Electronic Integrated Arts
Masters of Fine Art 2017
Division of Expanded Media
School of Art and Design
New York State College of
Ceramics at Alfred University

Yibo Xu

to my beloved father and mother

to my beloved wife

Self-healing Function

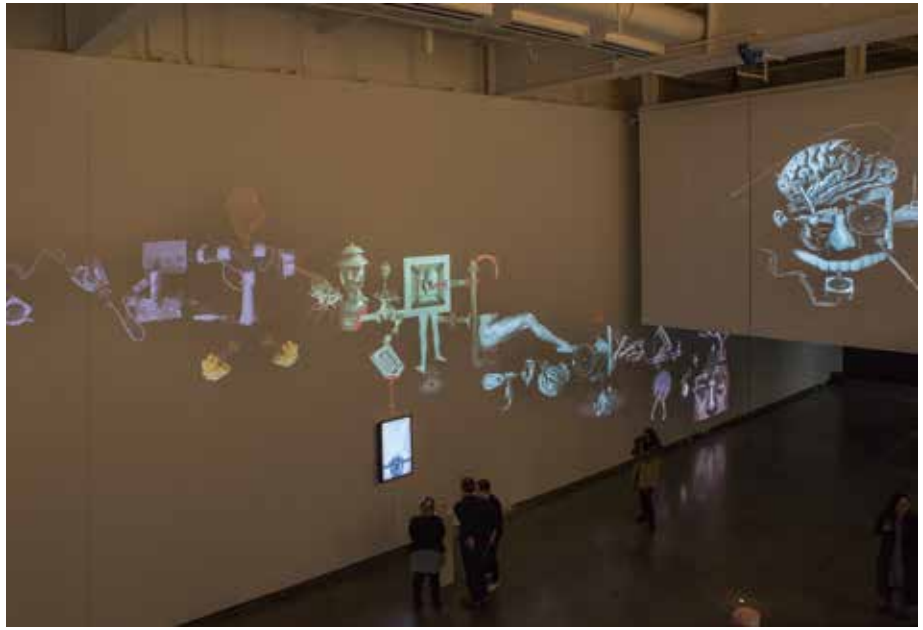
• Preface

THINGS ABOUT MYSELF

In 1985, I was born in Shenyang, Liaoning, China. Shenyang is an industrial city, also known as the northeast old industrial base in China. Naturally in the city is full of large factories.
When I was in primary school, the school was very far away from home, my mother and father daily bike shuttle to my school, this regular life lasted six years.

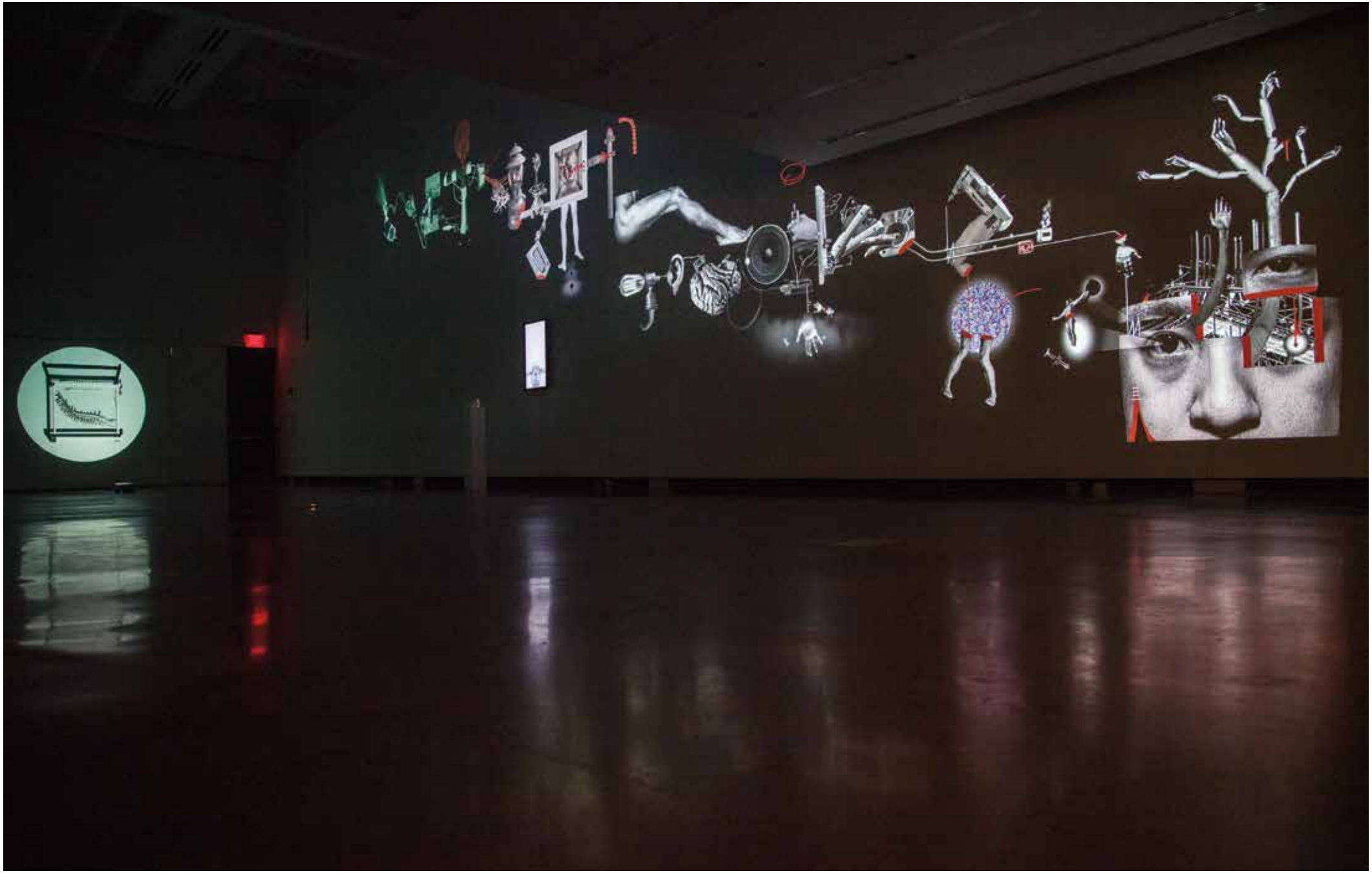
1985年，我出生在沈阳。沈阳是个工业城市，这儿也被称为中国东北老工业基地。所以自然而然，这儿到处是工厂车间。

小学的时候，家离学校很远，妈妈爸爸每天骑车送我去学校，这样规律的日子持续了6年。



I liked to play where my parents work, my ears were filled with the noise of the machine and my toy was the iron scraps on the ground. My mother was most worried about when I ran around and fell, because my knees would likely to be cut off by some Iron scraps. I never worried about myself, and I often collected some seemingly very uniform, bright Iron scraps.

我喜欢跑去父母工作的厂子里去玩，在那耳边充满了机器运转时候的轰鸣，而我的玩具就是加工金属被车削下来散落在地上的螺旋铁屑。妈妈最担心的是我到处乱跑和不小心摔倒，因为这样我的膝盖很容易被地上锋利的铁屑割得血肉模糊。我自己是从来不担心的，反而经常收集一些形状好看，光泽明亮的铁屑留着玩。



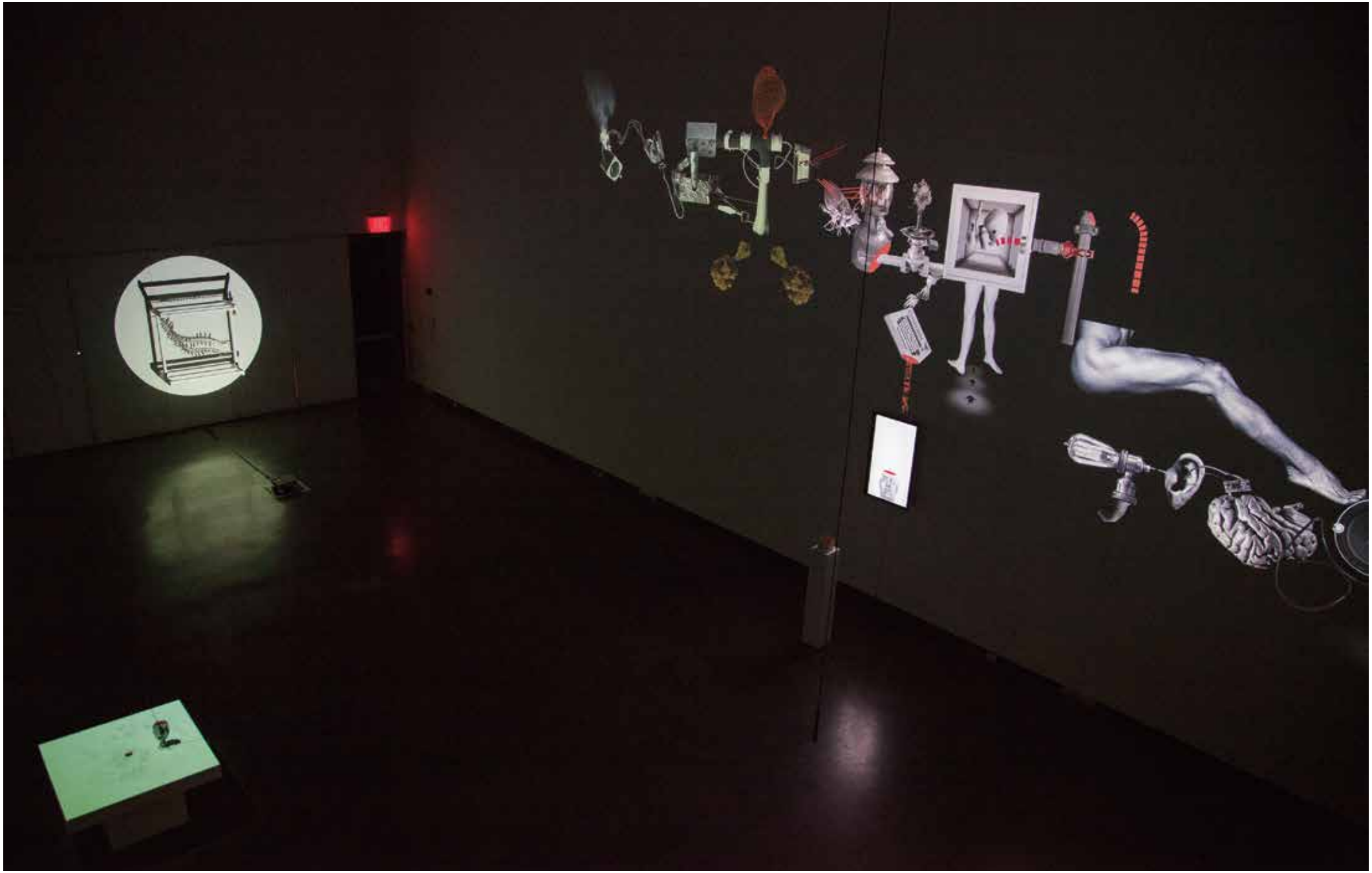
My parents are workers of Shenyang Machine Tool Plant. In this city, most people are workers and acquainted with each other. Because these large factories of the city absorb the main labor force, my family's relatives are in the same plant in a different workshop.

