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# Conceptual photography in the digital age

-- Taking the photographic work "Exploration" as an example

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**Abstract:** In the context of the contemporary digital age, the aerospace field is the most representative of technological development; at the same time, in a rapidly developing social environment, there is a phenomenon that people are intimidated by avoiding new problems and dilemmas in the face of the unknown. This research draws on the work of Chinese artists Miao Xiaochun and Yang Yongliang to convey this idea through the use of digital software. The research uses both documentary and case study methods to investigate the theoretical content of the work, using conceptual photography as a blueprint and combining it with digital technology in order to achieve a high degree of unity between content and form. Using the spirit of astronaut exploration as a starting point, the work 'Exploration' uses digital technology to merge real architecture with the unknown space, presenting the viewer with a set of creative images of self-knowledge, self-reflection and self-discovery. The aim is to guide people to face and explore any problem and not to run away or give up.

**Keywords:** Conceptual photography; Digitalization; Digital imaging technology; Conceptual art.

## 1. Introduction

With the continuous socio-economic development and progress, our country has undergone great changes both in terms of technology and culture, while our country has never stopped exploring the mysterious and unknown space. However, in this fast-changing information age, it is inevitable that people will be daunted by new and unknown problems and dilemmas, and will choose to escape, confused and unwilling to find solutions. This work is a combination of conceptual photography and digital technology to create a visualisation of space exploration, using this new artistic language to present the viewer with a set of creative images of self-reflection, self-awareness and self-discovery.

### 1.1. Background and significance of the study

In the information age of science and technology development, we can feel that the aerospace industry is the most representative of the level of technological development. Digital art is a product of the combination of scientific technology and art, and it is due to the flourishing of science and technology that art and technology have collided, giving rise to digital art. Over the past thirty or forty years, the opening up of China to the outside world has created an environment in which digital art has developed, and through the organic combination of different media and carriers in the process of constant change and development, it has developed a form of visual expression that is different from traditional art photography, and has more innovative, diverse and virtual artistic characteristics. The art of photography has evolved over time, combining different artistic genres and vehicles to form different types of photographic styles. Conceptual photography is a modern art that combines technology and art, in which conceptual ideas are carried and expressed through the language of photography, using photographic images as the final form of expression, with the intention of conveying the ideas of the creator, showing an analysis of the current situation and leading to deeper reflection.

With the advent of digital technology, conceptual photography has become easier to manipulate, store and disseminate, and has broadened the creative scope and visual expression of conceptual photography, as well as enriching the inner meaning of images. Digital technology has added a new language to conceptual photography, allowing creators to create virtual scenes of their own choosing, no longer limited by their camera equipment. The work of video artist Yang Yongliang draws on both Chinese ink painting and traditional aesthetics using digital photography and digital technology to create artworks that are formally in keeping with traditional aesthetic sensibilities and post-modern in content. Photography is a long and arduous path of exploration, building on the culture of the past to explore the infinite possibilities of its artistic expression.

The French writer Zola once said that "the whole meaning of life lies in the endless search for what is not yet known, in the to keep adding more and more knowledge". The work 'Exploration' uses digital photography to capture real buildings and digital technology to create models of space figures, wormholes and nebulae, fusing two different elements of time and space and using digital assemblage to create a new image of conflict and harmony. The visualisation of ideas is a subjective expression of the spirit of exploration and a new attempt to integrate conceptual photography with digital technology.

### 1.2. Reseearch on the chosen topic

My work is based on a series of researches on space exploration, digital art and conceptual imagery through case studies and documentary analysis, in order to convey the concept and the technical presentation.

Our famous artist Miao Xiaochun once said: "We must develop ourselves as fully as possible and try to understand as much as possible what we do not know". He began experimenting with digital technology in art over a decade ago, and after years of exploring technology and art together, he has created many famous works. Miao Xiaochun's Virtual Last Judgement, for example, is a scene created using 3D technology, with his own 3D model image replacing the flat figures in it, the arrangement of which is based on

Michelangelo's painting The Last Judgement (Fig. 1). This new attempt by Miao Xiaochun extends the creation of conceptual photography into three-dimensional vision, instead bringing a new visual experience to the viewer [10]. Miao's works, such as From the Beginning Again, show the organic fusion of many architectural scenes with diverse art and culture, and the emotion and exploration behind their creation, as well as the author's attitude, are worth learning from, see Figure1 and 2.



