

Statement

This project gradually replaces some classic scientific instrument illustrations with ASCII characters, and considers whether our perception of knowledge will change when images are reconstructed by digital language. Classical scientific instruments rely on hand-made and sensory experience, representing an empirical knowledge based on body perception; while ASCII characters originated in the computer age and are a highly abstract coding system, symbolizing a knowledge logic that can be programmed and computerized. The project borrows the thought experiment of "The Ship of Theseus": when every detail in the image is gradually replaced by characters, the knowledge it presents also changes. The project aims to arouse reflection on the transformation of knowledge forms, and re-examine how our understanding of the world is reconstructed when reality and virtuality are intertwined.

1.

This book records the large number of instruments that Tycho Brahe built for his astronomical observations. These instruments are a way for humans to understand nature with their bodies. They are handmade, designed according to human scale, and used to accurately observe and measure celestial bodies. They reflect the inseparable relationship between empirical knowledge and material tools in early modern science. I chose these as references because these illustration-like images are manually organized and conceptualized images. They can express the structure and function of the instruments more clearly than real photos, and are easy to symbolize and abstractly reconstruct. Therefore, these images are not only tools for illustrating science, but also an integral part of scientific knowledge itself, reflecting how humans transform the perceived world into a kind of knowledge that can be understood and described through observation and measurement.

Brahe, T. (1598). Astronomiæ Instauratæ Mechanica (Instruments for the Restoration of Astronomy).

2.

This paradox not only challenges our traditional understanding of the identity of objects, but also raises important questions about the relationship between form and change. As time and replacement go by, does the core "materiality" of the object still continue?

When the "materiality" of objects is abstracted into characters, do we still regard them as "that thing"? I use symbols as "materials" to participate in creation. In the process of replacement, characters are both destructive and constructive, cause they dissolve the entity of the object, but establish a new symbolic existence.

Cohen, S.M. (n.d.). The Ship of Theseus. University of Washington. Available at:

<https://faculty.washington.edu/smcohen/320/theseus.html> [Accessed 19 May 2025].

3.

This work combines classic still life with ASCII art. The original composition is preserved, but some of the content is transformed into ASCII elements, coexisting with the original image, creating an atmosphere of multiple meanings. This hybrid image challenges perception, and the viewer wanders between recognition and misreading, and wonders whether this contrast has a new understanding of classical oil paintings. This inspired me to explore how images change in different media and contexts, and inspired me to express the transformation and instability of image knowledge through "destruction" or "tampering". The image loses its original authority and integrity in the process, so I think the knowledge conveyed by the image is not fixed, but is constantly reconstructed with different media and viewing methods.

Enigmatriz. (n.d.). ASCII Art. Available at: <https://enigmatriz.com/artworks/ascii-art> [Accessed 19 May 2025].

4.

In the video, Lucas Blalock discusses his views on using digital tools (Photoshop) to create. He does not see these tools as a means of simply retouching images, but as an "extension of the hand" - like a "shovel", helping him to understand the world through making pictures. It can be understood as a way of thinking and perceiving reality. His practice reflects a path of constructing thinking and exploring reality through images, which made me realize that we are not just using tools, but co-generating a new way of viewing images with tools. In my opinion, images are not just surfaces that convey information, but in the process of being viewed, interpreted and reprocessed, they gradually participate in the construction of knowledge, so they are also carriers of knowledge structures. In my practice, I try to question and reconstruct the way we understand images through the disassembly and reconstruction of images with ASCII characters.

[YouTube]. (n.d.). Revisiting the question "What do pictures want?" – W. J. T. Mitchell [video]. Available at: <https://www.youtube.com/watch?v=7Rld1xWIWDI> [Accessed 20 May 2025].

5.

One and Three Chairs consists of three parts: a real chair, a photo of a chair, and a blow-up of the dictionary definition of the word "chair". I started with the question "What is real?" These three elements represent different representations of the same object (chair): physical objects, visual images, and language concepts. I believe that definitions are real because without them, we don't know what a real chair is. This provides me with a perspective: language (definition) plays a key role in

constructing our understanding of an object, or even its "reality". In my practice, when classical scientific instrument illustrations are reconstructed by digital language (ASCII), does this digital "definition" or representation also affect or change our perception of the "reality" or essence of the scientific instruments represented by the illustrations and the knowledge behind them?

Wikipedia. (n.d.). One and Three Chairs. Available at: https://en.wikipedia.org/wiki/One_and_Three_Chairs [Accessed 27 May 2025].

6.

