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Artificial Orbit

by

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A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Fine Arts in Metals & Jewelry Design

School for American Crafts
College of Art and Design

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Abstract

By composing jewelry works which relate to forms and marks, I explore the relationships between practices and self-awareness, artificial objects in traditional arts and modern mass-production. The similarities between traditional art-making processes, industrial production, and art training which I have received, which all required great amounts of repetitive actions, led my interests towards experimental practices of combining artificial objects. By exploring my cultural background, and the idea of modularity in the art fields, my work focuses on the repeated use of the same component, PVC electrical conduits, to create both wearable and sculptural objects. My thesis contains a collection of body pieces displayed on second-hand furniture and other found objects.

It is an interaction between objects and myself: my work is focused on variation and transformation of endless forms by continued use of the same artifact as a basic module. Revealing subtle layers of imperfection through painting, sanding, separating and combining. The aim of my work is to change the viewers’ perceptions of objects and materials by observation.
Discussion of Source

In art, systematic and repetitive processes can be both joyful and brutal. It can be a method for approaching perfection with the risk of creativity reduction, in addition to numbing self-awareness. It is a battle between sensitivity and rational choice. Making art using a certain strict component or principle is not uncommon in art history. The occurrence not only happened in the craft fields, but also in fine arts and even literary creation.

So-called academic art which first appeared Europe in the 16th century was introduced to Chinese painters studying oil painting in Europe during the early 19th century. This process of learning art is considered to be more theoretical and freer than the apprentice system, and became the main method of teaching at the newly established art academies during the 20th century. I have been training in drawing and painting in a tradition and strict way ever since my childhood. Certain procedures have been passed on from generation to generation which blend traditional Chinese apprenticeship and Western academic art education. To approach freedom of hands, students must follow the teacher’s principles as well as abundant practices of different skills from sketching to drawing, painting to sculpture, and realistic to abstract. In such a blended academic setting, students take several years of practicing on sketching before they can progress to advanced level classes including colored drawing, painting, and sculpture classes.

Manual of the Mustard Seed Garden originally published by Gai Wang, Shi Wang and Nie Wang, painters and brothers from the time of early Qing dynasty in 1680, is considered

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to be one of the most influential teaching materials used in Chinese traditional ink drawing and painting. In this book, the Wang brothers dismantled components from famous landscape paintings into separate images, including people, trees, rocks, architectures, and waters (Figure 1). The dependence of skillful copying has had an impact on many generations. Through copying the brush strokes and styles of masterpieces, painters can assemble those elements they practice into completed landscape drawings. Lu Ch’ai states in the manual: “You must learn first to observe the rules faithfully; afterward, modify them according to your intelligence and capacity; the end of all method is to seem to have no method”2. Although I did not study traditional ink painting, its concept permeated into my complete study of art. In an era where images of masterpieces were not widely available and museum concepts were limited to the royal class, this manual breaks down the objects found in masterpieces into specific elements, with emphasis on the extensive practice of modules, so that literati and enthusiasts to be able to learn more efficiently and compose their artworks using those components.

Figure 1. Gai Wang, *The Mustard Seed Garden Manual of Painting*, 1753

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Following this method, I spent many weekends and holidays sketching and drawing still life and making plaster sculptures, but I didn’t receive comprehensive 3D training until college, as the focus shifted towards general courses at high school and I always considered myself to be unprepared. A lack of crafting ability hindered me in making ideas from paper into three-dimensional pieces. My awareness of my inability to produce satisfactory work was frustrating, but with a little ambition, this powerlessness transformed into an encouragement which helped me advance further. This process involves regarding skills as a human component and requires lengthy practice. The entire process hinges on a strong desire to carry on the tradition and experience, even at the expense of some creativity, and people believe that creativity or unique personal style can be achieved through repetitive practices.