我的父母是沈阳机床厂的工人。在这个城市，大多数人都是工友，并且彼此相识。因为这些大工厂吸纳了这个城市大部分劳动力。我的七大姑八大姨都在机床厂上班，只是在不同的部门和车间。

At that time, every day I must go through the door of the smelter when I go to school. The distance needed to ride through the factory smelter area was about five minutes. Those five minutes were the most difficult to endure; each time my throat will hurt and the mouth has a sour bitter taste. That feeling like Chinese New Year's Eve, the air is full of "firecrackers taste." How many years later to know that it is excessive sulfur dioxide emissions in the air.
In the summer, my mother's stockings are often damaged when she rides a bike through that area, because the air will float some unknown high temperature dust.

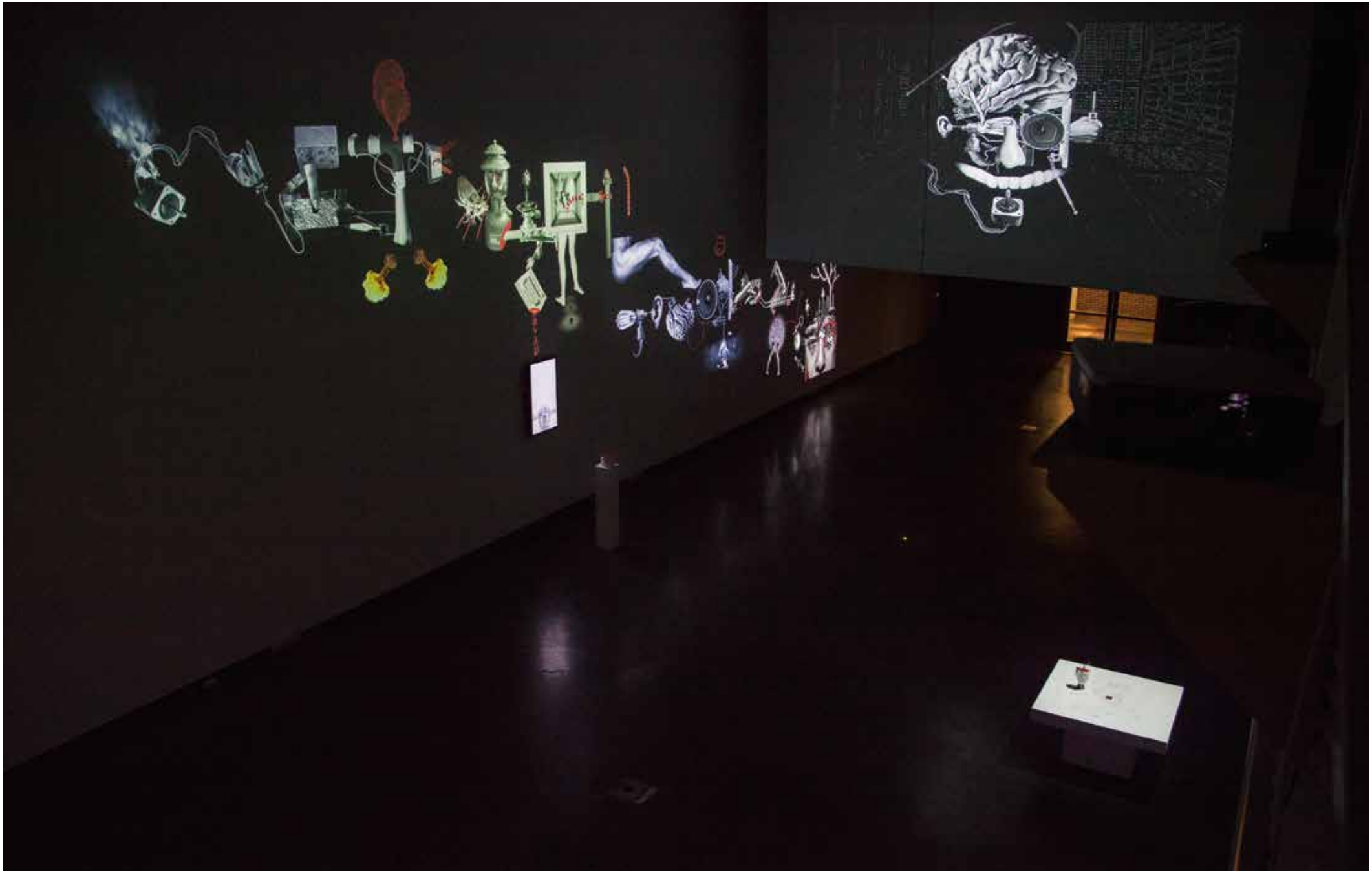
在那时候，每天去学校都要路过冶炼厂。这段距离骑车要五分钟，这五分钟也是最难忍受的五分钟。每一次妈妈骑车带我穿过冶炼厂门口，我的嗓子都会感觉燥热刺痛，嘴巴里有一种酸酸的苦味。那感觉就像中国新年的除夕夜，空气里到处充斥着"鞭炮的味道"。多少年后我才知道，这是二氧化硫排放超标不知多少倍的原因。

那时候的夏天，妈妈的尼龙丝袜经常会经过冶炼厂么口后破出小洞来，因为空气里飘散着不知名的高温粉尘。



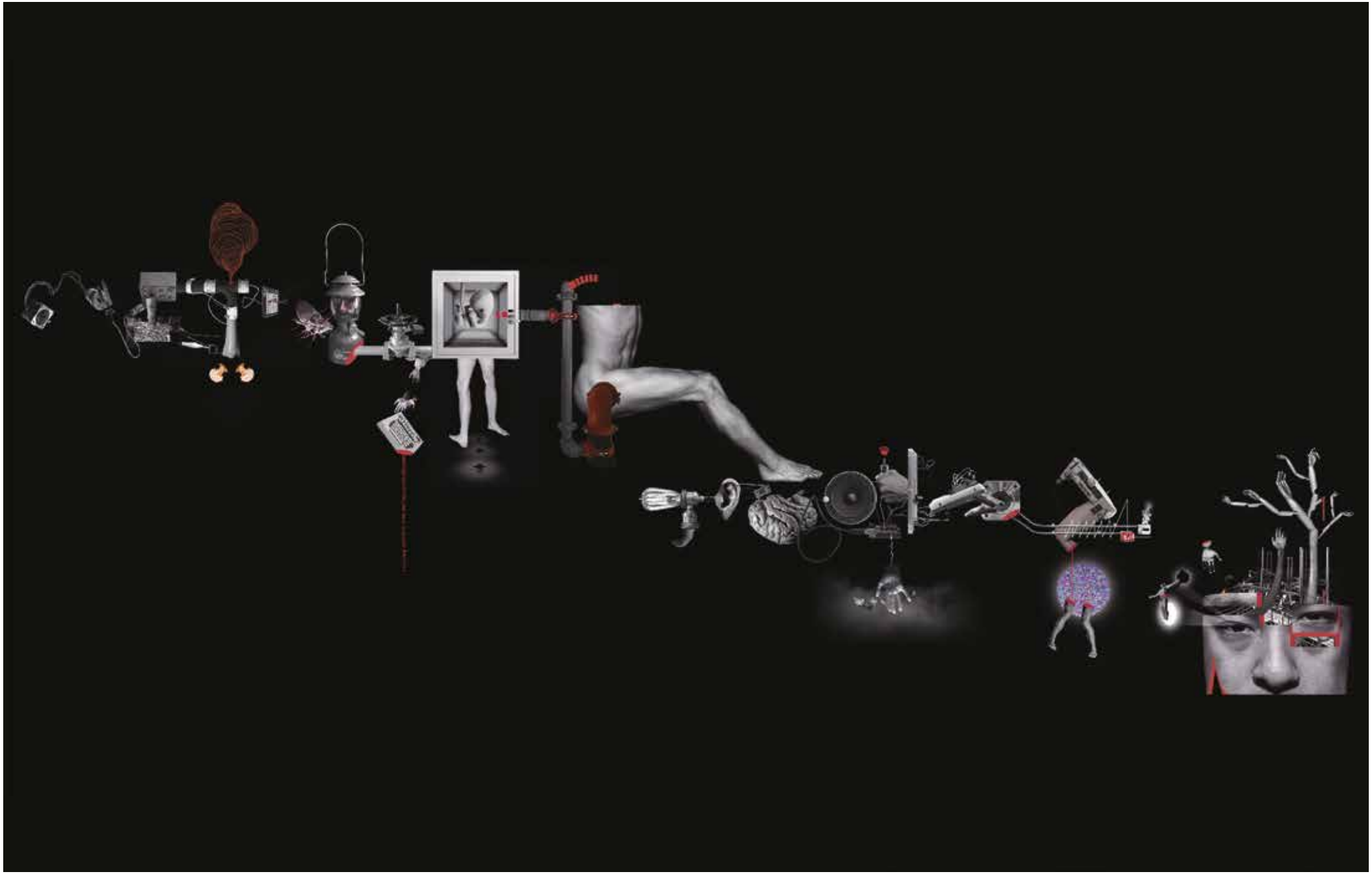
20 years later, this memory has not been erased with the time. I always live in the city, watching it change; looking at those factories that were demolished; watching people no longer riding a bike to get to work; Looking at the people for whom the city is no longer polluted by dirty air; watching the city more and more congested; watching buildings of the city that cover and block the sun. But sometimes, I find that I can't see the sun, even if there is no building within view... ...

20年来，这些记忆并没有被时间抹去。我始终生活在这个城市，看着它的变迁；看着这些工厂的消逝；看着人们渐渐不再骑自行车上下班；看着这个城市里的人们不再无知的被空气污染侵蚀；看着这个城市越来越拥挤；看着这个城市被钢筋混凝土的建筑遮住了太阳。并且渐渐的，我又发现即使城市里那些没有高楼大厦的角落，也一样看不到太阳了……

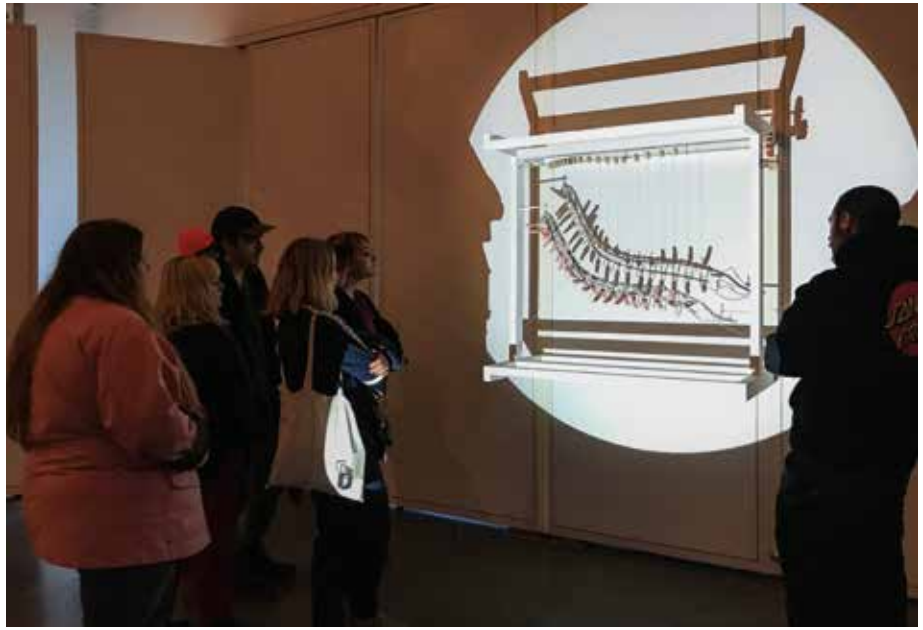


Perhaps because of the memory of this childhood, the word "industry" is deeply branded in my mind, and it seems to be a subconscious. Now the memory of "Hometown" has become an important clue in my work. It runs through the creation of my work.

