documented in this thesis attempt to apply this theory through architectural processes.

The function of a designed entity is subject to certain external environmental pressures, primarily human expectations and use. The form and function of objects has developed throughout history based on a variety of pressures, which will be explored throughout this thesis. Objects evolve by the hand of the designer as they respond to these pressures. Designers can recognize these pressures as an opportunity for innovation, to encourage a design to evolve more relative to its environment and function.

The original inspiration for this concept was developed from a computer program called CAPTCHA. CAPTCHA is a computer program that distinguishes users as human or computer. The original developers of CAPTCHA used distorted images of text as data input that could be interpreted by a human user, but not by automated programs typically created to generate spam. Every day approximately two hundred million human users spend roughly 10 seconds interpreting CAPTCHAs, adding up to a total of 150,000 hours of human use [1].

ReCAPTCHA is an effort developed by Luis Van Ahn and the School of Computer Science at Carnegie Mellon University to channel this human effort towards a greater good. The innovative redesign of a CAPTCHA allowed human interaction to become more productive by digitizing and archiving books, newspapers, and old-time radio shows through the interpretation of blurred text by users, making this information accessible worldwide.

If how humans “use” things can be applied to non-physical human action on the internet, it could also potentially be applied to actual, tangible human action and allow designers to create objects and architecture to be more impactful based on the use of humans.

Hence, evolutionary functionalism became an exploration into the existence of everyday objects and spaces, explored as a design method allowing the human condition to be illuminated further through the hands of the designer based on their observation of real-world users. The key to designing for this condition is not to create a completely new design, but instead to create an evolution of the original existing context. Much like the evolution of CAPTCHA to ReCAPTCHA, the identity of the “thing” is still intact, but the way in which humans interact with the online system was analyzed as a design asset. In the case of ReCAPTCHA, the design could be considered crowd sourcing or taking advantage of the actions of a mass quantity of people. However, evolutionary functionalism can be examined on multiple scales, including individual use. How one individual interacts with a single object can influence the object’s purpose and be used as a design asset.

Evolutionary Functionalism: Giving a collective experience to a part of a group...
EB: Do you remember those examples I gave you...

MOM: No.

EB: Well the first was ReCAPTCHA, which is a code that proves you are human to the computer software, but someone made more than what is its blurred passages from books, radio shows, magazines are interpreted by users and turned into an online database.

DAD: Huh, that’s interesting.

EB: Yeah, what I am doing is something like that but more some how. The second example was an imaginary transportation system that requires bricks as tickets of passage. The station would be in an area that needs demolishing. As people used the station the buildings would be demolished. The third is trash cans at Taco Bell...

MOM: Oh! I get it! The ones that talk back when you throw things out?

EB: :-O YES! (This never happens... MOM never knows what I am talking about when I describe my projects... I had to take advantage of the situation!)

MOM: And everyone cleans up and throws things out because it is fun?

EB: :-O YES! But what I am doing is all three examples combined but some how more...

MOM: Yeah...yeah...I get it.

EB: So then let me explain this. I am reading a book. It talks about potential. Say I have a pen. The fact that I define it in itself limits its potential. This one thing can be linked to thousands of other ideas. It is much more than a word or a writing utensil. Anything can come from it beyond what we think it should be. The pen with one word and one purpose is striated [1]...the grid... the one controlled existence. But when that pen becomes more and is subjected to unlimited possibilities, that thing moves beyond the grid and becomes smooth!

MOM: Huh. I think striated.

EB: But do you get it?

MOM: Yes. It’s very cool.

EB: So what am I doing?

MOM: Your making something more than it is... in... its function.

EB: What would you call it?

DAD: I think its evolution. (DAD is a biologist) The things you are changing are doing so because of the environment they are in and there is pressure for them to change. He like adaptations.


Revolutionary Functionalism.
Animation in Presentation!

Death, viability, physical, and the "people".

The process of the architect's tool is the deft placing of the design through stepwise interaction with the "people". This is not a static, isolated, mechanistic approach, but that I have a certain need to be linked between the past and the future.

What is "communication"?

In an urban environment with the word "human" and the "real" in the same sentence, the architect's tool communicates with the "people". An urban environment is not isolated, nor is it an isolated event. And no work is an isolated tool.

What is "communication"?

"An urban environment with the word "human" and the "real" in the same sentence, the architect's tool communicates with the "people". An urban environment is not isolated, nor is it an isolated event. And no work is an isolated tool."
What I mean to say is that the flow of visual elements is less like a series of sequential images than a continuum of experience in which the viewer is drawn into a deeper understanding of the story being told. The flow should be organic, not linear, allowing the viewer to explore the artwork at their own pace. The key is to create a sense of movement and rhythm that guides the viewer through the piece, encouraging them to engage with the content on a more emotional level.

In this way, the artwork becomes more than just a collection of images; it becomes an immersive experience that invites the viewer to participate in the story. The artist's role is to create a space for the viewer to connect with the artwork, to feel a sense of movement and change, and to experience the story in a way that is both personal and universal.

The artist's goal is not to create a finished product, but to create an open-ended dialogue with the viewer. The artwork should be a starting point, a catalyst for thought and discussion, and a reflection of the artist's own journey and growth. By creating a space for the viewer to engage with the artwork, the artist can inspire and empower them to think more deeply about the world around them and their place in it.
NEVER FORGET THIS!

This book's rupture... Since I gave up

which is a code that prevents

but someone needs it now

and sends an memo: another database of random data

like that because somehow

transportation system that

by chance. The driver would

be documented. The engineer had to


I want to think about what he’s thinking about me thinking about thinking about things I have already thought.

Can you think about a thought before you think it?