**Fig. 1** Virtual Last Judgement



**Fig. 2** From the beginning - 3

Chinese multimedia artist Yang Yongliang, who tries to find conflict in all harmony, explores the balance between painting, photography and new media in the art of photography.He has explored the balance between painting, photography and new media.His work, Mirage Landscape, draws on Chinese ink paintings, then uses photography, digital manipulation and assemblage to create what appears to be an imitation of Ni Zan's landscapes, but is in fact a computer-painted scene, with electric poles replacing lush trees, tall buildings replacing eaves and pavilions, and stamps inscribed with manhole covers from the road.The wide scrolls are crammed with details of modern life, of the modern city. This combination of tradition and modernity is a critique of urban environmental problems and a metaphor for the pollution of the human spirit, see Figure3.



**Fig. 3** Yang Yongliang of Swire Mirage Series

"Interstellar" directed by Christopher Nolan and adapted from physicist Kip Thorne's black hole theory, is a science fiction film co-produced by the United States and Britain to explore human nature, released in 2014.The film shows the viewer the arduous journey of mankind to explore the unknown stars and the truest form of human love. The plot is consciously divided by the author into three parts: the rescue of humanity and the search for a habitable planet; the acquisition of data from a black hole; and the rescue of each other and the successful migration. The first part focuses on a future world where food is in short supply and the human race is at risk of extinction. The astronauts are tasked with saving the human race and set out to find a habitable planet. The second part is about a man in the past who once again chooses to leave his daughter and take on the task of saving humanity by exploring space and being betrayed by his companions in the process. The third part of the film is about a man who is once again trapped in the fifth dimension and transmits the data obtained from a black hole to his daughter through gravity, eventually succeeding in moving to a space station and rescuing the explorers trapped in the black hole. The film's themes are rich in interpretation of space exploration and human emotions that transcend space and time, and it is still an inescapable benchmark for space exploration films in terms of graphics, soundtrack and special effects, see Figure 4.

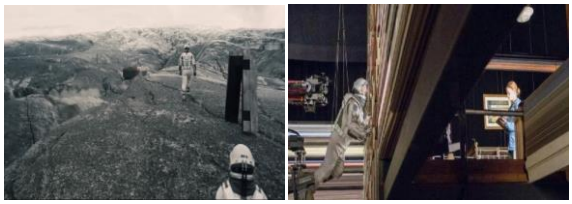

**Fig. 4** Star Trek illustration by Christopher Nolan

# 2. Section Headings

## 2.1. Creative idea

With the rapid development of the information age, more new and unknown things are emerging in front of people, and people's acceptance of new dilemmas varies, with some people becoming intimidated and choosing to avoid, confused and unwilling to take the initiative to find solutions. The work 'Exploration' takes the tireless space exploration spirit of our astronauts as the starting point, and uses conceptual photography as a blueprint combined with digital technology to present the viewer with a set of creative images of self-reflection, self-knowledge and self-discovery. It is hoped that the viewer will learn from the invaluable spirit of exploration of the astronauts, learn self-reflection, explore relentlessly in the process of knowing oneself, and find a rational path out of confusion, ultimately serving the function of awareness and education.

The combination of the astronauts as the main visual element and the iconic Wuhan buildings as the backdrop for the photograph gives the image both a conflicting and harmonious visual impact. The series is divided into four parts: the first part is a connection between the real and the virtual, aiming to express the questioning of the problem; the second part is a depiction of confusion in an unknown environment; the third part is based on the search for a solution to the problem; and the last part is a search for return in self-awareness. The third part is based on the search for a solution to a problem; the last part is a search for a return in self-knowledge. The storyline goes through 4 Research Report on the Undergraduate Design of Wuhan Textile University, Photography 2021 "Thinking and asking questions about the unknown" - "Losing oneself in the unknown" - The four stages are "reflecting on oneself in exploring and solving problems" - "finally exploring and returning". The characters are then modelled and rendered using C4D software, and later blended with real-life scenes using Photoshop software to visualize the ideas conveyed. This work is based on technological exploration and innovation, and is also an exploration of the relationship between the digital age and

humanity itself.

## 2.2. Creative programming

I was inspired by the success of China's manned space flight Shenzhou XIII, which was inspired by the spirit of long-term exploration. Extending the theme idea of 'exploration', such as mankind and the process of understanding oneself, I drew a mind map and selected the most appropriate keywords to create and imagine scenes, eventually setting up a main thread and then adding some storylines according to the main thread.