或许因为这些童年的记忆，“工业”这个词被烙在了我的头脑中，它仿佛成了潜意识。如今家乡那种粗糙的工业场景成了我作品的一条线索，它贯穿了这个创作阶段的始终。

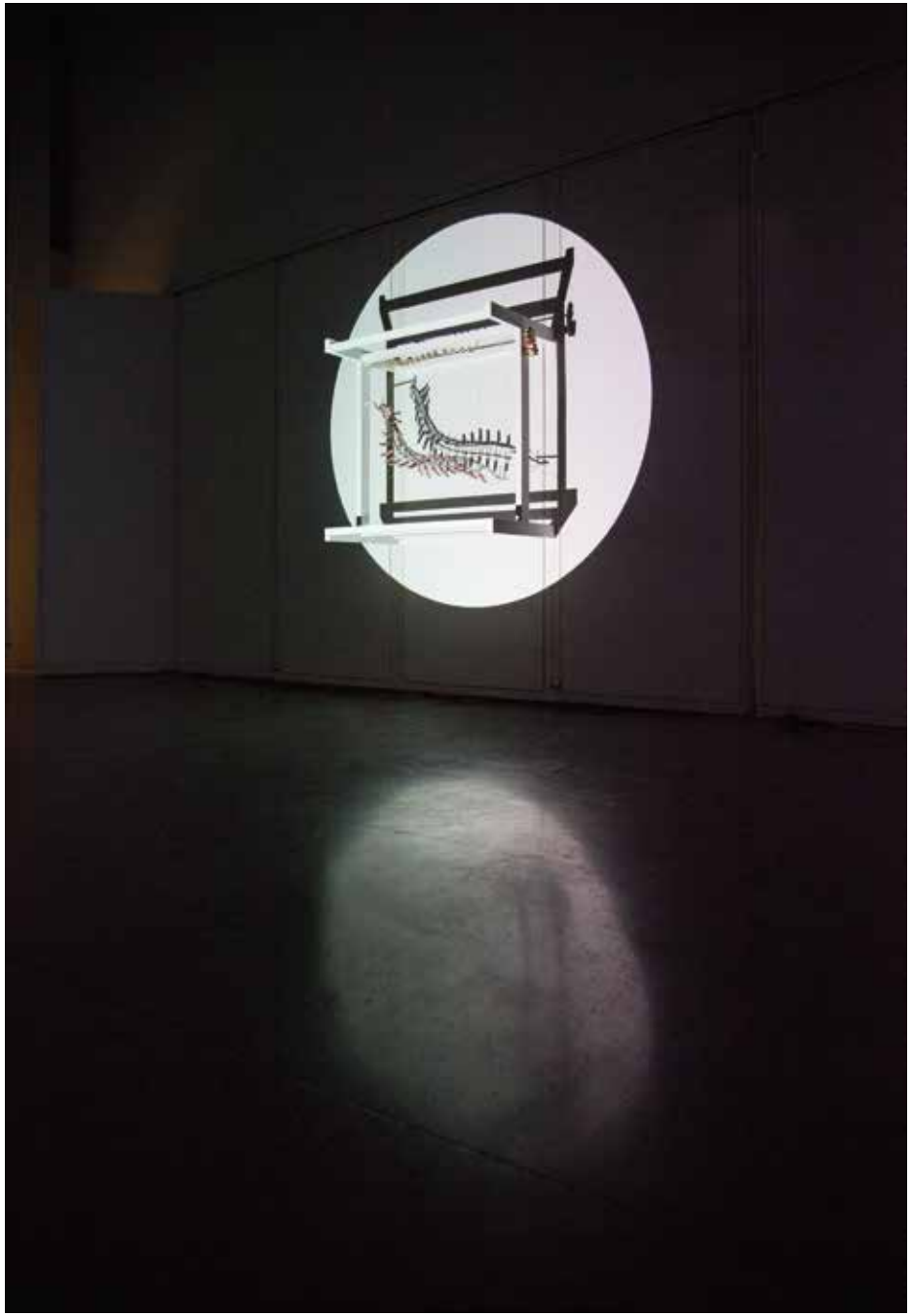


• Abstract

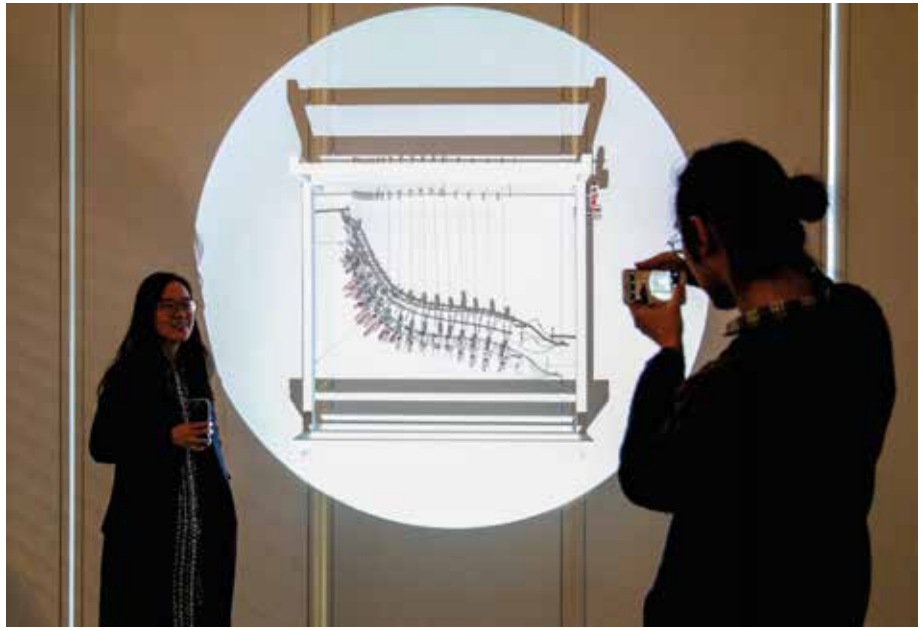


I have been concerned about the relationship between people and the industrial world. With the development of science and technology, the pace of life was accelerated. Industrial productions dominated almost every area of our lives, so I began to think about some of the relevant issues. What happens to people in this era of "big data" information technologies? Is this about our alienation? Is this about destruction or evolution? I will discuss and explore how people exist in the industrial world and how people face the rapid development of the world.

我一直在关注人与工业世界的关系。随着科技发展，生活节奏加快。工业产品几乎占据了我们生活中的每一个角落，由此我开始思考一些有关的问题。在这个被"大数据"充斥的信息技术时代，人会产生何种异化？这种异化对人类来说是一种推进还是倒退？我想站在艺术工作者的角度探讨工业与科技大发展的环境中人们如何存在，以及人们该如何面对这个世界。



• Introduction



In 1960, Norbert Wiener (November 26, 1894 – March 18, 1964), the father of cybernetics, published an essay entitled "Some Moral and Technical Consequences of Automation". Norbert Wiener pointed out that machines have become very effective and even dangerous things in about 1960, because they have a certain degree of thinking and communication ability. They are beyond the limitations of designers.

1960年，控制论之父诺伯特·维纳发表了一片文章，题目是"Some Moral and Technical Consequences of Automation"。维纳指出大约在1960，机器已经成为非常有效的，甚至是危险的东西，因为他们拥有"一定程度的思考和沟通"能力，超越了设计师的局限性。

He assumed a situation under the control theory system. If a machine has an ability of automatic operation and the function of learning and training to play a game of nuclear war, as long as the rules of the game are to win the nominal victory, these machines may do anything, even at the expense of human survival. The speed of the "evolution" of machines has become so fast that humans act like non-humans in the industrial world, because human have lost the supremacy of the ruler.

他基于控制论假设了一种情况，如果一台机器具有自动运算与学习的能力，并被训练去玩一个可以控制核战启动的按钮游戏。只要按照游戏的程序规则，为赢得胜利，这些机器可能会做任何事情，即使以人类的生存为代价。机器“进化”的速度变得如此之快，并且聪明和不可撤销，由此，在工业时代的人类行为已经不再像人，人类失去了统治者至高无上的地位。巴特勒所担忧并在小说中生动描绘的人类被机器所统治的时代，已经开始变成了现实，“我们也许还未觉醒，当想关掉它，为时已晚。”

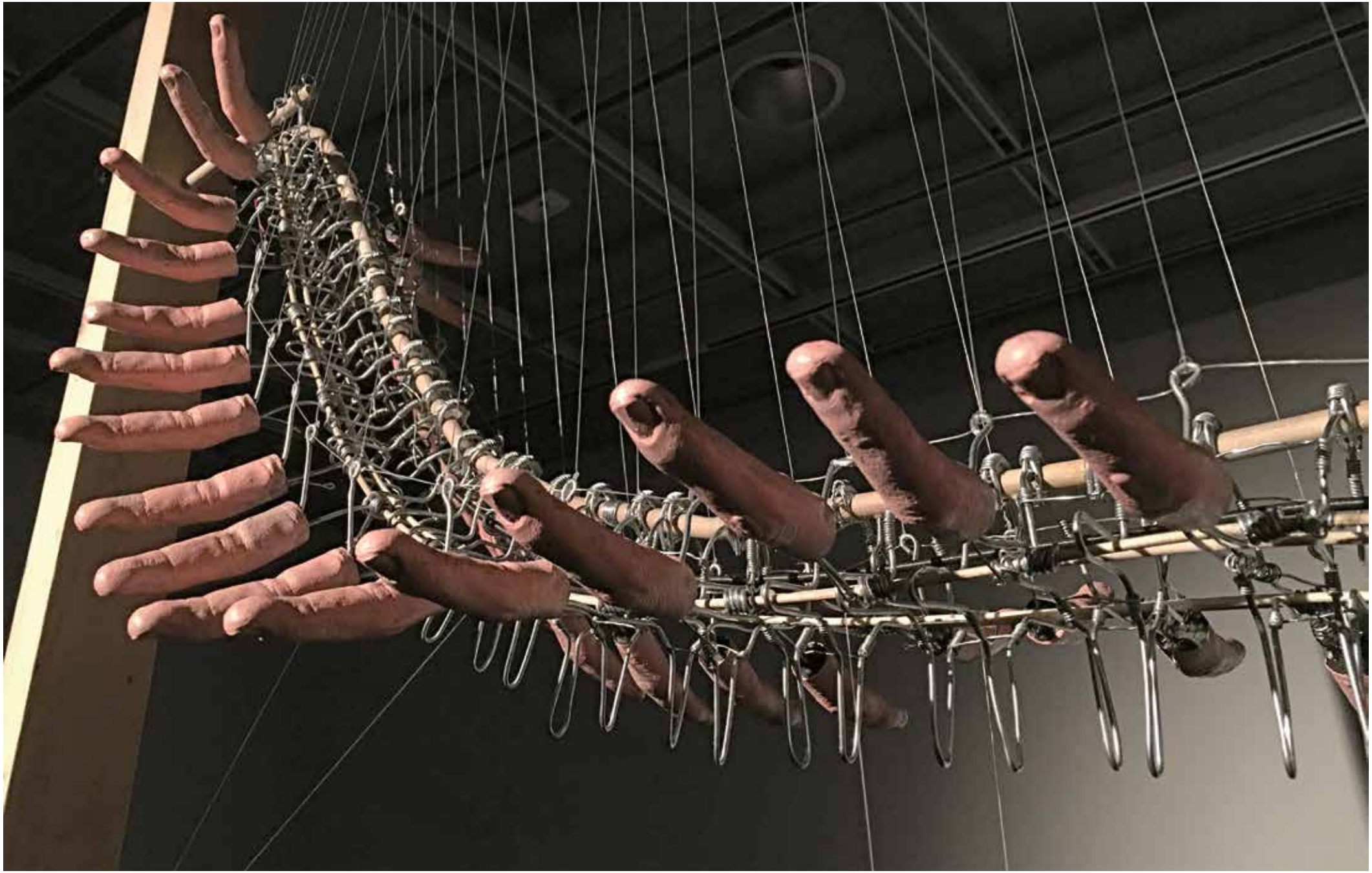

EXIT

The development of science and technology led to the industrial revolution. The revolutionary progress led to a new awareness of the human being. This also led to the split of traditional values from people's lived experience. In my art practice, this process of bridging needs to balance the relationship between man and machine, and man and technology.