Some things must come after some things must be concloussed. Sometimes must be understood or else you don’t understand.
INTRODUCTION

Although evolutionary functionalism seems empirical thus far, the process of understanding and utilizing human habits is very complex and subject to human sentiment. Therefore, designers should embrace both the objective and subjective interpretations of this design process. The process is a series of questions that enlighten an unending path of questioning. There is no end to questioning, and therefore no end to the process. There is no beginning, middle or end to this project; it is driven by process. This book is simply a frozen “snapshot” of where the questioning existed at this exact moment in time and place. It is an idea that has been brought forth through architectural investigation and is nurtured through the curiosity and intuition of the designer.

We create in a world of great complexity, and to understand where we exist within it we must open ourselves to its depth. This process is driven by the designer. It is not linear, but there is a chronological pattern to the events that occur. The process has been driven through the sketchbook, and as such is experimental and propelled by discovery. The designer is unaware of what will happen next, or what the results of experimentation will be. This is an imperative component to this process as it provides opportunity for the designer to see beyond their own intuition. This process may appear unsophisticated, but it provides naive observation and intimacy with an architectural, spatial, or cultural relationship, resulting in insight for innovation related to human action.

By participating in this process, the designer’s role is to reveal the potential in the complexity of human existence, including seemingly mundane experiences. Nothing about this process is perfect. In fact, frequently in the details of imperfection are where the greatest leaps of process occur.

The sketchbook was realized as a tool early in the process that illuminated these imperfections of human existence and became a source of information in and of itself—becoming the very thing that was attempting to be achieved.

The sketchbook became “the book” in an unforeseen moment, during a meeting, while the designer was casually scribbling on a scrap piece of paper. She was thinking of the project and began drawing. The sketchbook already existed, but was not in the near vicinity. The ideas that became physical on the scrap piece of paper belonged in that sketchbook; she could not forget them. Later after that meeting, she taped the scrap into the sketchbook and realized it was now “the book.” All ideas regarding the process were interrelated and should become a physical manifestation in the book. That moment was the book’s rupture (see page 45) when it became more than a sketchbook.

From then on, “the book” was treated as more than a book and observed, analyzed and teased, pulling information from every action that the designer fed it. No longer was it a surface for writing, but instead a collage of actions: folding, cutting, stamping, taping, painting, ripping, etc. No prior intention, like the rest of the process, was created for the book’s desired form, for if there was a preconceived image, the results were quickly found to be unnatural and shallow, tainted with forced perspective.
Ideas manifest themselves in the book in a variety of forms. As stated, no preconceived notion was used to create the idea. It simply happened, and afterwards was analyzed and noted to create “crisis” (see page 044). The idea was no longer simply a method of physical documentation, it was brought to the forefront in the form of a new physically which could not be looked over. Examples of common physical ideas and methods of using “the book” are included to depict the many different forms of ideas.

**Physical Manifestations of Ideas**

**A Sketch Book within a Sketch Book**

It was noted that many sketchbooks that had been created in the past had similar ideas that aligned or led to the process. They were then added in “the book.”

**Writing in Multiple Directions**

Typically “the book” was used while participating in other activities like reading, listening, talking or watching. This resulted in quick, spontaneous note taking and often caused many overlapping text styles and directions.

**A Fold to Another Page**

Often times the ideas of one page were connected to the ideas of the previous. Pages were folded to attach these ideas and look for results or further meaning in the connections.

**Folds on Folds**

Folds were created in the midst of thought and often resulted in the physical representation of thought as the project progressed. As the folds layered the pages were lost amongst themselves.

**External Material**

Many components of “the book” were added, particularly outside notes created in spontaneity. Everything created in reference to the project was documented and woven into the book.

**Colors as Thought**

The process of interacting with “the book” whilst in thought was often brought about when reading. To take advantage of the thoughts that surfaced they were documented in folds, and then the fold was emphasized in an effort to define the thought and create hierarchy or show importance.
Multiple times during the process, advisors, mentors, and curious spectators would write in “the book” in the heat of discussion as they frantically searched for a pen to jot a thought. This did not happen often, but when it did, it was collected and emphasized. This is Wladek’s page.

Thoughts often overlapped other thoughts, creating complex overlays. When they proved important, objects themselves were mixed within the book, which became both a way finding tool and a reminder.
External sources - pictures, articles, etc. - were often added to "the book."

"The book" became a method of working through diagrams in their early stages, which constantly evolved and found themselves reentering "the book."
The curious nature of the development of “the book” showed interesting sectional qualities and were investigated in the following sketch problems. It was concluded that not only did this project develop more quickly in section, but working in section also illuminated other steps of the process.

In order to understand the spatial development of thought within “the book”, a section was created by following the folds of each page. The result was a very spatial, building-like texture. This observation illuminated the importance of sections towards the development of the process of evolutionary functionalism as they are the best graphical representation of time and space, as well as the most dynamic form of documentation. After this observation, designing and observing in section became a point of interest.
*Think about being a human*

*That's always the answer.*
WARNING:
THESE CONTENTS ARE STRATEGED.
THEY PROVIDE VALUABLE INSIGHT... BUT READ NOT.

[Handwritten notes on a page with various entries and doodles.]

10 OCTOBER = 5
11 NOVEMBER = 9
12 DECEMBER = 10

[More handwritten text and doodles.]
You have component

A Grave Earnest

CIVIL INVESTMENT

eeiv

what is the contemporary exuberance.

neurosis...

organism! Harry Harris

you can draw on the walls.

there is a chaldean, delight element.

imagination
SKETCH BOOK 059 A

SKETCH BOOK 060 A

Precaution

Scene

book

Conversation

NE PEOPLE Y

ONEENT

About certain

Graham's

Children's book
INTRODUCTION

In order to study the evolution of the functions of man made things, it became necessary to investigate the interrelation of things in time and space to understand what conditions affect change and to observe what factors contribute to an object's existence. Through this investigation, a set of terminology and graphics were developed to understand and communicate these relationships.