The book, *Ten Thousand Things: Module and Mass Production in Chinese Art*, which was written by Lothar Ledderose, analyzes the module system that existed in traditional Chinese arts and includes writing characters, creating paintings and architecture, the mass production of crafts, and how the idea of module forms contributes to various aspects of Chinese culture. Based on logographic characters rather than the alphabet, each character is combined into a cubic unity with one or a few motifs. Although the characters have undergone multiple simplifications and modifications throughout the centuries, many ancient scripts are still legible for modern people without the need of translations, because the symbolic motifs are simply adjusted shapes which have retained their original meanings and positions. Therefore, the inheritance of traditions has been well-preserved in scripts and literature which were composed using cubic characters and their system. Meanwhile,
the importance of mimicry and respect in classic works is more pronounced than in Western culture. Not only the method rooted in writing and drawing, but also pieces of evidences can be seen in several aspects of Chinese art, including the mass production of craft.

It is unusual to use a modular method and repetitive practice in contemporary art. For example, Sol LeWitt’s large scale wall drawings with lines consists of a particular system which the artist designed specifically for the project. In the Wall Drawing 87 (Figure 2), fine parallel lines of the same interval were repeatedly drawn using colored pencils on the wall in four directions: vertical, horizontal, diagonal right, and diagonal left. Patterns are created on the wall by combining the lines in various directions. As his projects generally involve detailed production code and simple components, including pencil lines or colored blocks, LeWitt’s work is constantly being reproduced and presented to the audiences by major museums all over the world. LeWitt states: “the idea becomes a machine that makes art”. The physical working behind the idea is a time-consuming and labor-intensive project with unanticipated problems. For example, according to documents from MASS MoCA, North Adams, MA, each color of pencil refill is of varying strength and requires painters to adapt the softness in order to achieve even lines. Such particular practices are challenging to an artisan’s skills and provides both physical and mental limitations. They not only to see the minimal form in these works, but also perceive the joy, struggles and labor-intensive of the crafting process.

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Ever since the very beginning of jewelry history, a jeweler’s profession based on craftsmanship has always involved with endless repetitive actions, such as those used in chain making or beading, in addition to mention mass production in the industry\textsuperscript{6}. The pierced holes of beads provide a channel which turns solid objects into assembled components with hollowed form. At the same time, the hole allows a thread to pass through. When the head and tail of the thread are connected, a new closed-form is created. Any object with a hollowed opening can actually be used as a material for a piece of jewelry which hangs around the body with a thread or cord, even if the object is not considered as precious material by the professionals\textsuperscript{7}. Manon van Kouswijk has examined repetitive practices for several decades. In her work, \textit{the Perles d’Artiste} (Figure 3), porcelain beads are made according to strict procedures: No.1 is made with two fingertips, No.2 with four fingertips, No.3 with six, No.4 with eight and No.5 is made with ten\textsuperscript{8}. The value of the material has become much less important in the field of contemporary jewelry and the

\textsuperscript{7} Marjan Unger and Suzanne van Leeuwen, \textit{Jewellery Matters} (Rotterdam: nai010 uitgevers, 2017), pp227
\textsuperscript{8} Manon van Kouswijk, \textit{Manon van Kouswijk - Findings} (Melbourne: Manon van Kouswijk, 2015).
preciousness of the material itself is no longer an essential consideration for artists.

Figure 3. Manon van Kouswijk, *The Perles d’Artiste*, 2009, Porcelain

In the context of contemporary art, the pure form of beauty which was advocated by minimalists raised during the 1960s still continues and appreciates the harmony of order, repetition, and simplification. The nature of human activities and artifacts can also become a concept of the artwork itself. During the same period, Oulipo was a French-based writing group which assembled writers and mathematicians, including Italo Calvino, Raymond Queneau, and Jacques Roubaud, who sought ways of using language as literary material. For example, in *Exercices de Style* written by Raymond Queneau, a scene with a man who witnesses a minor argument on a bus is narrated 99 times, and each telling is individual in both tone as well as style. The processes of crafting, and writing programmatically like Oulipo members involved experience as a mediating role.
Regardless of the material involved, these works contain a processing of experience, and this experience as an intermediary form cannot be presented in a specific form in the same way as other information, such as a report or a presentation. According to Walter Benjamin’s essay, he stated: “the hand marks out authentic experience”\(^9\), which means that when an artist assembles materials into work, the hands simultaneously represents the experience which is rooted in the body and mind. This action is more than a praxis of technique, but a reach of actuality.