科技的发展引发工业革命，在1960～1970年众多领域的革命性进步导致了人们对人与机器之间关系的新的觉醒，这种认知与觉醒也导致了人类传统价值观的分裂。这种弥合的过程则需要不断平衡人与机器，人与科技的关系。

At present, the most popular topic is artificial intelligence in the field of technology. Artificial intelligence appeared a few times as spurts of development in the past and human did not succeed, because human didn't get enough big data in 1960s. The awakening of the relationship between man and machine came back with new developments in AI. The split of values becomes aggravated.

在当下，科技领域最热门的话题莫过于人工智能，量变决定质变，在计算机领域大发展的前提下，人类获得了过去所没有的大数据，人工智能在过去出现过几次井喷式发展，但最终没有获得本质性的成功就在于不具备目前大数据时代所具备的条件。人们的思想在上世纪60年代的那次对人与机器关系的觉醒，此刻正在重演，那种价值观上的分裂也会变本加厉。



Artificial intelligence, referred to as AI, is divided into two levels by humans: weak AI and strong AI. Weak AI is explored by humans at the present stage. It can surpass people's intellectual limit at a certain point, such as the Alpha Go and its second generation product master system. In the chess contest with the top players of the human race, Master won, without a defeat. In this field, human beings can no longer beat AI. The limitations of human brain computing speed and deduction capacity are obvious.

人工智能，也被称为AI，科学界习惯将它分为弱AI和强AI。目前阶段人类正在探索弱AI。它可以在某一时刻超越人们的智力限制，例如Alpha Go及其第二代产品Master。其在与人类顶级棋手的国际象棋比赛中，Master大获全胜，无一败绩。在这种领域，人类已经不再能够击败AI。人脑计算速度和推演能力的局限性是显而易见的。

So far we can not interpret how the brain works. The most in-depth study gives the answer that the human brain relies on the activity of neurons to respond, but what the human brain is "thinking" and how to make "reasoning", we have no way to know. The computer is different. AI's "thinking" approach is based on big data. We all know AI does not have the so-called human "brain". They just match some information from the database data when they receive instructions, such as if we feel hungry and speak to Iphone siri, "Please recommend me some delicious restaurants."

到目前为止，人类仍无法解读大脑的运作方式。最深入的研究给出的答案也只是，“人类大脑依赖于神经元的活性来做出反应”，但什么是大脑的“思考”，以及大脑如何做出“推理”，我们仍无法知道。而计算机AI的“思维”方法是基于大数据。我们都知道AI并没有真正意义上的“大脑”。当他想要解决问题寻找答案时，只是从数据库中读取相匹配的一些信息，例如我们觉得饿了，和Iphone siri说，“请给我推荐一些美味的餐馆。”

Siri will give you a list of restaurant as soon as possible. When we lamented that it was very clever, convenient and intimate, we did not ignore the fact that AI just caught "restaurant" as a word, and then controlled its own data in the database to retrieve some information to match "restaurant".

Siri会迅速给您一份餐厅名单。我们会觉得很便捷，很贴心。但不要忽视其实Siri只是提取了你声音中"餐厅"这样的词汇，然后对照自己数据库中的资料进行调取。

Indeed, AI gives us a lot of convenience, but there are two sides.
We develop science and technology to increase productivity, develop genetic engineering to transform our body functions, and even seek human eternal life, even if we know that this may be contrary to ethics and violation of the laws of nature.

的确，AI给我们带来了很多便捷，但事有两面。

我们发展科技来增加工作效率，发展基因工程来改造我们的身体机能，甚至寻求人类的永生，即使我们知道这或许是违背伦理与违反自然规律的。

The wheelchair can provide a convenient way of moving for people who lose or temporarily lose their ability of movement. As the French philosopher[unknown] proposed a new way of thinking - the machine is an extension of human organs. In other words, we can think that industrial machines are human organs or the definition of human organs can cover industrial machinery.

轮椅可以提供一种便捷移动方式给那些双腿失去或暂时失去行动能力的人们，就如法国哲学家乔治·坎吉尔姆提出的新的思维方式。“机器是人类器官延伸”。也就是说我们可以认为工业机器是人的器官，而人体器官的定义可以涵盖工业机器。

The machine has not only become part of the human organ, at the same time, human beings have also become part of a "super machine". Even if the human as a super machine seems too cold or contrary to ethics, the machine is more consistent with the definition of an organic person than ever before.

机器不仅成为人体器官的一部分，反之人类同时也成为了一个“超级机器”的组成部分，机器变得比以往任何时候都更符合一个有机人的定义。

But if we abandon these icy and rational assumptions and reasoning, people can learn to stand up and walk by training instead of sitting on the tools of the two wheels forever and giving up to challenge human limits.

可如果我们抛掉这有些冰冷的假设和冷静的分析，工业产品的确让一些可以通过训练很快站立起来的人过份依赖这两个轮子的工具，放弃了作为人对自身的挑战。

Is it a symbiotic relationship between industrial machines and human beings. Or do they continue to push each other to destruction? Like alien life is imagined in the science fiction film, they have huge heads, slender limbs and just only have the basic ability to move, or even to live in the mechanical or bionic shell.

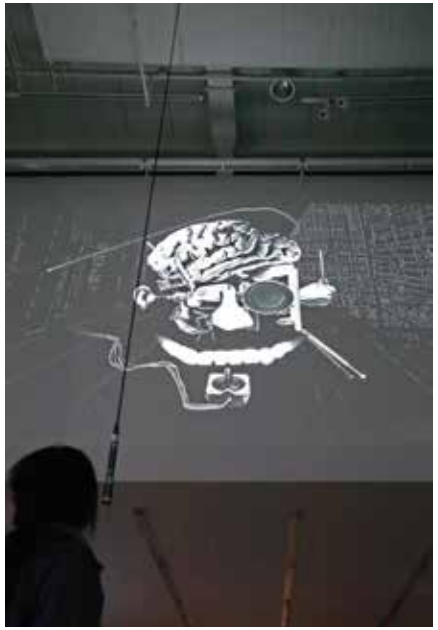
机器与人究竟是一种共生关系，还是不断的将对方推向毁灭。就像在科幻电影中被假想出来的外星生命，他们头部巨大，四肢纤细，只具有基本活动能力，甚至要寄居在机械或者仿生外壳之下。才能

The birth of this image reflects the human concern for the future development of industrial technology. It is difficult for us to evaluate and predict the continuous development of industrial machinery and technology in the future.

这种形象的诞生体现出人类对未来工业科技发展的忧虑。我们很难评价和预测工业与科技不断发展在未来会给我们带来什么。

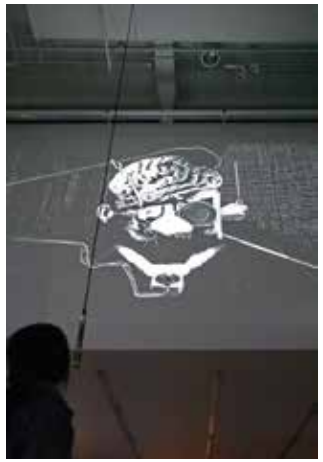
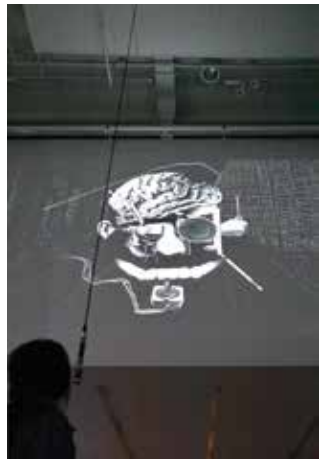
This is why my heart is uneasy, so I try to find the state without answers when I create my art piece. This statement of anxiety and uneasiness is the power of creation. Since the Aristotelian era, Westerners believe that "soul" or "self" can distinguish between humans and non-human beings.

这也正是我内心产生不安的原因，这种忧虑与不安是我创作的动机，在作品中我尝试将无答案的状态呈现在观众面前，这是一种对工业世界充满忧虑与不安的陈述。自亚里士多德时代以来，西方人认为“灵魂”或“自我”可以将人类与非人类区分开来。