Initially, the techniques and difficulties of shooting were evaluated and researched to set up a suitable shooting plan, and the astronauts were initially chosen as the main characters because they were intended to be photographed with a digital camera in slow motion, combining the characters with light painting to create a mysterious space image. Afterwards, considering epidemic control and the cost of production, we discussed with the tutor and decided to model the characters and to use light painting to represent visual effects such as nebulae and wormholes in space, replacing them with landscapes. For the architectural scenes, representative architectural landscapes of Wuhan were chosen, such as the Light Valley, the Yangtze River Bridge, the river bank, the International Plaza and the Unwind Park. The post-production effects have been used to create a wormhole-like effect on the buildings, making them visually more in tune with natural or unnatural phenomena in space and enriching the image.

The schedule is from December to December 31, 2021: Identify the topic. mid-January to January 20: Sort out the mind map and refine the ideas. From 21 January to early February: communicate with the supervisor and define the storyline; from mid-February to 28 February: finalize the costumes and props and make changes to the scenes; from 10 March to the end of March: develop solutions and determine the achievable effects; build the basic models and sketch the scenes; from early April to the end of April: refine the characters and scenes, debug post-compositing and modify them, and then confirm the final rendering. 1 May to 15 May: final modifications and finalization of the work.

## 2.3. The process of implementing the work

Before the stage: After deciding on the direction and finalizing the shooting plan, we searched for relevant information and samples of the characters, and then tried to use light painting photography to show the discovery of these unnatural phenomena in the process of exploration. Secondly, the decision was made to use our astronaut costumes for the character costumes and to order them, but later on the costumes could not be delivered due to the epidemic. Then we tried to create a basic model of the astronauts using the digital software C4D.The initial model was then adjusted to make it more detailed and consistent with the image of our astronauts, following comments and suggestions from the tutor, see Figure 5. The model was then bound to bones and joints so that the character could move in different ways according to the storyline, see Figure 6 and 7.

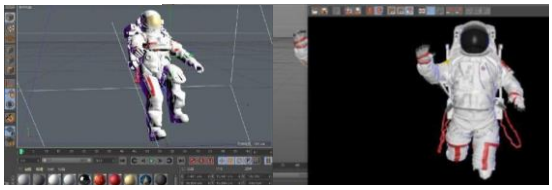

**Fig. 5** Model before and after modification

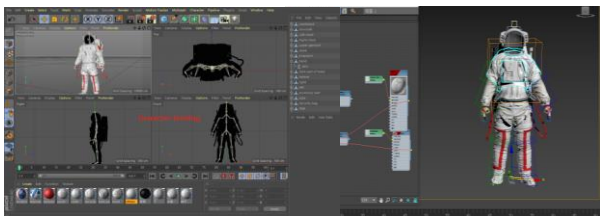

**Fig. 6**: Skeletal binding of the model

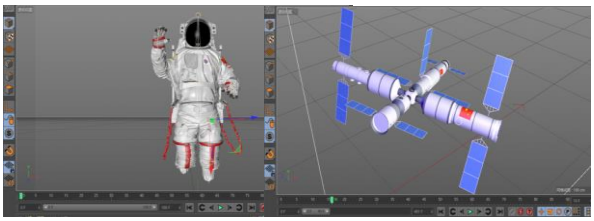

**Fig.7** Model action and space capsule model

Post-stage: The Wuhan buildings were used in the background and post-processed to create a wormhole-like effect ,see Figure 8 .The storyline is based on the film Star Trek, and the series is divided into four parts: the questioning of the unknown - the uncertainty of the unknown - the exploration in the search for --The final return.The model was created in C4D, with materials and ambient light added, and then rendered in PNG format before being imported into Photoshop to blend with the Wuhan architecture . The backgrounds were then processed with special effects to enrich the visual effect, and after several adjustments, the overall visual effect of the image was improved,see Figure 9 and 10.



**Fig. 8** Background selection




**Fig. 9** Debugging

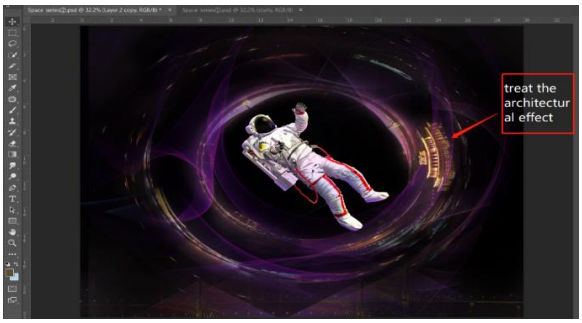


**Fig.10** Post-effects debugging

# 3. Summary of graduation project creation

## 3.1. Problems encountered solutions

First of all, at the beginning, I was preparing to arrange and shoot the characters, and then because of the costumes of the characters and the limited shooting space, I finally chose to reformulate the presentation and storyline of the characters.