As mentioned in this article, design plays a role in modulating, reshaping, and negotiating an interface between users and the world, over which designers have profound control. The classical scientific instrument illustrations I chose represent a specific "world" - a world in which scientific knowledge is recorded and understood through concrete, observation-based and painting-based visual forms. This form itself is an interface between users and knowledge.

I want to manipulate this manipulation of form using ASCII characters. ASCII characters are completely different from the painting form of illustrations. This intervention and replacement of form creates a new "interface". When viewers watch, they are no longer just facing a pure painting image, they must negotiate this interface that mixes illustration and ASCII.

2x4. (2009). Fuck Content. Available at: <https://2x4.org/ideas/2009/fuck-content/> [Accessed 24 May 2025].

7.

This article's discussion of entrepreneurial authors has made me re-understand the role of form in image practice. In Rudy VanderLans's "Emigre", the design typography itself is part of the discourse, and form and content are generated simultaneously and promote each other. This article made me realize that my practice is not only "translating" images, but also borrowing form to explore the critical possibilities of design. This process of interweaving form and content is gradually forming the method of "graphic author".

2x4. (1996). Designer as Author. Available at: <https://2x4.org/ideas/1996/designer-as-author/> [Accessed 22 May 2025].

8.

Peirce proposed that signs consist of "representamen, object, and interpretant," emphasizing meaning emerges through interpretation rather than being fixed. His theory reveals how signs dynamically mediate our cognition of the world. Peirce's semiotic theory has influenced the direction of my research by encouraging me to

focus on how meaning is formed, shifted, or even lost through visual transformation. It made me think more critically about the relationship between form and interpretation, and what happens when a symbol no longer clearly represents its original object.

Peirce, C.S. (1991). Peirce on Signs: Writings on Semiotic. Ed. Hoopes, J. Chapel Hill: University of North Carolina Press.

9.

An important form of critical graphic design is that designers have a critical attitude towards their own practice. This means that designers need to consciously and reflectively think about what they are doing and why they are doing it. This inherent criticality can echo the "personal level" proposed by Jan van Toorn. He emphasized that designers should not blindly obey the norms and functions of visual communication, but should actively think about their roles and responsibilities in the communication process. This attitude influenced me to try to question my own creative tools, media choices and design logic in the process of replacing classical scientific instrument illustrations with ASCII characters. I realized that this act of "destruction" or "tampering" of the image is not a purely formal operation, but a challenge to the design language itself. It forced me as a designer to re-examine my position in the construction of the image-what is my position, as a deconstructor or a participant in the creation of knowledge bias? In this process, I constantly reflect on my intentions, methods and influences, and constantly adjust my position in practice.

Modes of Criticism. (n.d.). Critical Graphic Design. Available at: <https://modesofcriticism.org/critical-graphic-design/> [Accessed 22 May 2025].

10.

In traditional image production, images are often seen as visual carriers of knowledge - they are a kind of "clear" presentation of reality, which can help understand complex concepts or phenomena. However, "poor images" challenge this conventional imagination of the function of images. They no longer bear the responsibility of "reproducing reality", but reflect how images survive, spread and transform under digital conditions. This state not only changes the physical appearance of images, but also shakes our trust structure in "knowledge images": clarity no longer equals authority, stability no longer equals authenticity, and the "knowledge" of images becomes uncertain or even suspicious. So I created a kind of "visual poverty" by translating images into ASCII characters. This change in perception mechanism forces us to abandon our intuitive trust in images and accept a fractured way of acquiring knowledge. Knowledge itself is also pulled into an "unstable state of existence."

Steyerl, H. (2012). In Defense of the Poor Image. e-flux journal, [online] 10.

11.

In this article, Mitchell mentioned that "metapicture" refers to a special kind of image that can reflect on itself, contain other images, or be used to reflect on the essence of images in theoretical discourse. One type is the nested metapicture. This type of metapicture shows that the meaning of images is not fixed, but highly dependent on the context and framework in which they are located. When an image is nested inside another image, its original meaning may be changed, emphasized, or weakened. My practice can be understood as: ASCII character images are nested in the original illustration image content. This re-contextualization changes the original visual language of the image. Nesting and re-contextualization are a manifestation of the complexity and agency of images, reflecting how images travel and transform in different media and discourses. They activate critical viewing methods in new image structures, making images also become meta-images. Will images generate new agency in the transformation of different media? Is the knowledge value of images damaged in the transformation of media?

Vizualni Studiji. (n.d.). Interview with W.J.T. Mitchell. Available at: <https://www.vizualni-studiji.com/razgovori/mitchell.html> [Accessed 24 May 2025].

12.