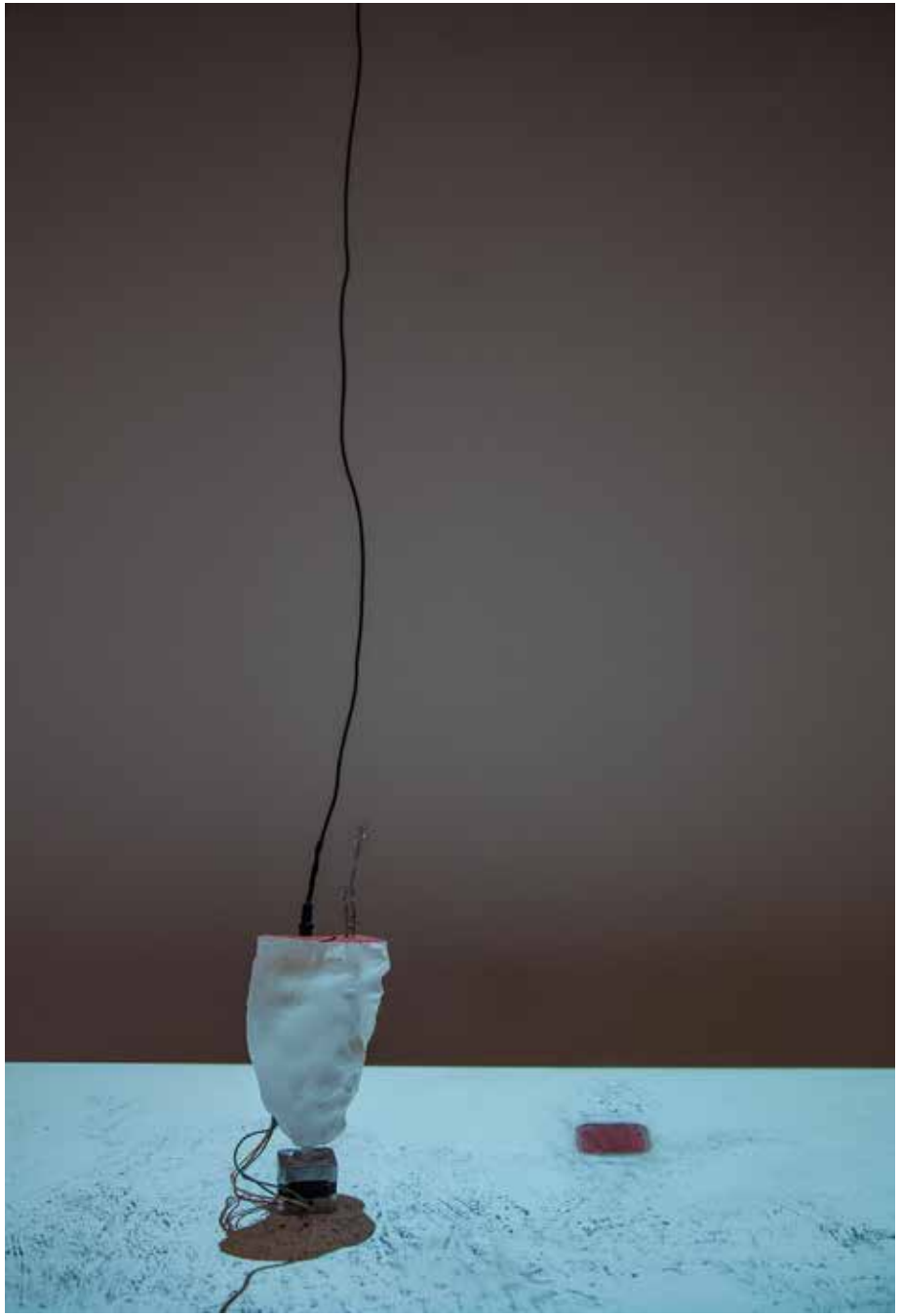
Is this distinction in the current era of great development of science and technology industry still effective? There is no conclusive evidence of the fundamental gap between man and machine. For each human activity, there can be a mechanical correspondence. Is the difference between man and machine completely gone?

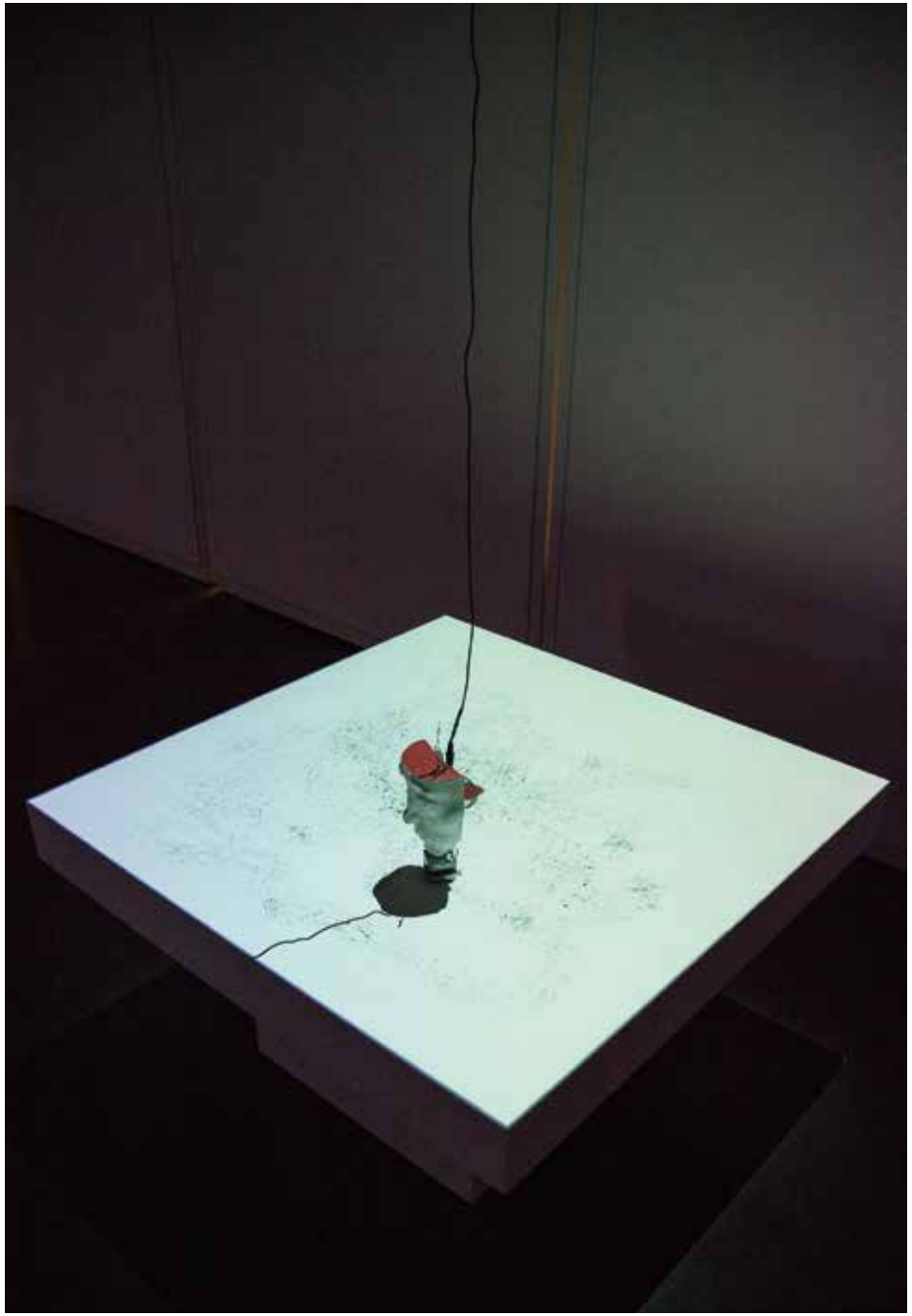
但是这种区别在当下科技，工业大发展时代仍然有效吗？没有确凿证据表明人与机器之间的根本差距，对于每一个人类活动，都可以进行机械对应。难道人与机器之间的区别彻底消失了？


"A Bare Cycle" , In this piece, the image comes from my body organs and industrial products that appear within the scope of my life. I combine the organic and inorganic elements with image software, blur their boundaries and try to inject an organic life into the inorganic industrial machinery, but also give the cold mechanical movement to these organic organs. Every individual structure of the piece looks like it has a loop cycle, and then all parts become a complete cycle.

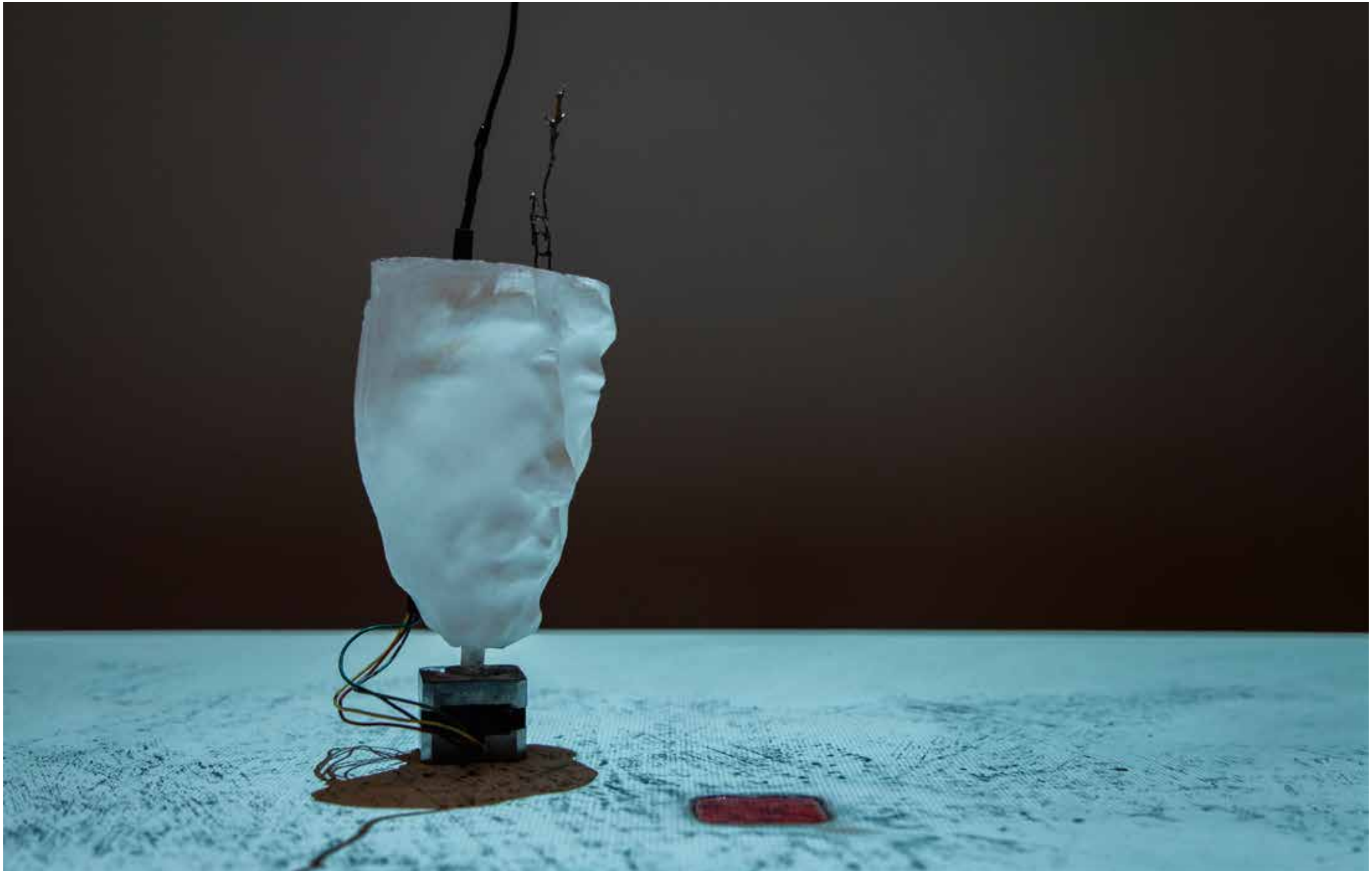
"A Bare Cycle"，在这件影像作品中，图像来源于我的身体器官和在我生活范围之内出现的工业产品，我通过图像软件将有机与无机的两种元素结合到一起，模糊它们的界线，试图尝试将有机的生命赋于无机的工业机器，而又将冰冷的机械运动方式注入这些有机的器官中。作品看似每一个单独结构都在周而复始的运动，但所有单独运动所构成的结果又是一个完整的循环。





In the philosophical system, things have a common connection. Any one part changes the final outcome. I show all the movement trajectories to the audience. The interaction between the different parts of the process I call industrial language. Once the audience is involved in this language, they will learn a new way of communication, and then they can use this way to continue reading works. In this piece I designed a lot of vague common points between people and machines, so I hope that people can think more deeply and look for a human nature that is different from the past through this piece.