**Process and Evolution**

This series is complicated by many of its associations: the repetitive process and variation speak to previous traditional art practice; the aim of the work is not simply to compose forms or examine functions of jewelry within one simple material, but also to memorialize and symbolize the two years in which I studied in and experienced the U.S.

In order to continue my interest in a modular system and hollow forms, my pieces were assembled using PVC electrical conduits with a matte grey surface. The standardized production process guarantees that the pipes are identical in quality and sizes. Although they were manufactured using equivalent repetition, the pipes were however not entirely equivalent: some had rough edges, or had stretched barcodes, or were of varying lengths. After being erased by acetone and sanding process, the barcodes and production data

printed on their surfaces were removed (Figure 4). In addition, by assembling 45 and 90-degree angles pipes with or without a belled end in different combinations repeatedly, flowing forms emerged. The surface of the material was given a different texture by blending several shades of spray paints and creating linear as well as solid marks with masking, sanding, or engraving before it dried out.

![Figure 4. Suyu Chen, Process Photo, 2019, Electrical Conduits](image)

My first exploration of the use of this material and coloring method was the piece which was made for the Rochester Fashion Week in October 2018. Inspired by the shadows on linen curtains, the intention of work was to mimic its uncertainty and fluid shapes. In order to represent a solid form and blurred outline, the original matte grey revealed once after the warm yellow and cream white bases were sanded both gently and partially (Figure 5).
Methods to assemble and secure the parts were essential throughout the whole process, while various experimentation had been performed in preparation. Beginning by combining them with their original structure and size, the initial attempt was to compose them in various sizes without a cold connection. In a certain position, elements caught each other and stuck tightly, however, but this only worked on the first piece due to the larger scale. The weight of materials and structure provided adequate support, which helped the entire piece to maintain its solid form without any additional connections being required.

Next, based on my experience of metal techniques, the second attempt involved the utilization of copper rivets or brass manufactured bolts and nuts became my second attempt. Although parts of the material were easily shredded and the piercing hole expanded during
the hammering process, such cold connection methods also held the form firmly. From that point forward, I cut pipes into multiple sections and then assembled them into new sculptural forms through the application of chemical adhesive. Epoxy, and insulating foam are immediate and powerful tools which secured the joints effortlessly and productively. However, some artists are critical of the use of chemical adhesives in jewelry making and it is often viewed as being poor craftsmanship or amateurish, despite the fact adhesive use can be traced back to the middle of Stone Age\textsuperscript{10}. Conversations about definitions of studio craft and DIY have never reached a conclusion, rather, commodification and the common conceptual use of readymade objects within contemporary arts regard these two subjects as being the same concept. At the same time, the focus began to center on the pure aesthetic which craft creates\textsuperscript{11}. Influenced by mass production and the huge demand for consumer goods after World War II, factory materials and techniques were embraced by pop artists and minimalists such as Andy Warhol and Donald Judd\textsuperscript{12}. Pieces made with inexpensive materials in history have been extensively discovered and studied over a period of several decades. Factors which include region, cultural content, self-expression, symbolism, and specific messages that lie in the object are considered to be of greater value than the materials themselves.

My pieces are not based on sketches and I try to achieve a balance between a specific material’s shape, scale, and function by assembling as well as experimenting with it. Even


destroying it by hand is an important process in the search for the final forms. It can be
difficult to identify how the final forms are to be determined, as the moment of decision
making can be seen as utilization of instinct. My understanding is that the result is subtly
ddictated by the accumulation of my hands-on training and sensitivity to the materials.

**Body of Work**

In the exhibition, all the pieces would be identified either as being wearable art jewelry
or sculpture. In the series *Artificial Orbit*, every piece is a study of form, which
demonstrates an attempt to recapture moments that I have seen, heard, touched, tasted, and
experienced. Despite the use of other found objects as materials in sculptural pieces, the
same use of found-objects as display platforms helps to suggest that all of the pieces are a
part of the cohesive whole.