OBJECT

NOUN
Syllabification: object
Pronunciation: /ˈobjkt/
1. A material thing that can be seen and touched: he was dragging a large object, small objects such as shells
1.1. Philosophy A thing external to the thinking mind or subject.
2. A person or thing to which a specified action or feeling is directed: disease became the object of investigation
2.1. A goal or purpose: the institute was opened with the object of promoting scientific study
2.2. Grammar A noun or noun phrase governed by an active transitive verb or by a preposition.
2.3. Computing A data construct that provides a description of something that may be used by a computer (such as a processor, a peripheral, a document, or a data set) and defines its status, its method of operation, and how it interacts with other objects.

VERB
Pronunciation: /ˈobjkt/
1. Say something to express one’s disapproval of or disagreement with something: [NO OBJECT]: residents object to the volume of traffic
2. Grammar [WITH CLAUSE]: the boy’s father objected that the police had arrested him unlawfully

Consider every thing a man has made - this we may achieve sooner by proceeding from art rather than from use. For if we depart from use in like all useless things are overlooked, but if we take the desirableness of things as our point of departure then useful objects are properly seen as things we value more or less dearly.

George Kubler
The Shape of Time


The term **object** is typically assumed to refer to a small entity that can be held with human hands containing a certain set of physical qualities which identify it and contribute to its purpose.

The term object is in fact much more complicated than this simple definition suggests. At what scale does an object no longer become an object? The term object and the application of the study of evolutionary functionalism to such entities is scalable, and is not determined by the criteria of size. Instead the idea of an object presents itself as an identity related to other objects that exist in a *spectrum of objectivity*. Within this spectrum, there are a variety of scales and conditions that redefine objectivity.

On the urban scale, an entire city can be recognized and declared distinct by its skyline. Does this mean that the skyline is an object?

One interesting characteristic of architecture in regards to the urban and building scale is its analysis through drawings and models. Designers draw and create “object sized” models in order to analyze the spatial qualities of cities and buildings. Through the objectification of space, architects are able to criticize or make physical the qualities they are investigating. In addition, there are smaller objects that can affect an entire building or form of the city. For example, if a trash can were designed so that everyone were encouraged to throw out trash more frequently, the entire cityscape would be affected by improved sanitation.

Materiality is one of the most influential objective forces that manipulates the form and function of cities and buildings. The invention of glass and the evolution of the components that are used to install it is one example that has transformed both urban and building forms and functions.

An interesting component to the spectrum of objectivity, proving the complexity of the definition of an object, is the imaginary object. Fictional objects are described exactly the same as real objects. The imagination forms objective qualities for things that do not
exist in real time and place. A horse can be
described exactly the same as a unicorn.
Not only is the term object scalable,
but objects themselves are comprised of
multiple objects. Each object may consist of
many smaller objects, and that object may
be part of a larger component, creating a
hierarchy of objects. For example, if a door
was the object under investigation (hierarchy
001) in the image on the right, it would
consist of smaller parts like screws, hinges,
door knobs, panes, etc. It would also be part
of a larger wall assembly, held within framing,
perhaps with molding, a header, and the rest
of the wall, which would be a component of
the building itself.

---

Kingdom: John Hunt Publishing Ltd.
"Instead, we approach what Husserl calls the ‘eidos’ of an object: for in the first place the object does not need its accidents, which can be shifted nearly at will without affecting the character of the object. Yet the same is obviously not true of its essential features, which the object desperately needs in order to be what it is. And in the second place, the accidental qualities lie directly before us in experience, but eidetic ones do not."

"Numerous different causes can yield the same object, which suggests that the object is something over and above its more primitive elements." [2]

What Graham Harman refers to as primitive elements in this statement taken from "The Quadruple Object," is represented by the outer skin of the sphere of the graphic on the previous page. These qualities are referred to as surface qualities, as they are what users directly experience in the world. They are the shape, color, size, etc. of the object being observed. These are the object’s displayed traits.

The concealed traits of objects are defined within this thesis as complex manipulatables. These qualities are not observable through simple experience, but require a much deeper, conscious analysis of their existence. It is complex manipulatables that designers work with to affect the eidetic identity of an object. In turn, the complex manipulatables may affect the appearance of the surface qualities.

The complex manipulatables are not simply defined traits, but instead are complex, changing traits which are made evident by observation of the object in use. For example, a fork is a very simple object that acts like an extension of the hand to control food. Typically, forks are used as part of a social experience: dining. How could the recognition of this use of the object in a social setting contribute to its functional design?

Superfication is when an object is designed to encompass many of its complex manipulatables. Through superfication, an object responds more directly to how a user interacts with it. In the case of the fork, a designer may recognize the opportunity for a fork to provide entertainment when dining in a social setting. Another example of a superfication could be a fork that detects the food allergens of the user before food is consumed.

The original inspiration for this thesis, ReCAPTCHA, is the superfication of CAPTCHA’s original use.

The feedback loop is a form of self-reflection where the designer seeks outside influence to confirm their assumptions of the observation of an object. The feedback loop originates on the most intimate level of the designer’s relationship to an object. With a process that develops naturally and organically, it is necessary to maintain control of its direction by verifying that the observed condition of the object’s existence are truly what occurs according to the user.

The feedback loop is a check to the actions of the designer’s process are applicable to the object being observed. It also acts as an ethical check. When influencing the evolution of things in time and space, it is important to gain in depth knowledge of an object’s existence so that the designer can speculate the future consequences of changes. If everything became a super object, how would society become affected? Would people rely more on the function of things? Would objects lose their cultural value? If the knowledge of superfication became applicable to weaponry, would the everyday object become a threat?