在哲学体系中，事物存在普遍联系，每一个环节的变化都在影响着最后的结局。我将全部运动轨迹展示给观众，这过程中不同部分的相互影响被我称为工业语言（industrial language），一旦观众介入到这种语言中，就如同学会了一种新的交流方式，并且可以不断使用这种方式对作品进行持续阅读。在这件作品中我安排人与机器拥有很多模糊的共同点，我希望人们可以通过对作品的阅读后，更深入的思考并寻找一种不同于过去的人性本质。

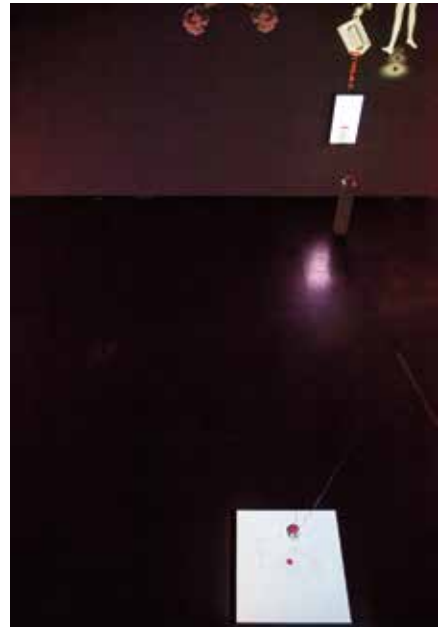


I try to make my piece in a state of exploration. The so-called exploration abandons both the answer and the conclusion. I use my piece to express what I am thinking on an important problem, but I can not express my position too much so that the audience can have freedom to make their own conclusions of the work.

我试图让作品呈现出探索状态。所谓探索就是将答案抛弃，在没有结论的前提下进行创作，用自己的作品来阐述对一个问题的思考，不去过多表达自己的立场，将对问题的思考抛出去。使作品脱离结论的限制。

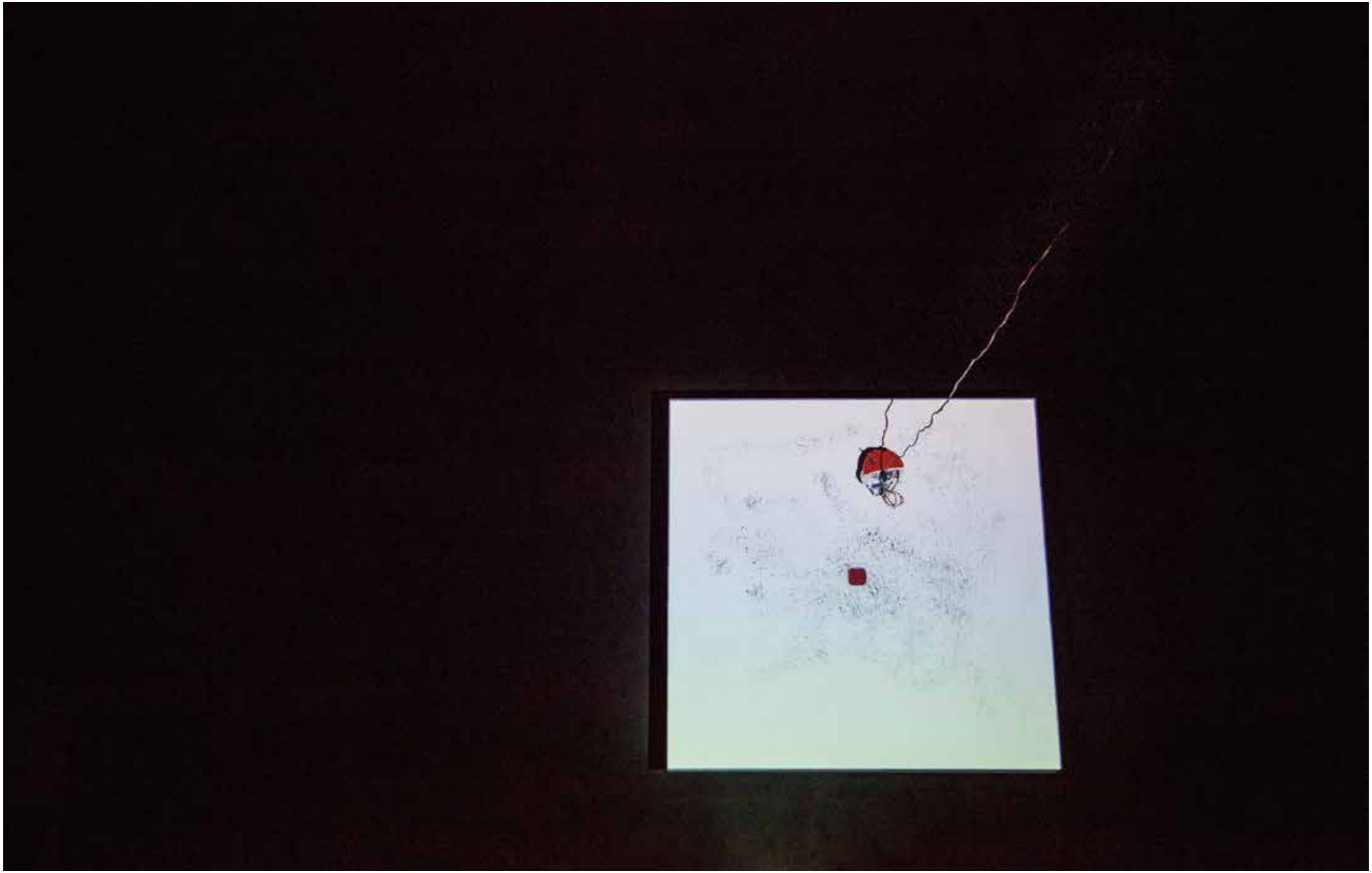
We often try to find the results when we face some interesting issues. Once an artist implies a bias in the work, it tightens the space in which the work is given to the people. Such guidance will lead to the loss of the judgment of the audience, and they lose their freedom in art appreciation. How does the artist hide this tendency?

面对自己关注的问题，很多时候我们努力去追寻结果，但一名艺术家在作品的结论上有所倾向，很容易将作品本应交给观众的空间收紧，这样的引导将使观众丧失一定的判断力，进而失去他们在艺术欣赏中的自由。



In the creation, the artist's subjectivity is emphasized as being free from any interference from the outside world. Any bad influence on the artistic creation is harmful. The audiences will give the final interpretation of the work. The audience's experience determines the interpretation which allows the free property of the final artwork to return.

在创作中艺术家的主体性被强调为不受外界的任何干扰，任何对艺术创作的消极影响都是有害的，在自我表现的过程中我们将作品的最终解释权交给观众，这样根据不同观众的个人经验与社会体验将作品的完成效果加以甄别，这样最终会呈现出作品的自由属性。



"Flying on the ground", this kinetic sculpture is made of a metal spine and a large number of my finger models. I set up a DC motor in the upper right corner of it and it drives the rotation of the gear and pulls up 38 fishing lines that pull the sculpture fingers around the metal spine for the same rhythm. I want to explore how people develop when their world is dominated by industrial machines. People get a lot of benefits from the industrial revolution, while the machine has also blurred the boundaries between itself and humans.

"Flying on the ground"，这件作品由金属丝制作的脊椎与大量蜡制手指模型所组成一件动态雕塑作品。作品的右上角被设置了一台减速电机，由它带动齿轮的旋转并提拉38根鱼线，这些鱼线牵引着蜡制手指围绕金属脊柱进行波浪型相同节奏的往复运动。我始终想要通这种人与工业化产物的对等交流来探讨我们这个时代中的人在机器的簇拥下会如何走下去，人在机器带来的革命中索取，机器也在人给予的生命中模糊着与人的界限。

KÖHLER

Fingers come from my body organs. I use the fingers of the circular motion to allude to the human who did monotonous work under the great development of automation. The traditional social structure is constantly under attack. Optimists believe that automation will emancipate the labor force so that people are free from the situation of repetitive and monotonous labor. Pessimists argue that automation will make human beings a part of industrial machinery and cause the identity of the human to be lost.

蜡制手指来源于我的身体器官，我尝试运用这种有规律的往复运动暗指在当下自动化大发展背景下人类所从事的单调劳动。传统的社会结构已经在工业自动化大发展的背景下不断受到冲击。乐观主义者认为自动化将要解放劳动力，使人们免于陷入重复与单调劳动的处境。而悲观主义者则认为自动化将使人类成为工业机械的一部分，失去人类造物主的身份。

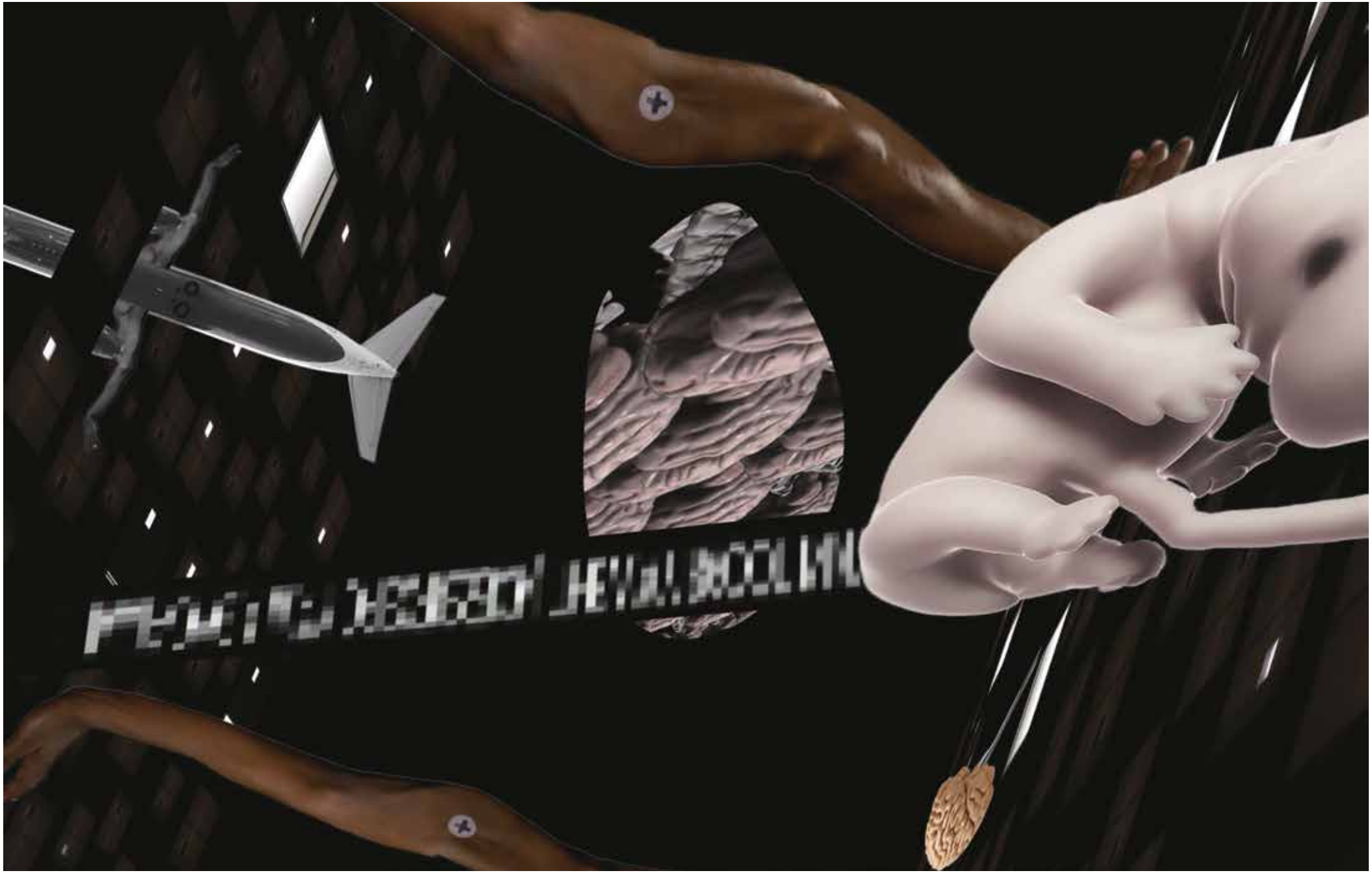
KOHLER
AND IT IS VERY PRIVA

After trying for a period of time to elaborate on the relationship between man and industry with some concrete images, I began to think about how to use a more emotional way to elaborate on the essential difference between man and industry and computers. The battle between people and the computer and machinery began very early. People rely on wisdom to create industrial and technological products with high level of ability, including artificial intelligence. Thus people began to worry about whether humans will be dominated by artificial intelligence in the near future and lose the special identity of "Creator".