The space in which the work was installed became as important as the work itself. I made
an attempt to create both a familiar and surreal scenario which emerged from items I had
made, collected or reformed. The exhibition investigated a narrative approach to change
the viewers’ perception of objects and materials through observation. A departure from the
plan of utilizing artificial objects, rather than pedestals, display platforms made from
discarded drawers, chairs, school desks, saw horses, clothes, mirrors, and hand-made
stands created a recognizable environment with a trace of oddity; Situated among them
were small sculptural pieces, a school desk, chair fragments, a worn sweater, and
homework prints, all of which were memories from my times as a student in different
places and periods of my life. Most of the traces of these objects were preserved, and all
these artificial or natural marks were relative to the history of a specific period.

The pieces in the series were displayed at varying heights and perspectives: on, above or below eye level, with some mirror reflections used to provide visual features. The setting examined the notion of information exchange between objects and people: when we leave a mark on an object, does that object also leave a mark on us? My wish is that through these objects and this space, a mix of reality and fiction could evoke viewers’ personal memories.
During the construction process, I had attempted to shift my attention to functional jewelry which could interact with the body by creating a closed form (Figure 6). Therefore, with the idea of a module, the most straightforward and minimal way of approaching the concept was the use of manufactured brass screws, allowing greater flexibility. For the surface treatment, masking tape strips were used to cover the pipe, then removed once the pipe had been spray painted. This process was repeated multiple times in order to create smooth, flowy patterns.
Electrical Conduits, Sterling Silver, Spray Paints, Suede, Photo Credits: Jiageng Lin

In *Artificial Orbit 02* (Figure 7), two pipes were cut into several sections, then bonded together using epoxy resins. Caps with a pierced hole made from sterling silver were used to cover the opening of pipes, while allowing a strip of suede to go through the inner structure and complete the closed form as either a neckpiece or sculptural object. At the time of completion, although the piece had the function of a necklace, for me it became a sculpture as well, requiring no involvement of the body. Therefore, in the exhibition, I inverted this so its function could be defined by viewers.
Artificial Orbit 03 (Figures 8 and 9) was originally made in a circular form, but an accident caused it to break into four pieces. The small contact area of the adhesive caused its frangibility, so expanding foam was also applied to fill and reinforce the hollow structure. Similar to the previous work, sterling silver caps were used to cover the opening as well.
The original circular piece could not be reproduced as some parts were cut at random. The four broken parts were considered as new components and assembled them into a new form, which was achieved by bonding them using plastic tags and nylon rope.

![Image](image_url)

**Figure 10. Suyu Chen, *Artificial Orbit 04*, 2019**

Electrical Conduits, Spray Paints, Photo Credits: Jiageng Lin

The making process is largely rational, but there is always the potential for randomness and uncertainty. Although the materials used were all mass-produced industrial commodities, each of them was slightly different as their function of protecting and routing electrical wires, does not require absolute precision in terms of forms. Following much cutting and fitting, a Mobius loop-like structure was created (Figure 10). The bell-ending on each component also is associated with the subject of modular system, meanwhile, those uneven endings act as a metaphor for the discrepancies which occur during repetition.
After weeks of studying the material’s characteristics of the material, I appreciated their flowing form and smooth surface it has. To move away from experiments on creating dynamic forms, I diverted my focus towards wearable pieces on a small scale as a praxis on metal technique. No endeavor was made to cover or hide any imperfections during the painting process, and the marks were turned into important handmade elements of each composition. The necklace (Figure 11) was hung on the wall, together with a small square mirror set beneath it as a supportive platform, which provided the audiences with a different perspective to view its bottom detail through the reflection of the mirror. Meanwhile, the brooch piece (Figure 12) was attached to a black woolen cardigan on a hanger.
Figure 13 (top). Suyu Chen, *Artificial Orbit 07*, 2019

Figure 14 (bottom). Suyu Chen, *Artificial Orbit 07 (in exhibition)*, 2019

Electrical Conduits, Spray Paints, Nylon Cord, Photo Credits: Jiageng Lin

*Artificial Orbit 06* (Figures 13 and 14) is made from three pierced PVC electrical conduits, and connected using nylon cord rather than metal components. However, in comparison to previous pieces, it is less wearable and could be considered to be either as an object or body piece based on its scaled-up volume. In the exhibition, it was displayed on a white-painted desk with an open drawer. A monotype print was placed inside the drawer and this referenced an irrational stream of lines and cold color tones which engaged with the sculptural work on the desk.
Figure 15 (left). Suyu Chen, *Artificial Orbit 08*, 2019