Finally, the feedback loop acts as an additional source of information for objects under investigation. No single designer can maintain control of all their talent and natural intuition, can think of every possible application of evolutionary functionalism to an object. The feedback loop encourages further exploration outside of the individual architectural process. In reference to evolution, it acts as a form of natural selection, confirming traits of an object. In reference to natural selection, confirming traits of an object. The feedback loop acts as a method of influence to confirm their assumptions of the object’s existence.

There is no formula for the creation of a feedback loop. Initiated by the designer, the feedback loop should be implemented before conclusions are drawn about an object’s existence. This allows the designer to progress beyond their own understanding of an object. The feedback loop can take many forms and is determined by the object under observation, the designer’s method, and the way in which people use the object. A few examples of the forms in which feedback loops were initiated in this thesis are provided below.

Examples of the Feedback Loop

The first feedback loop created was a series of postcards that were distributed in public places to individuals from a variety of backgrounds. The postcards included a prompt and an image which could be drawn on. The results were very successful, providing multiple new directions for the process to develop.

One of the most successful responses in this case, was a super fork that detected the allergens of a user before they consumed potentially harmful foods.

A few of the responses for this study are provided in the following pages.
The second feedback loop created was a functioning door that was placed in a public space. People were encouraged to respond to a prompt by writing directly on the door. The prompt was similar to the postcard, asking how a door could be designed to be more responsive to how it is used by people. The results were even more successful than the postcard. The postcard required encouragement by the designer for people to participate, whereas the door itself inspired interaction.
The application of these terms to various scales and their relationship to one another was developed throughout the thesis investigation in the form of diagramming and discussion. This image is an early depiction of a diagram relating the terms of the object level.

The designer is represented by the colorful shape in the far left corner.

The object affected by the designer is represented by the black and white line graphic.

The object under investigation is depicted as a single piece of wood in a large collection of a variety of different objects.

As stated earlier, the feedback loop originates from the object scale at the hands of the designer shown in this diagram. The feedback loop can be applied at greater scales, but originates on the object level, because it is the smallest unit of human interaction. It is also the scale in which humans create. Even the largest of human creations are made with smaller components.
THE INVISIBLE NETWORK

The invisible network is a term used in the article, “Can objects talk?” by Kristen Gallerneaux, the curator of communications and information technology at the Henry Ford Museum. The invisible network refers to the interconnected relationships of objects in time and space. Although formally and functionally some objects may seem unrelated, they are in fact developing under the same environmental conditions.

In order to more deeply understand an object’s existence, the object cannot be observed in isolation. There is value to understanding an object’s place and its importance to other objects. Seemingly unrelated objects may provide information on an object under observation.

THE INVISIBLE NETWORK

In an attempt to diagram the invisible network, the grand scale was created shown in the image to the right. The grand scale is a zoomed out view of the object scale, showing how objects interrelate to one another through the work of designers in a particular time and place.

While working on the grand scale, new terminology developed that was applicable to the larger scale.

The colored spheres represent objects, containing all of the information and terminology of the object scale described in the previous pages. The larger the sphere, the greater the impact the object has on the future development of other objects and society. The diagram is in constant flux. As time progresses the impact of objects may diminish. The objects are in groups outlined by colored shapes, representing the designer.

The designer could be a singular person or a group of people. Objects can not evolve without the hand of the designer. The designer also learns as they interact with and create objects, suggesting that the next object they create might be more sophisticated. Therefore, although the functions of the objects created may not be similar, they are interrelated because of the knowledge the designer has gained. For example, a designer may create a pair of scissors and discover hidden qualities related to its use. If the next object the designer creates is a bike, by association, the bike will be improved based on the designer’s discovered knowledge of scissors.

The X-axis is time and the Y-axis is place. The diagram was created in section to show the depth of objects that exist in past and present.
Time is an inherent component of change and evolution, existing as a variable of progression. Using evolution as a precedent, the rate of evolutionary change in an organism is based on the potency and critical impact of the pressures that present themselves in an environment. In addition, the amount of time that requires certain change to occur is not always an exact quantity nor is it an exact ratio. Designer’s exist within a complex spectrum of social influence from both the dogma of the past and the vision of the future. They are woven into an existing system, and their creations are a reaction to the time and place in which they were formed. When they enter this system and what is happening within it is much greater than the designer, however greatly he/she may affect it. “The Shape of Time: Remnants on the History of Things” by George Kubler, an art historian, is concerned with the evolution of form in art and its relation to time and place. His approach towards time is more of a biography, instead it is a complex whole of different clusters of events, people, and objects that are all interrelated. Each object or work of art has a pattern of prior works that can be traced or have some link of influence to its development. Kubler critiques the typical modern, archetypal nature of understanding history, and instead suggests a more comprehensive and realistic method of understanding “things” in time. The historian depicts patterns in time from man-made “things” that emit signals or meaning that can be related to one another to develop sequences or common traits of their emergence in time.

Kubler describes a cultural unit as a length of time determined by investigating the circumstances in which the object was created by the designer. For example, the typical designer’s influence is relative to their professional life, which is usually about 60 years comprised of schooling or an internship, the development of the concept, the critique of the concept, and the refinement of the concept. Therefore, the emergence of ideas and change are relative to a cultural unit of 60 years due to the pattern presented by professional influence. However, Kubler’s perception of a cultural unit is dated. Due to the collective nature of modern society, objects are no longer created through the hands of one designer, extending the cultural unit beyond 60 years. Instead of slowly passing on knowledge from the mind of a master to the apprentice, the knowledge of making has become accessible through the collective making process of corporations, entrepreneurs, and information that is more accessible to the masses through various modern data sources.