Secondly, the binding of character bones when using C4D software for character modeling and when completing modeling is not proficient enough in its software, resulting in rough and stiff movements of the established model; After watching a large number of software teaching videos and asking professional teachers and friends for guidance, it has improved.

In addition, the problem encountered was to establish a good character model and shoot a realistic scene, and when using Photoshop software to produce post-effects, I found that the integration of the two was not coordinated enough. After the guidance of the instructor, continue to enrich the details of the picture to make the picture more coordinated.

Finally, the actual production is very different from the original idea, and it is difficult to create the effect that I have always wanted to express. Make up for it by watching tutorials, asking for help from teachers and friends, and more.

## 3.2. Summary of knowledge and techniques used

First of all, the most important thing is that while using digital technology and the organic combination of ideas, it is necessary to do a good job in how to express the concept of creation, as well as the correction of deficiencies in the production process, and also do a good job of multiple sets of alternatives such as the main character, scene design, composition, etc., so as not to slow down the progress due to repeated trial and error in the implementation process. Secondly, this creation is to use digital technology to establish character models and process post-image effects to achieve the concept to be conveyed, so the mastery of software technology is very demanding, and we still need to continue to improve our practical ability. Finally, with the support and help of teachers and students, this group of creations "Exploration" was completed, see Figure 11,12,13,14 and 15.



**Fig.11** "Exploration" series Figure 1



**Fig. 12** "Exploration" series Figure 2



**Fig.13** "Exploration" series Figure 3

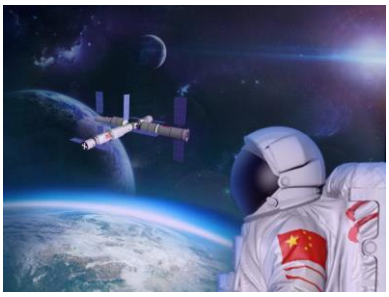

**Fig.14** "Exploration" series Figure 4



**Fig. 15** "Exploration" series Figure 5

Although digital technology provides a broader path for the creation of art, we as creators and users have not really learned how to use it, so we still need to improve ourselves because we lack our own capabilities. In this way, the model established in the early stage or various effects such as material fitting, lighting and special effects synthesis in the later stage will not be realized through continuous trial and error. It is also necessary to organize the files in an orderly manner at each stage of creation and keep the corresponding backups, so that the files cannot be found or lost if they need to be modified again.

# 4. Conclusion

This graduation project gave me a new understanding of digital art and conceptual photography, and at the same time a better understanding of my own abilities. In this research process, I realized that conceptual photography is not an emotional conjecture divorced from reality, nor is it a simple record, it is also a fusion of the spiritual world and the real world, whether it is real or virtual, simple or complex, it can express both at the same time, and this is the expression of digital technology broadening the expression of conceptual photography.

Although I encountered many difficulties in the early attempts, repeated and repeated revisions at various stages, I often felt that the feeling of practice and concept was very different and unsatisfactory, but with the help of tutors and classmates, I finally solved these problems smoothly. The completion of this project made me understand that before clarifying each shooting or production content, you should draw a preset draft, and refer to the sketch when shooting and

production to avoid repeated mistakes; At the same time, it is necessary to develop different preparatory plans for different situations; It is also necessary to maintain a rigorous and careful working attitude during the production process. Many successful and unsuccessful attempts in the course of this final research have allowed me to accumulate a lot of valuable practical experience in the process of professional study.

## Acknowledgements

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Secondly, Time rushed, and before I knew it, my four years of college had passed, and during these four years I had been helped by many teachers and classmates, and I learned a lot from them. I would like to express my gratitude to the teachers and students who cared about me, helped me, and supported me.

During the graduation project, my mentor Liu Hongxian gave me careful guidance and a lot of help throughout the whole process of my work, and his patient teaching gave me a lot of inspiration, thanks to Mr. Liu Hongxian's hard work and teaching; Thank you to my friends for their help when I encounter difficulties in collecting information; There are also relevant professionals in various technical guidance; and the family who have been my solid supporters and have always supported me. The successful completion of this graduation project is inseparable from the enthusiastic help of each and every one of them, and I will be forever grateful and sincerely grateful.

Finally, the four-year university life is coming to an end, and looking back on the study time and life in school, there are both efforts and gains. In the process of this research, I learned a lot of professional knowledge and skills, and understood that human beings, as the subjects of practice, are constantly exploring things other than cognition. In this era of pluralism, interdisciplinary, cross-media, multi-level and multi-angle research has become a trend, so we need to keep up with the dynamics of the times and continue to seek knowledge.

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