**Annotated Bibliography**

Anon, 2016. Goldfish salvation: Realistic goldfish painted between layers of resin. *Design Swan*. Available at: https://www.designswan.com/archives/goldfish-salvation-realistic-goldfish-painted-between-layers-of-resin.html [Accessed May 7, 2022].

Riusuke Fukahori is a Japanese artist who is known for three-dimensional goldfishes. He achieves the effect by repeatedly pouring layers of resin and painting on each one to create the volume and texture. The layers aggregate to form the depth of the goldfish swimming in water. The process of Fukahori's work is fascinating as he dissects the animal into two-dimensional slices. This step is not only allowing for closer observation of details but the repetitive practice also indicates that a whole is not formed instantaneously but it is gradually developed. The process of my iteration adapts the way Fukahori produces his paintings. With each layer and iteration on the tracing paper, my position becomes more firm and the answer to my iteration becomes more clear. Rather than viewing the layers as produced work, they are more like sketch that we go through to reach the completed project. When the sketches are placed together, the complete picture is formed. While Fukahori's goldfish are still, the audience can still see the resemblance of time through the layers of resin. This is another aspect that parallels with using layers to suggest time.

Drucker, J. (1952) Graphesis: Visual Forms of Knowledge Production. Massachusetts: Harvard University Press.

The chapter talks about digital data visualization and interpretation. Unlike the reality, electronic space has no limit to its dimension, therefore the complexity grows when we organize dense information digitally. Instead of distributing the information linearly to find the relationships, the data should be viewed as nodes to find their relations with each other. The action of dividing a whole into fragments and then re-connecting them in a form that can be legible is the same process as my exercise. Linear is the most common form of organizing information, which was my method in the beginning. However, it is not the most effective due to the complexity and multi-faceted nature of data. By separating, grouping, simplifying the whole and transform them into nodes, it is easier to find the connection. The dance is composed of complex rhythm, motions, and coordinates that can be overwhelming to translate but by focusing on 10 seconds at a time and eliminating unnecessary informations, the system become more clear.

Queneau, R. (1998) *Exercises in Style*. Translated from the French by B. Wright. London: John Calder Publishers.

Queneau records an event he witnessed on a bus and reproduces the writing in 99 different linguistic styles. While the writing is based off of the bus scene, it is not the core subject of the project nor is French as a language. The essential practice explored in this exercise is communication patterns. Similar to my research, the dance was only used as a foundation to implement my practice on, whereas the graphics are the tools. The main purpose of my iteration is to create a system of connection between time, shape, line, and motion. Through the variations, readers get snippets of new information about the event. It also implies that the author is capturing and remembering new details through the exercise. This is also reflected in my process where the repetition of the same content allowed me to recognize the minute details that I did not recognize before. The shortness and quickness of the practice enables the writer to be lightfooted, thus being more experimental without overthinking; this has also been revealed in my exercise. I adapted Wright's response to Queneau's writing where she categorized the variations into groups and styles. This step puts the seemingly random iterations into order and reason. By categorizing and summarizing the findings from my exercise, I found a pattern of our interpretations of shapes.

Rosenberg, D. and Grafton, A. (2010) Cartography of Time. London: Abrams.

This book is composed of a collection of time maps that depicts the history of Europe and the United States. The graphs shown are combining information and illustration with graphic design, breaking the conventional visual conception of timeline and graphs, ranging from simple tables to complex maps. While some data are difficult to interpret, it proposes the flexible possibility that data visualization can exist in all form and shape. The dense information and text are like textures on a colored background. It is interesting to note that the appealing complexity encourages the readers to slow down to absorb the information. Although the modern infographic system is easy to comprehend, it loses the illustrative design work exemplified in the book, thus a loss of additional information. The reference sets an example that the chronology of time and the arrangement of information are simply systems. It is the designer's job to connect the dots that ties the system together. The creative process goes to finding the format to contain the system. The book also challenges if functionality is the only purpose of cartography. In my iterations, I took inspiration by looking at the shapes, lines, and systems to create the maps that lay the foundation for the notation system. It also breaks up the presumption of timeline as a linear structure.

Siegel, E., 2022. This is why time has to be a dimension. *Forbes*. Available at: https://www.forbes.com/sites/startswithabang/2019/08/27/this-is-why-time-has-to-be-a-dimension/?sh=3f268bf43646 [Accessed May 7, 2022].

The article talks in depth about time as the fourth dimension and gives an overview of time's relation to the three-dimensional coordinates: latitude, longitude, and altitude. In order to move physically, you must move through the time space as well. The two values are linked and dependent on each other to describe the reality. The scientific research from article have guided, supported, and formed by practice. I referenced the graphs from the articles to create a map that can communicate the dimension complexity of time. A change in physical space creates an impact on the value of time and this is repeated as consequential chain reaction. Through these actions, time is a continuously increasing value, thus impliciting that time is accumulative. The layered format of my iterations is trying to mimic the accumulating nature of time, where the thickness of the stacked papers is a visual reflection of duration.

Unwin, A. (2020). Why is Data Visualization Important? What is Important in Data Visualization? . *Harvard Data Science Review*, 2(1). https://doi.org/10.1162/99608f92.8ae4d525

The article gives an explanation of what is data visualization, its purpose, form, and importance. The data visualization discussed here are for scientific research purpose but there are resemblance of in my exercise as well. Unwin noted that with complicated data transformations, one person's statistics may be someone else's raw data. The practice is translating information step by step between individuals and, with each refinement, the data will be more simplified for interpretation. However, the debate is how filtered can information be in data visualization before it becomes meaningless. The infograph I created from the layered process has limited measurable information but it is able to mimic energy and fluidity of motions through graphics, which is information in itself as well.