The term pressures refers to the forces in an environment that encourage change. These pressures can present themselves with greater and lesser potency. In the case of evolution, a catastrophic event in an ecosystem results in a more direct change or impact on the organism. In regards to design, there are a variety of pressures on human creation. Designers do not create in a vacuum. External influence is subject to the shocks of the people for which they design. Designers are not separate from the people for whom they design, which allows them to understand and respond directly to the pressures that the people of a time and place exhibit. Pressures are a collective influence over a designer when they create. This collective influence is not necessarily a voiced opinion, but more of a network of cultural influences that present themselves because of the likelihood of human interactions creating more opportunity for pressures to present themselves. A crisis is more evident in urban conditions, suggesting it is also related to a place. Crisis are more evident in urban conditions where the pressures for innovation are greater. The density of human interactions create more opportunity for pressures to present themselves because of the likelihood for creativity to emerge from collective thinking. Therefore, the urban condition is of particular interest in regards to evolutionary functionalism. Although the term crisis is typically associated with a negative connotation, when applied to evolutionary functionalism, it promotes neutral change. The term crisis refers to a pivotal event of great intensity or impact in which the paradigm of existence is shaken. Objects, designers, people, places experiencing change and creating direction for the designer. To truly optimize evolutionary functionalism as a design method, understanding pressures and using them as a source of information is imperative to designing objects that are more responsive to the human condition. At certain times and places in history, pressures present themselves with more impact, often perceived as cultural revolutions. In these times and places, the evolution of human creation exists at a greater rate. Noted by Kubler, “Whenever symbolic clusters appear, however, we see interferences that may disrupt the regular evolution of the formal system.” [2] Therefore, this collection of symbolic clusters or moments of fluctuation only increases if human curiosity, referred to by this thesis as crisis, represented in the grand scale image by the cluster of spheres in the upper left hand corner. This curiosity is typically related to a particular way of thinking for a certain time, like the desire of painter to explore perspective during the Renaissance. By contrast, in Italy the Webster with a particular interest in regards to evolutionary functionalism is the term crisis. "Whenever symbolic clusters appear, however, we see interferences that may disrupt the regular evolution of the formal system." [2] These “symbolic clusters” or moments of fluctuation only increase if human curiosity, referred to by this thesis as crisis, represented in the grand scale image by the cluster of spheres in the upper left hand corner. This curiosity is typically related to a particular way of thinking for a certain time, like the desire of painter to explore perspective during the Renaissance. By contrast, in Italy the Webster with a particular interest in regards to evolutionary functionalism is the term crisis. "Whenever symbolic clusters appear, however, we see interferences that may disrupt the regular evolution of the formal system." [2]
A crisis are more likely to evolve because they are under direct criticism. A crisis can exist within the work of a design process when creating an object. An object typology itself may experience crisis when it is at the end of its usefulness as society progresses. Experiencing crisis creates opportunity for change, and for this reason, the designer wants to put themselves in locations of crisis.

In "The Strategy of Conflict" [1] by Thomas Schelling, economist and professor of international affairs, there are advantages to interacting with cultures in crisis because of the opportunity for potential gain. "The Strategy of Conflict" primarily refers to international conflict, but the principles are applicable to design as well. Societies in crisis are less complacent and more open to propelling fast paced change. The desires of people are made more evident. A good example of a society in crisis is the green movement, or the desire of people to lead more environmentally friendly lives. This desire is motivated by the serious threat of an unhealthy ecosystem, and has manifested itself through green products, green ways of living, marketing, etc.

The meaning of place extends beyond the physical conditions of a location. The scalability of the concept of evolutionary functionalism infers that the idea of place can be found on multiple scales. This suggests that the concept is site specific, or relative to only one place and time. On the object scale, a design may be site specific to one person because the design pressures created by one individual may be different than another. For example, a super fork for one person may be useless to another. A person with severe peanut allergies would need a fork that detects allergens, but to a person with no food allergies this super fork would have a useless additional function.

Culture is another example of site specification. The pressures from one culture to another may be completely different affecting how people use objects. For example, not all cultures use forks for eating utensils. Some use their hands or other tools. Therefore it may not be necessary to design super forks for these cultures in the first place.

The term "rupture" [2], interpreted originally by Gilles Deleuze in "A Thousand Plateaus," refers to the moment in which a crisis occurs. It is the cataclysmic moment of change. The rupture is one of the most concrete and observable terms of evolutionary function because it can be directly identified. An example of rupture for "the book" occurred when a drawing was taped to the pages. From that point forward the book was interpreted differently.


"If we confine our study to the theory of strategy, we seriously restrict ourselves by the assumption of rational behavior—not just of intelligent behavior, but behavior motivated by a conscious calculation of advantages if our interest is the study of actual behavior, the results we reach under this constraint may prove to be either a good approximation of reality, or a caricature of it." — Thomas C. Schelling

THE STRATEGY OF CONFLICT

If we confine our study to the theory of strategy, we seriously restrict ourselves by the assumption of rational behavior—not just of intelligent behavior, but behavior motivated by a conscious calculation of advantages if our interest is the study of actual behavior, the results we reach under this constraint may prove to be either a good approximation of reality, or a caricature of it. — Thomas C. Schelling
SKETCH BOOK 069 A

SKETCH BOOK 070 A

The book... change example

Mention Honesty.

What did this do for the readers? Change experience.

Acknowledge the reader.

Mention Honesty.

What did this do for the readers? Change experience.

Mention Honesty.

What did this do for the readers? Change experience.

Mention Honesty.

What did this do for the readers? Change experience.

Mention Honesty.

What did this do for the readers? Change experience.
In order to understand the application of evolutionary functionalism to the object scale and to test the terminology, a series of experiments were created to observe objects. The experiments were developed circumstantially as the process evolved, allowing for modifications. As theoretical assumptions were made, the experiments enlightened the next steps of the process. The experiments were not pre-planned, nor were the start and end a clear moment. Developed similarly to George Kubler’s description of historical time, the experiments were performed in clusters of recognizable patterns. At the time of investigation, the patterns that emerged from the experiments were not known. The experiments provided in this section are organized based on the recognizable patterns that emerged while reflecting on the process at this point in time.