在尝试用具体形象的结合来阐述人与工业的关系之后，我开始思考如何能用更有情感的方式，或者说与自身联系更紧密的方式来阐述人与工业，人与计算机之间的本质区别。人与机械，计算机之间的较量很早就开始了，人们依靠智慧创造出了远远超越自身能力的工业产物，包括人工智能。由此人们开始忧虑在不久的将来是否将被人工智能主宰，失去“造物主”的特殊身份。

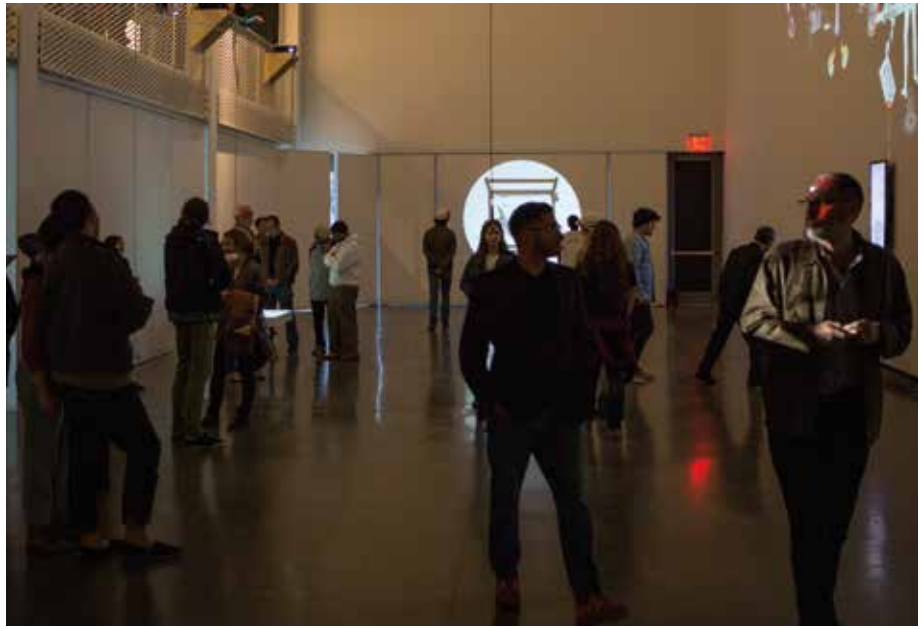
This concern is in line with the actual situation, because humans have been defeated in the duel between the best chess master and artificial intelligence Alpha Go. How are humans to defend their dignity? Even though as an artist we can not give the answer in the way of a scientist, I am starting to find a art way to make people thinking what's the difference between the cold machines that we have created and human being.

这种忧虑并非空穴来风。在围棋大师与人工智能阿尔法go的对决中，人类已经一败涂地，人类还要用什么来捍卫自己的尊严？作为艺术家我在寻找一种有别于科学家的方式来给出答案，所以我开始寻找一种方式来证明人不同于被我们创造出来的冰冷机器。



In this era of big data, the algorithm of a computer is essential. For example, the computer can be better than the human chess master. The reason for this is not its own ability to think. It has a very fast computing speed and It instantly calculates all the possibilities of how to deal with it so that it chooses one of the most advantageous places to lodge and can win every game without risk.

在这个大数据时代，计算机在高速运算并得出结果的过程中，算法至关重要，例如计算机可以胜过世界围棋高手并非它自身具有思考能力，而根本在于它超群的运算速度，在棋师落子结束，它一瞬间近乎可以计算出如何应对的所有可能性。这样它选择下一步最有利的位置落子并可以毫无风险的赢得每一盘棋。



In the process, it does not have emotional fluctuations, fatigue, or hesitation. The human mood is one of the weaknesses in the battle between human and technology, but the weakness also makes human beings have a "body temperature", because they have a real life. The little "body temperature" is The most critical difference from the machine.

这过程中，它没有情感波动，没有疲劳，没有犹豫。理论上，唯一失败的可能就是输给另一台计算能力更强大的计算机。当问题至此，人的情绪是其中一个弱点，但这也使人类具有了“体温”，这一点点“温度”，可以被战胜，更是区别于机器的关键。

As an artist, we inject the emotion into art pieces. In the creative process we have fatigue or depression, similarly we also have excitement and energy. Then sometimes we will think of spring, and sometimes we will work exhausted. Based on this I will develop a one-month plan to force myself to create a short-term work. I will use an hour to make a regular creation every day. I am sure that in this process the face of the work will reflect my different emotions and state.

作为艺术家，我所创作的作品是具有情感的，在创作过程中我有疲劳或情绪低落的一时，同样也有亢奋和精力充沛的一刻，有时候我会思如泉涌，有时候也会创造力枯竭。基于这点我在未来将要制定一个为期一个月的计划，强迫自己在正常创作的同时每天用一个小时来进行快速创作，确保每天完成一件短期作品，我试想在这个过程中，作品的面貌会体现出我的不同情绪与状态。

This process has a profound meaning, because the focus is not on the integrity and quality of each piece of independent small works, but rather the implementation of this process. Once all the works are completed, these works will show a continuous wave of emotion. This is different from the current popular "art creation" software - Deep Dream.

这个项目将会具有特殊意义，它的重点并不在于每件独立短期作品的完整性与质量，而在于这个过程完整执行后，将所有作品一同展示出来所带给观众的情绪感受。这正区别于当下流行的“艺术创作”软件——Deep Dream。

Deep Dream has been popular in the near future, because people can easily create oil paintings with Van Gogh's flowing strokes through this software, or create works like surreal attention to majestic fantasies.

Deep dream近期很受大众的欢迎，因为人们可以通过这个软件轻而易举的创造出具有梵高一样流动笔触的油画作品，或者创造出像超现实主义大师们充满诡异幻想的作品。

People only need to upload a picture which they like, and then select favorite style, a few seconds later you can get a master style "authentic". Critics are beginning to worry about the impact of artificial intelligence on the art world whether it will bring a panic which Daguerre invented the traditional photography in 1839 or not.

人们只需要上传一张自己喜欢的图片，然后再选定自己喜欢的风格，几秒钟就可以得到一张大师风格的“真迹”。评论家们开始担忧人工智能对艺术领域的冲击，是否会像1892年达盖尔发明摄影术时候所带来的恐慌一样。

Based on the current development of AI, It is absurd to replace the emotion and the creativity of the artist with the machine. The work created by Deep dream is always based on people's instructions and through the selection of people, people build a range of data, and then in the final range of "painting" was selected by their own preferences. The creativity of the machine is different from people, It has no emotional basis and the cultivation of art does not grow, so their "creation" is motivated.

我认为就目前AI的发展程度，用机器替代情感，替代艺术家的创造力是荒谬的。Deep dream所创造的作品，永远是基于人们预设的指令并通过人们的塞选。人们建立一个数据执行的范围，然后最终在这个范围里产生的“画作”被人们按自己的喜好选出，仅此而已。机器的创造力不同于人，它没有情感基础，艺术的修养不会增长，而且所进行的“创作”是有动机的。

"Resonance", in this piece, I have chosen some of the image elements that appeared in my old piece, they have been redesigned. Each of the different parts always maintain their own independent movement, at the same time people can control the details of the industrial face through the interactive technology. In the industrial world under the premise of continuous development, scientists put forward a new implantable "interface". It's a new way of connecting humans and machines. This attempt will inevitably break the boundaries between humans and machines, even the "interface" will touch the bottom line of ethics.

这件作品我选用了过去作品中出现的一些图像元素，通过从新组织构建，形成了一个面部的轮廓，各个不同部分始终保持着自身的独立运动，但同时我运用了交互技术让观众可以控制作品的各个细节，如同控制着它的表情。在工业世界不断发展的前提下，科学家提出尝试一种新的接口，一种人与机器的连接方式，这势必模糊了人与机器的界限。

The interaction between human and image in this work is a connection I created as an artist. People through their own movements and sound to influence the face of the work, so that participants will integrate themselves into these industrial images. When such a complete work system was formed, it was neither completely inorganic nor completely organic, and once again stressed that I tried to bridge the boundaries between man and industry.

而这件作品中人与影像的交互方式，就是我以艺术家的身份来创造的一种连接方式。人可以通过自身的动作，声音去影响作品的面貌，让参与者将自己融入这些工业形象之中。当这样一个完整的作品系统形成，它既不是完全无机也不是完全有机，这再一次强调了我试图模糊人与工业之间的边界。

I plan to make a piece, and it is called "Order" by me. This piece will be composed of six monitors arranged in a longitudinal ladder, every display will play three steps, so totality there is 18 stairs from the ground to the roof, very simple visual effects. In this work reflects a lot of my thinking.

我的一个新的创作计划被我称作做"Order"。 这件作品将由6台显示器纵向阶梯型排列而成，显示器中播放的是台阶的影像，这样六台显示器中的18凳台阶从地面贯穿到展厅的棚顶，很简洁的视觉效果。在这件作品中体现了我很多思考。

In fact, the digital staircase in the real world is a very conflicting image, it has no functional. When people face this piece, I hope it cause their reflection so that they think about the relationship between digital virtual world and the real world, so I think this digital ladder will lead us to a true land.

事实上，数字化的楼梯台阶在现实世界中是一种很冲突的形象，它不具有功能性。当人们面对这件作品的时候我希望可以带给他们对数字虚拟甚至工业世界本身的反思。这样的一个数字阶梯究竟把我们引向何处？它是否真实？

We believes that there are three great thinkers in the history of mankind. First, Copernicus, he abolished the discontinuity between the earth and the universe; second, Darwin, he eliminated the interdependence between man and the animal; third, Freud, he erased the disagreement between consciousness and loss of consciousness.

在整个人类历史中，有三位伟大的思想家，哥白尼，消除了地球和宇宙之间的不连续;达尔文，消除了人与动物之间的不连续;弗洛伊德，消除了意识和无意识之间的不连续。

Some people think the fourth important people is Bruce Mazlish, he realized that "man and machine are continuous."

Is it ture?

有人认为第四重要人物是布鲁斯·马兹利什，他消除了人与机器的不连续。

是吗？

The "Order" of this work is questioning Mazians proposed by the continuity of people and machines, human beings can really use technology to break the boundaries of people and machines do? Is it possible to add a new group like "organic machines" in the Darwinian evolution sign chart? This is what I bring to people through this work.