In Latour's article, he denied the grand explanation that attributed scientific development to changes in human mind or ideological evolution, but emphasized the core role of "inscription skills" such as writing and imaging in scientific power. The mobility, immutability and combinability of images or texts make them more mobilized in adversarial situations, thus promoting the concentration and capitalization of knowledge. This means that the transition from sensory experience to abstract calculation is not a leap in thought, but the result of changes in media form, especially the advantages of "encodable inscriptions" in information collation, dissemination and calculation.

This inspired me to use ASCII characters to gradually replace images in the project, which is also simulating this media evolution process. When an image is converted into characters, it no longer depends on the visual details of the material, but becomes a coded unit that can be manipulated, combined and disseminated. This transformation weakens the tactility and intuitiveness of the image, but enhances its dissemination efficiency. The encoding of knowledge is not a leap in cognitive ability, but a media strategy. In the ever-changing visual language, are we experiencing a change in the mechanism of knowledge construction: the understanding of the world is moving away from physical experience and turning to reliance on character structure?

Latour, B. (1986). Visualization and Cognition: Thinking with Eyes and Hands. In: Knowledge and Society: Studies in the Sociology of Culture at Present, Vol. 6.

Extended critical analyses:

1. Lucas Blalock 的《Digital Toolkit》（Art21 “New York Close Up”）

In this video presentation, contemporary artist Lucas Blalock demonstrates his unique methodology for employing Photoshop not merely as conventional photo editing software, but rather as an active interventionist medium for photographic creation. He consciously resists limiting the program to its typical function as a retouching tool, instead utilizing it as a means to aggressively engage with and transform the fundamental nature of digital images. Blalock offers a particularly striking metaphor when he describes Photoshop as functioning like a "shovel" - an implement that allows him to aggressively "dig" into and excavate the latent possibilities hidden within the framework of any given image. This powerful analogy made an indelible impression on me, as it fundamentally altered my conceptual understanding of what "tools" can represent in digital artistry. Through his perspective, I came to realize that the true value of creative tools lies not in their capacity to help achieve superficial perfection, but rather in how they provide opportunities to completely reprocess and reimagine the underlying architecture of visual information.

Blalock's resulting photographic works present a deliberately unsettling aesthetic - they frequently contain obvious seams where elements have been spliced together, layers that visibly misalign, or rough edges left exposed from cut-and-paste operations. Rather than attempting to conceal these digital manipulations through seamless blending techniques, he intentionally makes the traces of his creative process conspicuously apparent. This radical approach served as an important revelation for me, demonstrating that photographic images are never truly "natural" or objective documents, but are instead carefully constructed artifacts. The specific methods of this construction - the particular tools employed and the techniques applied - fundamentally shape and determine how viewers will ultimately perceive and interpret the resulting image.

In my own artistic practice, I've undertaken a conceptually parallel project that involves reconstructing images using ASCII characters as my primary medium. Similar to Blalock's methodology, I employ an overtly "technical" approach to image recreation, painstakingly building up forms character by character while deliberately preserving visible evidence of the deconstruction and reassembly process. Unlike the smooth visual transitions created by pixels, ASCII characters function as discrete, discontinuous units that more closely resemble the basic "skeleton" or structural

"markers" of visual language. At their core, they serve to redefine images at a fundamental architectural level. This transformative process itself constitutes the central focus I wish to highlight for viewers - it is not simply a straightforward or instantaneous visual translation, but rather an iterative procedure filled with trial and error. Each step requires careful balancing between maintaining recognizable form while simultaneously introducing new symbolic logic. In this sense, every individual character substitution and each decision about which structural elements to preserve represents a deliberate judgment about how images function as vessels for conceptual knowledge.

Blalock's work has profoundly influenced my understanding by revealing that all images are essentially incomplete - mutable structures that remain perpetually open to reorganization and reinterpretation. His statement about wanting to engage in active thinking during the image creation process particularly resonated with me, as it inspired me to approach my own character replacement methodology as an ongoing experiment in developing new ways of visual understanding. Where Blalock conceptualizes Photoshop as functioning like an "extension of the hand," I have come to regard ASCII characters as operating like a specialized "deconstruction tool for visual language."

2.W.J.T. Mitchell 《What Do Pictures Want?》

In *What Do Pictures Want?*, Mitchell proposed a key theoretical shift: images are not just passive tools of expression, they are like "living beings with desires", they are active and can act on viewers. This argument challenges the traditional understanding of images as neutral media that are only used to convey information. Through the concept of metapicture, he further pointed out that images are not only a medium for conveying meaning, but also have the ability to reflect on themselves. In particular, his mention of "nested meta-images" - structures containing images in images - gave me a new understanding of my current experiments.