The first object examined was the fork. It was chosen because it is a simple object with a simple function typically made of only one material. The object was of interest because it had obvious opportunities for superfication as it is part of a complex social situation: dining. Logically, it was prudent to start with a simple object that existed in a condition ripe with opportunities for functional development so that observations would not be distracted by the complexity of the object and there would be many observable applications for superfication.
STORY OF THE FORK

Through historical, formal, and functional investigation a general story of the fork was created in the form of a hand drawn graphic. The graphic was created without knowing what the final product would look like. It was developed in portions as different parts of the story were illuminated.

Points of interest:

The fork is unique in its development because unlike the spoon and knife its origin is less clear. The spoon developed from the early cupping function of sea shells and the knife from primal tools used for stabbing.

Early users of the fork were considered heathens as the utensil represented vanity and a devil’s pitchfork.

Later, as the fork became more customarily used by royalty, the fork would become a political tool to encourage etiquette amongst peasants. The Catherine de Medici, Queen of England would dine in front of mass crowds displaying her use of the foreign utensil.

Once modern materials were developed during the mid 19th century, the fork began to be experimented with formally by trying out different shapes and materials, as did many other objects.

Observations:

Objects can carry social connotations of superstition beyond their physical qualities.

Objects can act as political tools.

Advancements in technology, particularly developments in material production, are considered a form of crisis effecting both the development of the formal and functional qualities of many objects. For example, during the mid 19th century, pressurized plywoods and plastics were experimented with a variety of everyday objects including furniture, tools, kitchenware, and toys.

Information for this study was derived from the following source:

The door was chosen as an object to investigate because it contains many different components. It was questioned whether or not an object with many parts, like a door, could undergo superficialization similar to a fork, which in contrast was typically one entity with no small parts. It was concluded that the more parts an object contains, the more opportunities the object has for superficialization.

The door was also chosen for its connotations and hidden qualities. Like the fork, there were many opportunities realized for superficialization based on its societal importance. The door symbolizes both a gateway and a barrier. Wives are carried through doorways as a tradition of marriage, vampires are unable to pass through them without invitation, and they are blessed in many cultures as the fortified symbol of home.
Through out the investigation of objects during this thesis, it became clear that the act of making was a method of revealing information. What has been defined as the thinking hand refers to this process and has been shown in various forms including constructing and drawing. The physical hand has shown up multiple times in the drawings throughout, unintentionally. Once the thinking hand was identified, it was acknowledged as a tool to investigate the functions of objects.
The superification of a door was attempted. The result was a door that pumped water with syringes that were held within the door frame. As the door was closed and opened, water was pumped from a reserve into planters and aquariums located on the front of the door pane. This was a model that directly showed how human use could become a functional source of energy within a building. If the amount of people who passed through a door were calculated and compared to the amount of water needed to maintain landscaping, the doors of a building could become a source of water instead of a sprinkling system.
Visits to museums were a form of investigating objects and their functions, especially when there was a lull in progress. The visit to the Henry Ford Museum proved particularly successful and inspired theories regarding the functions of museums and their relationship to object life.

Typically museums collect objects of historical importance to society like art, sculpture, and furniture. During a visit to an art museum, it was discovered, that the collection of such objects results in functional obsoleteness. Once the objects are placed on a podium and separated from the world by a pane of glass, they will no longer function as originally intended by the designer. This phenomena is defined by this thesis as death by artifact. There are however, lingering hints towards the functions of objects on display in museums. The object’s past life typically determines the way in which the object is showcased. Masks are displayed at the height of a face, paintings at the height of eye level, and vases slightly above waist height.

The Henry Ford Museum is unique compared to most museums because of its origin. Henry Ford began collecting mundane objects like tools, cars, and trains that were not of historical interest at the time. Not only was his collection unique because he collected everything from buttons to houses, but he was collecting the very things his products would end. As automobiles became more accessible to the every day person and the industrial evolution began to increase the functional development of everyday objects, more and more of the things he collected became obsolete. The collection at the Henry Ford Museum is comprised of a wide range of different objects from grain silos to old rail tracks and is vast, displaying only 7% of the entire collection on the museum floor [1]. Not only does the origin of the Henry Ford Museum collection reveal the relationship of past objects to museums, but the assemblage of so many diverse objects creates an interesting spatial tension and relationship between the objects displayed. Unlike art museums, the progression of the functional development of the objects is shown by their proximity. The following images of the Henry Ford Museum show examples of how the proximity of objects in space can reveal information on how they have progressed through history as well as how they relate in the “invisible network”.

Information for this study was derived from the following source:
Interview with Kristen Gallerneaux, Curator of communication and information technology at the Henry Ford Museum. The interview was conducted by the author in person on February 11, 2014.
The Invisible Network of Detroit Objects

The object scale is still under investigation.
DISSECTION EXPERIMENT

At first it was questionable whether or not something as complicated as a building could undergo superfication; but from the investigations with doors, it was observed that the more complicated an object gets the more opportunities it has for becoming super. The question then became how can a designer observe such a complicated object, and how do they approach it?

Buildings are the most permanent and concrete objects of a society. Unlike other objects which can be easily lost, their permanence allows the trends of history to be traced more directly. In “The Shape of Time,” Kubler claims that buildings represent the greatest number of “prime objects” [1], a term he uses to describe the unprecedented, pivotal object, or the first of its kind to lead a new series of formal developments.

BUILDING

The building as container for other objects

But the number of surviving prime objects is astonishingly small. They are now gathered in the museums of the world and in a few private collections; and it includes a large proportion of celebrated buildings. It is likely that buildings constitute the majority of our prime objects, being immobile and often indestructible objects.” [2]

George Kubler
The Shape of Time


THE FIVE WAYS

There are multiple ways of observing the building through evolutionary functionalism beyond the ones described by this thesis. The five described in the following pages provide a precedent for how later investigations developed.
2. The object can be the size of the building.