而《阶》这件作品正在质疑Mazlish所提出的人和机器的连续性，人类真的可以利用科技来打破人与机器的界限吗？

Is it possible to add a new group like "organic machines" in the Darwinian evolution sign chart? This is what I bring to people through this work.

有可能将达尔文进化论标志图表加入“有机机器”这样的一个新的群体吗？这正是我期望通过这件作品所带给大家的思考。

• 结论

在这样一个工业极度发展的时代，人类总是在经受着考验，我们质疑自己，质疑他人，质疑整个人类的发展方向。此刻，我们仍旧在摸索中前行，我们虽然暂时无法得到关于人与机器如何共存的明确答案，但人类正在用着自己的智慧梳理着自身发展的脉络。我相信，人类终究坚守着自己的底线。作为艺术家，我认为人类身为造物主，我们的大脑能够真正的进行思考，创作是因为我们内心具有情感基础，做出的任何决定都倍受它的鼓舞，情感与情绪终究是人类最与众不同的特征。

最后我想引用1942年，阿西莫夫在短篇小说"Runaround"（《环舞》）中首次提出的机器人三定律这个动机来作为本文的结尾：

1. 机器人不得伤害人类个体，或者目睹人类个体将遭受危险而袖手不管。
2. 机器人必须服从人给予它的命令，当该命令与第一定律冲突时例外。
3. 机器人在不违反第一、第二定律的情况下要尽可能保护自己的生存。

• Conclusion

In such an era of extremely industrial development, mankind is always being tested, we question ourselves, question others, question the direction of development of the whole world. At the moment, we are still in the exploration of the future, although we can not get a clear answer in the short term about how people and machines coexist, but human beings are using their own wisdom to sort out the context of their own development. I believe that mankind is sticking to his bottom line. As an artist, I think that human beings as creators, creation is because we have an emotional basis, make any decisions are much encouraged by it, emotions are the most unique human feature.

Finally, I would like to cite the three robots in Asimov's novels "Runaround" as the end of this article:

1. A robot may not injure a human being or, through inaction, allow a human being to come to harm.
2. A robot must obey orders given it by human beings except where such orders would conflict with the First Law.
3. A robot must protect its own existence as long as such protection does not conflict with the First or Second Law.

When we do not yet know how the future will develop, the only thing we can do is to initiate principles that lead us into that future.

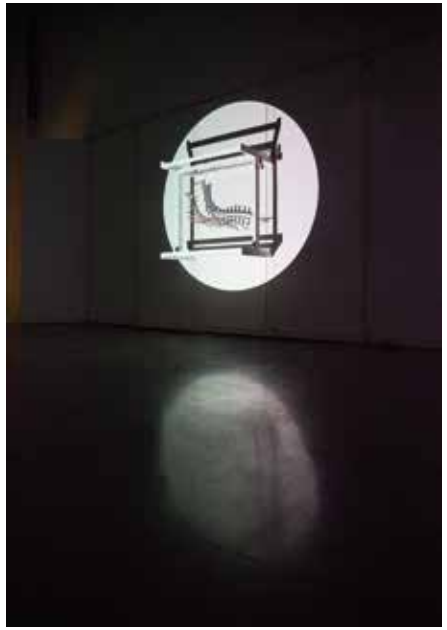
当我们不知道未来如何发展时，我们唯一可以做的就是尽可能地制定引导我们进入未来的原则。

• Works in Thesis Show

1. "Self-healing Function"

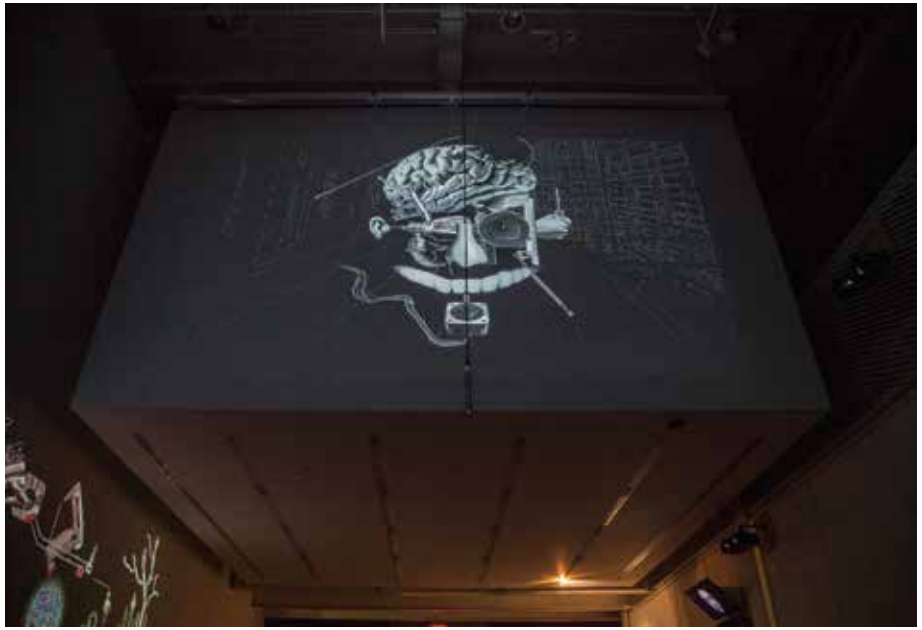
I organize more than 50 independent videos. Some parts of the video come from my own organs and the collection of limb images. The other parts come from many industrial products in my life. I turned these static pictures into circular motion video, which I called "Loop animation." Each of the independent video units in this work has a high level of clarity, because I use four theater level projectors to play them when I showed this piece. People can be in the exhibition process to experience the shock of the huge images, at same time, they will be attracted by the details of this video piece.

The human body has a magical ability to self-healing, after the body suffered damage, even if we do not take any medical measures. In a certain period of time, it can still be restored as ever. In fact, we can assume that the whole world is an organism and it is very similar to the human body. Since ancient times, mankind has suffered a variety of catastrophe, such as infectious diseases, natural disasters, war and so on, but no matter what, mankind always exists on this planet. As if this large group of human beings have the same self-healing ability as human body's self-healing Function.



2. "Flying on the ground"

"Flying on the ground", this kinetic sculpture is made of a metal spine and a large number of my finger models. I set up a DC motor in the upper right corner of it and it drives the rotation of the gear and pulls up 38 fishing lines that pull the sculpture fingers around the metal spine for the same rhythm. I want to explore how people develop when their world is dominated by industrial machines. People get a lot of benefits from the industrial revolution, while the machine has also blurred the boundaries between itself and humans.



3. "Resonance"

This is a interactive video piece, I hung a microphone in the middle of the exhibition hall. I have chosen some of the image elements that appeared in my old piece, they have been redesigned. Each of the different parts always maintain their own independent movement, at the same time people can affect the video works through their sound or any background noise.

In the industrial world under the premise of continuous development, scientists put forward a new implantable "interface". It's a new way of connecting humans and machines. This attempt will inevitably break the boundaries between humans and machines, even the "interface" will touch the bottom line of ethics.

In "Resonance", the interaction between human and image in this work is also a connection I created as an artist. People utilize the live sound to influence the exprssion of the industrial face, so that participants will integrate themselves into these industrial images. When such a complete work system was formed, it was neither completely inorganic nor completely organic, and once again stressed that I tried to bridge the boundaries between man and industry.

4. "The Return"

This piece is also a kinetic sculpture. I used the wax face to connect a stepper motor, this stepper motor in the rotation will produce vibration, this vibration will make the sculpture random movement on the wood board. I made a square groove In the middle of the wood board. The sculpture will inadvertently return to the initial position(the square groove) of the template in the process of random movement, and then leave again.

5. "Trap"

Virtual Reality technology has been greatly developed, so I applied this technology to my work. When people wears the VR headset and cover their eyes, instantly, they will be immersed in a strong image environment. Other viewers will be attracted by the strange action of this people. Because this people will be influenced by the VR environment and ignore what he is doing.
The elements in this piece are still derived from the independent videos which I created in the past.

• Bibliography

1. Norbert Wiener. Some Moral and Technical Consequences of Automation. Science, New Series, Vol.131, No. 3410, May 6, 1960.
2. Kevin Kelly. The Inevitable. New York Press, 2016.
3. George Dvorsky. How Much Longer Before Our First AI Catastrophe. April 1, 2013.
4. Raymond Martin and John Barresi. THE RISE AND FALL OF SOUL AND SELF. New York, Columbia University Press,1941.
5. Asimov's novels. Runaround. 1941.
6. Galloway and Alexander. The Interface Effect. Malden, MA, Cambridge, UK, 2012.
7. Xiaohan Guo and Yujin He. InteractiveMedia Art. Chongqing, China, 4, 2008.

EQUIPMENT

Canon 5D mark II
SP891(BenQ)HD Projector
WUX6000(Canno) HD Projector
W6000(BenQ)HD Projector
WD Midea Player
Apple Mac Mini
Apple Mac Pro
VR Headset

SOFTWARE

SkyBox Creator
Adobe Premiere CS6
Adobe Aftereffect CS6
Adobe Photoshop CS6
Adobe Illustrator CS6
Adobe Lightroom 5
Mad mapper
Animata

THESIS COMMITTEE

Barbara Lattanzi
Peer Bode
Joseph Scheer

SPECIAL THANKS TO

Barbara Lattanzi
Peer Bode
Joseph Scheer
Xiaowen Chen
William Contino
Mark Klingensmith
Don Weinhart
Andrew Deutsch
Judy Livingston
Myles Calvert
Devin Henry

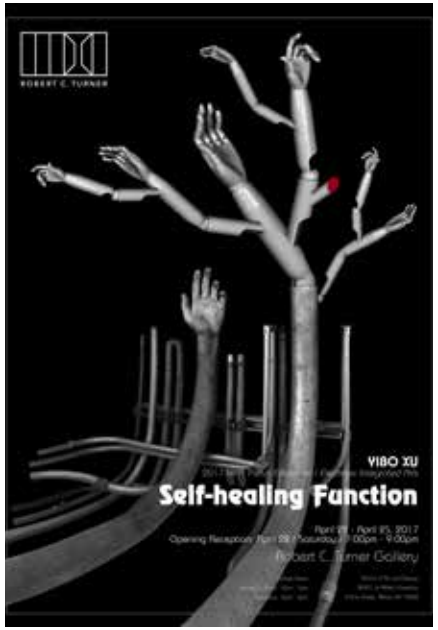
SPECIAL THANKS TO "Yibo Brother Team"

Yinchi Liu
Zimo Xin
Xun Xiao
Aodi Liang
Yaowen Zhang
Yueyuan Gong
Jiayi Wang
Jinhao Song
Wanying Liang
Fei Wu
Zhongchi Xu
Liying Zhang
Ding Ding
Cao Wang
Wanrui He
Yulu Chen
Michael Haleta
Jessica Earle
M a t t h e w
Lauren Cannella

2017 MFA Thesis Exhibition
Electronic Integrated Arts
Robert C. Turner Gallery
Harder Hall
School of Art and Design
NYSCC at Alfred University

Yibo Xu
Wechat:brooke198564
308969753@qq.com

SELF-HEALING
自愈功能
FUNCTION
April 22
Saturday
7:00pm - 9:00pm
許毅宇
Yibo Xu


ROBERT C. TURNER
VIBO XU
Self-healing Function
Robert C. Turner Gallery