In my project, I translated this theory into image practice in a concrete way. Starting with illustrations of scientific instruments, these images themselves are visual containers of knowledge, and they condense the empirical method of hand-drawn. I gradually "replaced" these images with ASCII characters. Each replacement is not only a change in visual form, but also a migration of knowledge logic - from "tracing" based on the body to "encoding" centered on computational language.

This translation is a kind of "nesting": on the one hand, it embeds the original image, and on the other hand, it gradually replaces it. Mitchell pointed out that nested images change their original meaning due to contextual changes, from perceptible images to computationally important images. The way images are viewed is changed, and its visual language is forced to transform into symbolic logic.

This process can also be seen as a response to Mitchell's question: "What does the image want?" In my project, I tried to respond to this question: the image wants to live in the new media logic, and it longs to continue to be understood even if it is recoded. As Mitchell emphasized, the agency of an image does not depend on its material form, but on whether it can establish an interactive relationship with the viewer. ASCII character images seem to have removed the details

of the original image and have lost their original productivity, but they also open up another viewing channel.

This transformation in my project also raises a key question: Will the knowledge-carrying function of the image be weakened by the replacement of the medium? Mitchell clearly pointed out in his book that the meaning of an image is always closely related to its cultural context and viewing method. When the handmade lines of scientific images are replaced by characters, the empiricism it embodies is covered by the coding system, and the "touch" of knowledge is replaced by "logic". Can it be said that this change is a "dematerialization of knowledge"? Or, more specifically, a rewriting of the authority structure of knowledge? Scientific images have always been seen as neutral, rational, and accurate carriers. However, Mitchell's theory of "image desire" shows that images always carry appeals, calling for a certain way of viewing and cognitive logic. I transform perceived images into text arrays that need to be decoded, which is a challenge to cognitive methods.

Video text

I chose the media experiment from the iteration method in Unit 1 and wanted to keep exploring the creative potential of ASCII art.

I started with a chair because it's a common, easy-to-recognize object. Its structure is simple—just a seat, backrest, and legs, with a clear shape.

I used the p5.js tool to iterate over the chair image and created 100 variations, they are divided into three parts. First, I used different characters to match the shape of the chair. Second, I mixed character sets and applied random rules to generate new versions. Third, I manually filled the chair shapes with characters, mimicking how code processes images.

I searched for artwork related to ASCII art.

I took an illustration of an astronomical instrument from my collection and used it to explore the theory of the Ship of Theseus. I gradually replaced the entire image with ASCII characters, based on the structure of the instrument, and showed the whole process.

Blalock uses a method that makes images "stutter"—disrupting smooth viewing and creating a sense of discomfort that forces the audience to pause and rethink how they see.

This inspired me to realize that design or visual expression is not merely about conveying content, but more importantly, a reflection on and questioning of media structures. Must images always be "clear" to carry informational value? Perhaps we can make people aware that seeing is never a direct or natural act—rather, it is the result of cultural conditioning.

Where Blalock conceptualizes Photoshop as functioning like an "extension of the hand," I've

come to see ASCII characters as a kind of specialized "deconstruction tool for visual language."

This project replaces classical scientific instrument illustrations with ASCII characters to explore how digitizing images affects our perception of knowledge. It contrasts hands-on, sensory-based knowledge with abstract, programmable logic, using the "Ship of Theseus" idea to question whether replacing visual details also transforms the knowledge they convey. The goal is to reflect on how knowledge changes as reality merges with the virtual.

To take it further, I used Blender to turn these scientific instruments into 3D models, then used code to create ASCII art videos of the 3D objects.

Replacing 2D images with ASCII highlights the tension between surface and symbol, and 3D modeling pushes this further by turning the whole structure into code—not just the image. For this part, I used an open-source ASCII tool by Studio Freight and modified it with WebGL.

In this process, knowledge that originally relied on sensory experience such as observation and touch has been completely replaced by a system controlled by characters and algorithms. We no longer face the object itself directly, but "see" it through the calculation results.

Knowledge is no longer based on direct contact and understanding between people and objects—it has become something that can be processed and reshaped through symbols.

Cohen, S.M. (n.d.). The Ship of Theseus. University of Washington. Available at: <https://faculty.washington.edu/smcohen/320/theseus.html> [Accessed 19 May 2025].

[YouTube]. (n.d.). Revisiting the question "What do pictures want?" – W. J. T. Mitchell [video]. Available at: <https://www.youtube.com/watch?v=7Rld1xWIWDI> [Accessed 20 May 2025].

Enigmatriz. (n.d.). ASCII Art. Available at: <https://enigmatriz.com/artworks/ascii-art> [Accessed 15 May 2025].