3. It is unclear whether it is a building or an object.

4. The building performs one function.
5. Buildings can also incubate social phenomena, taking advantage of the particular habits of a specific culture.

The effects of China’s one-child policy are manifold. Studies show people raised under the program are less trusting, men are unable to find mates, and then there’s the “4-2-1” phenomenon, where working young people must assume financial responsibility for themselves, their parents, and four grandparents. The policy has likely had the strongest impact on a nation’s demographics of any social initiative, save genocide, in history.

More than 30 years later, the one-child policy also raises an important question for brands looking to make inroads into the country: Is there something the young adult Chinese demographic is missing on account of growing up alone? And if there is such a thing, how can we provide it?

Liz Muller, the director of concept design for Starbucks, makes it her job to answer these sorts of questions. She’s the mind behind some of Starbucks’s most creative flagship stores. As the brand expands internationally, each of her far-flung creations aims to introduce customers in Europe and Asia to the Starbucks take on the subjects of coffee and service in a way that makes sense in their culture.

She has, for instance, replaced the brand’s homogenous retail stores with a friendly coffee-and-cookie bar in a former bank building in pastry-loving Amsterdam, and plans to open Starbucks lounges aboard two intercity trains in rail-travel loving Switzerland, a first for the brand.

Her most recent completed projects are two flagships in Beijing: a coffee tribute store in the Kerry Centre meant to introduce home brewing methods to a well-traveled, affluent demographic, and a 24-hour store in Taikoo Li Sanlitun geared toward the young adults who the one-child policy left relatively companionless. Though the two stores are just a few miles apart, the differences are significant, and the Taikoo Li site is the one that caters to the current corporate downtown culture, this proposal is a super parking lot which collects energy through solar panels during the day and can be projected on at night by companies that would rent the parking surface and host a corporate drive in movie night in the office, looking down from their headquarters. This could potentially increase real estate prices around the parking lot, drive up the land value, and promote future building development on the parking lot site.

Super Billboard

Super Roofs

The building scale is still under investigation.

Source: Google Earth

Original images have been manipulated.
It's not just a napkin. It's a thank you note for being our guest.
Who Made That?

SPOON

"Who made that?"

Kathleen Keefe

"Who made that?"

Kathleen Keefe
LOOK, NO VACUUM PUMP

New Rabbit Electric Wine Preserve

Now you can preserve red wine at the touch of a button—and no need for a vacuum pump. Simply a Wine Preserver Stopper into the top of the bottle you want to preserve. Then press the Rabbit Electric Wine Preserver over the Stopper and press the button to begin.

A "Serve Light" tells you when you have achieved necessary vacuum. The Rabbit set includes the Electric Wine Preserver, two Wine Preserver Stoppers and batteries. Pull-Botton wine preservator has same

All Metal

Dionne, P. N. N. A. 

Bar La Table, Bar 

Sherry

Gary's, New Library, Beverly

metrolkane.com
The city is the most mystical scale to objectify as it is an extremely complex and unpredictable system reliant on many different inputs and variables. Instead of creating a theoretical foundation for what the objectification of a city is, different parts of the city were identified as potential areas of superfication.

The city can be viewed as a whole, and it can be viewed as a series of parts. Even very small objects can affect the form of a city. Trash cans, sidewalks, public transportation, and lighting all affect the formal evolution of a city.

Collective Identity

One thing can be certain about the objectification of the urban form: it is collective. The urban form was first recognized during this thesis as a collective identity when the designer watched the 1975 film, KOYAANISQATSI [1], which means life out of balance. In the film, vibrant urban life is contrasted to the still calm of nature. The film is recorded in fast and slow motion, distorting the perception of the viewer and drawing attention to conditions beyond the everyday experience of the single human. KOYAANISQATSI captures the urban collective identity through two scenes in particular. A slow motion view of a crowd meandering down a sidewalk creates a sea of vibrating bodies. In real time, the actions of the crowd seem normal, but in slow time, they slowly sway as a mass. The second scene is a view of night traffic in fast motion. The city is stagnant but the motion of traffic creates shapes of light surrounding the buildings, giving the city form and life.


The city scale is still under investigation.
An interesting experience while using the Chicago transportation system lead to the development of a potential area of superification.

“My boyfriend lives in Chicago and I often visit him. I am pretty familiar with the city, but for some reason no matter where I am, if I go underground I can no longer find my way. Instead of viewing myself as a dot moving through the city while using the CTA, I see myself as a person in a tin can barreling through who knows what and who knows where in Chicago.

I like this experience, because when I come up out of the ground I am lost. I have to hold my boyfriend’s hand though, because I walk at a much slower pace than the rest of the people as I look all around trying to figure out where I am. This makes sure I keep up, but he doesn’t look around and I wonder if he has ever experienced that phenomena.

This experience is valuable. In that moment of lostness I am opening my mind to creative opportunity. That moment right there is where somewhere like Google would want to be, capitalizing that instance of creativity, right in the middle of lost, making everyone, even people who live there, lost.”

Google Headquarters.
Look here!

The blue crayon - you are not doing a T. Archaic vertical

If necessary is the
DESIGN FOR SOCIAL GOOD

Can design create positive social impact? William Harvey’s designs are proving a concrete case in combination with poetry, tactics, and collaboration that are moving toward design.

TRADE TO TREASURE

Sustainable design that keeps you and your good fortune in mind—the new design of the world.

FAIR TRADE TO TREASURE

Sustainable design that keeps you and your good fortune in mind—the new design of the world.