Figure 16 (right). Suyu Chen, *Artificial Orbit 08 (detail)*, 2019

Electrical Conduits, Etched Copper, Spray Paints, Nylon Cord,

Photo Credits: Jiageng Lin

*Artificial Orbit 08* (Figures 15 and 16) is a larger version of *Artificial Orbit 05* (Figure 11) and connected with copper rivets and nylon cord. It was hung from the gallery’s ceiling while the ends of the tips touched at the acrylic brick which was centered on the small wooden side table. An etched copper plate which was created at a summer workshop was tied to the cord at the top of connected pipes. Originally from the design for a neckpiece, the cord was extended, making it into a vertical form which divided the space and could be approached and viewed from different perspectives.
Two other sculptural objects were made specifically for the exhibition and they were reactions to my examination of found objects as memorial encounters. Calendar (Figure 17) was made using 21 canvas strips with gesso treatment on the surface. This was the very first method which I applied when completing my first project at RIT. I wrote down the date of each day from the time I had arrived in the U.S. until the exhibition opened on strips in a pencil. Each number was an inch apart, and each strip represented a month. 21 strips represented the 21 months I lived abroad in Rochester and were stitched end to end, then loosely stacked on a shabby little stand.
Sit (Figure 18) is a simpler piece which was constructed using two school chair fragments, bound together with a nylon rope and centered and hung on a brass hook. A connection between works Artificial Orbit 03, 06, 07, and Sit was created by using the same type of nylon rope. While exploring local thrift stores, I found several discarded wooden school chair panels were scattered around. Those panels reminded me the classroom scenario when I was a child. For me, a school chair panel which is slightly bent in the front and with four fixed screws is the best metaphor for standardization, regardless of its function or production process. The paintings on the panels represent my ongoing attempts to find self-awareness by blending different learning experiences and practices. The viewers would see these metaphorical objects in a way that evokes memories different from mine because of variation in ages, locations and life experiences.
Conclusion

The aim of the series was to blur the identity of materials within the crafting processes and was an attempt to examine myself throughout the entire process, from making to curating. Through observation of various materials through the years, I am grateful to find an interesting material that I would like to study and develop. My work has always been rooted in some desire to grasp how my personal experience manifests itself in my creations, or how the material, object, or jewelry refers to a sense of self-awareness and belonging. In a less broad sense, I am personally shaped by my limited surroundings and the experiences of others, rather than culture and history of a region in a general concept. Therefore, I see myself as an individual who embodied with tiny, insignificant and fragmented experiences from communication, observation, and praxis. Consequently, my creations will eventually become a language revealing my stories in an obscure way.

Extensive investigation of modular systems in both traditional and contemporary arts fields has given me a better understanding of how my past training and experience helped to shape who I am today. Unusually, I completed it without sketching or drawing while the form was predominated, but in not using the design methods that I was taught, the entire thesis experience provided enough time and space for developing my method of thinking and making methods. I often spent several hours moving and arranging materials to and fro, the ongoing exploration process became a conversation between myself and the objects. The juxtaposition of the pieces complemented the entire exhibition and hopefully provoked audiences’ interest in contemporary jewelry through observation.
To progress, I plan to stay focused, but not limited, on studying and creating forms using similar materials. We all live in a world which is loaded with artificial objects. Working with human-made objects had offered me a better understanding of myself and my surroundings through daily contact.
Installation Images in Bevier Gallery

Figures 19 (top), 20 (bottom). Suyu Chen, *Artificial Orbit (Exhibition View in Bevier Gallery)*, 2019, Photo Credits: Jiageng Lin
Figure 21 (left). Suyu Chen, *Artificial Orbit 02 (in exhibition)*, 2019

Figure 22 (right). Suyu Chen, *Artificial Orbit 04 (in exhibition)*, 2019

Figure 23 (left). Suyu Chen, *Artificial Orbit 05 (in exhibition)*, 2019

Figure 24 (right). Suyu Chen, *Artificial Orbit 06 (in exhibition)*, 2019

Photo Credits: Jiageng Lin
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Image Source:

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