COAT OF MANY CAUSES

New Yorker Award, 2017

IT WORKS UNDER THE SKIN

What happens when a seemingly impossible idea is given life? What happens when a seemingly impossible idea is given life?

JUST ONE LOOK

IT WORKS UNDER THE SKIN

What happens when a seemingly impossible idea is given life? What happens when a seemingly impossible idea is given life?

SIT ON IT

IT WORKS UNDER THE SKIN

What happens when a seemingly impossible idea is given life? What happens when a seemingly impossible idea is given life?

JUST ONE LOOK

IT WORKS UNDER THE SKIN

What happens when a seemingly impossible idea is given life? What happens when a seemingly impossible idea is given life?

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JUST ONE LOOK

IT WORKS UNDER THE SKIN

What happens when a seemingly impossible idea is given life? What happens when a seemingly impossible idea is given life?
Evolutionary functionalism is particularly applicable to modernity because we are currently in a state of technological crisis. Technology has advanced to the point where humans are accustomed to objects performing at higher levels of functionalism, meaning one object can perform many tasks. All objects are exposed to a heightened sense of functionality and enduring criticism from societal expectations.

Evolutionary functionalism, particularly superfication, allows the designer to operate at a higher level of creativity because of the open and observant process. In “The Science of Human Innovation: Explaining Creativity,” R. Keith Sawyer provides a list of reasons for why creativity is becoming increasingly important to current society. These reasons directly correlate to the societal conditions that make evolutionary functionalism applicable to modern culture.
Throughout the process it became clear that certain objects and conditions provided greater opportunity for superfication across multiple scales of the spectrum of objectivity. They have been defined as objects of interest. In the speculated future of this thesis, these objects become sources for additional experimentation.

**Political Objects**

Certain objects are naturally charged with stigmas given to them by societal expectations. These objects can act beyond their original function as a source of political motivation. Further investigation into the source of the additional connotations would prove an interesting study. An example of a political object would be a bra to the feminist movement.

**Objects of Interest**

For reasons that have not yet been illuminated, results of experimentation often lead to marketing or branding.

**Collective Objects**

Objects that interact with large amounts of people tend to show opportunities for superfication because they create dynamic social situations. Objects in these situations typically have the capacity to contribute beyond their original function. Particular objects of interest for this application include public space, furniture, and games.

**Object Interaction**

The formal and functional criteria of the design of an object are often the result of how and where the object interacts with the body. For example, the two most formally and functionally developed areas of a fork are the handle, which interacts with the hand, and the prongs, which interact with the mouth. The area of objects that interact with the body typically have some sort of signifier, distinguishing it as an area of importance. Door panes have plates or knobs where hands are meant to interact with the surface. The potential for harnessing human action in objects is relative to where and how they interact with the human body.

**Political Objects**

Certain objects are naturally charged with stigmas given to them by societal expectations. These objects can act beyond their original function as a source of political motivation. Further investigation into the source of the additional connotations would prove an interesting study. An example of a political object would be a bra to the feminist movement.

**Motion**

Motion provides potential energy for an object to harness, while also providing the designer with additional information that can be applied to the object. The way in which humans move objects and the objects that humans use to move themselves create a dynamic condition. Public transportation is of particular interest.
Scholarly Database:

"Object, Object, Object" is a scholarly database which publishes essays on the investigation of the hidden qualities of specific objects. A similar database, particularly for designers, would be beneficial for understanding the design forces acting on objects under investigation and provide a collective feedback loop.

Complex Information

Complex systems provide a plethora of opportunities for connecting unforeseen relationships. Cities are filled with so much complexity that there are bound to be potential applications for systems to combine or affect one another. For example, if city systems were designed according to cultural habits, they might become more efficient. What would the superfication of a septic system look like and how would it affect the urban condition?

Object Oriented Ontology:

Object oriented ontology is a branch of philosophy that investigates the existence of objects that have a peculiar presence for humanity. Philosophers practicing object oriented ontology typically analyze, in depth, the objects use, its peculiar qualities, and its meaning in time and space. Since these objects have already been so thoroughly investigated, they would be good starting points for superfication.

"Paraphernalia: The Curious Lives of Magical Things," by Steven Connor is an example of an in-depth study of objects ripe for superfication. The objects he lists in his writing have "curious" qualities which exceed their functional design because humans have given them additional meaning.

Steven Connor’s Curious Objects:

*Bags
*Batteries
*Buttons
*Cards
*Combs
*Glasses
*Handkerchiefs
*Keys
*Knots
*Newspaper
*Pills
*Pins
*Pipes
*Pumps
*Plugs
*Rubber Bands
*Scaly Tape
*Sweets
*Wires

*A DIFFERENT KIND OF OBJECT SEEMS TO ESCAPE ITS CANNOTATION: ITS EARILY OBVIOUSNESS-BENIG-TO-GO BEYOND OR SPILL TO THE SIDE OF WHAT IT NARROWLY IS GRADED, ONE WAY OF PUTTING THIS IS TO SAY THAT SUCH OBJECTS ARE INVESTED WITH ROADS ASSOCIATION AND SIGNIFICANCES, THAT THEY ARE THEREFORE NOT JUST DOILEY THINGS BUT SOMETHINGS, EPIPHEMES. “2”


1. Structure
2. Diagrams of Concept
3. Diagrams of Process
4. Diagrams of Analysis
5. Experiments
6. Applications
7. Unfolded Book
The process has paused at this time and place in the form of a physical diagram including the entirety of the project. This moment is the rupture of space. Previously, the process had developed primarily in the form of graphics. The three-dimensional proximity of these graphics provided additional information for their relationships to one another.

The physical diagram has also provided a new method of engaging the thinking hand. By enveloping people in the project, they too become the thinking hand, and the critique becomes a feedback loop. The designer has created a new term: spatial crisis. The designer is able to create and control tension in space for the process and for others.
To be continued...