

## Viewing the way of survival of pixels from contemporary photography

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### **Abstract:**

*In the film era, it took a large amount of time and efforts for preliminary shooting and post production in the photography darkroom. The film was so expensive that led to pressing the shutter actually meant taking an adventure. However, in the digital age, all of these cost nothing, the essence of digital images is virtuality and imitation. Both virtuality and simulation target at the true expression of visual images because the more virtual it is, the more it needs to look exactly alike and even more real than the reality. The fundamental process of preliminary shooting means limitation, while digital composition or retouched images can easily break all the restrictions. Actually the pitch of the digital images is creation. Currently, digital technique plays a key role in the presentation of images and in deed digital technique is different from traditional silver salts. So what kinds of changes and new possibilities does it brings to contemporary photography? This article will explore practices of some artists and study deeply.*

**Keywords:** Pixel, digital technology, contemporary photography, functionality

In contemporary, digital photography has become a very common way of imaging. We can't imagine what contemporary photography would look like without digital photography. Photography has always been regarded as a technical method to accurately replicate objective objects, and this specialized form has also been accepted by people. In other words, the object really exists in the objective world, photography is simply a way that replicates the static or dynamic state of things in a given time and space by means of technology. Roland Barthes considers that the real value of photography lies in "ever-existed"<sup>1</sup>, but the emergence of digital

technology has completely broken the authenticity of photography, the digital technology has changed the way images are produced, and made photography evolve from shooting photographs to manufacturing images, even to create totally virtual images. The image is formed in a completely different way from the original traditional photography.

### **First. The digital technology has changed the way photographic images are produced**

First, in terms of capturing and outputting images, darkroom was abandoned. Traditional imaging requires coating the metal halide emulsion on the film and then using chemical reaction to achieve imaging, this imaging method has certain problems in visual information collection, that is, it is difficult to accurately copy images. And in the digital background, the picture that captured by digital photography is actually composed of digital signals, the digital technology enables us to capture, store, transmit, and output images in the real world directly, and saves the processing and enlargement links of the film, which means that you can display the captured photos instantly and there will be no fading and deterioration during processing. Digital photography solves the cumbersome problems of traditional imaging processes, making images clearer and more realistic, and easy to store and transfer.

In the meantime, digital photography technology also makes it easier to get images. Digital technology has broken the limitations of photographic equipment. In the age of digitization, film gradually fades, however, digital devices such as digital cameras, smart phones, Ipads, and scanners are rapidly becoming popular because they can capture images. Digital technology expands the space for traditional aesthetic experiences, and emerging technologies offer the possibility of alternative image production. And the developed Internet technology has also made image transmission even more powerful. The instant transmission of images has made the dissemination of image information into an unprecedented new stage.

### **Second. The revolution of digital darkroom**

The traditional darkroom production methods mainly include occlusion exposure, partial exposure, clipping, mask printing synthesis, and film imposition and other techniques. In the digital age, the convenient and quick retouching software can easily surpass or even replace the traditional darkroom with complicated processing methods, the photo no longer needs to be developed by chemical silver salt and then fixed and enlarged, instead, there are endless modifications and overlays in the digital module. As Mr. Negroponte said, "the world is no longer atomic, but byte-based." Unlike traditional optics combined with chemistry, digital technology can rearrange any information and accurately correct all human error. For a computer, regardless of what the image represents, it is a series of 0 and 1 codes. All objects can be processed and modified using the logic system's calculus, thus giving the artist unlimited freedom in their creation. Many of the most difficult techniques in traditional photography can be easily achieved in the digital world. What's more, digital technology gives artists a more complete and absolute

mastership. Digital darkroom is a technology that has the greatest impact on photography after the camera.

### **Third. The pixelization of contemporary photography**

In order to distinguish between photography, business and other functional photography, we put photography into art. Photography in the art category is only a tool used by artists personally, the artists use this tool to express their thoughts, feelings and dreams, accurately it is "related to photography", that is, using photography-related elements to express artistic ideas. In contemporary, many artists use the latest digital technology to make images, then create lots of work that are impossible to accomplish with traditional photography methods and constitute the deconstruction and analysis of photography itself to a large extent. We will explore the relationship between contemporary photography and digital technology through some practices in the following.

### **Break through the horizon of the traditional time and space**

Digital synthesis can form a wider viewing field than normal viewing angle, Sometimes the image also hides a few small focus points in a large perspective and is not easy to detect. In addition to breaking through the horizon, it also broke the narrative structure of traditional images to some extent. What's more, because of the synthesis, the artist can easily make every detail as clear as possible, which makes the amount of information of the image increase sharply. Therefore, it is possible to output a huge-format work later, which brings new possibilities for the market effect of contemporary photography. Although the so-called contemporary is not necessarily related to large-scale, the format factor has indeed become an external indicator for judging the contemporary nature of photography.

Canadian artist Jeff Wall has been using digital technology extensively in his work since 1991. His work, "The conversation of Death Soldiers," shows the scenes of the disastrous soldiers who talked to each other after a group of Soviet Red Army patrolling in the Soviet-Arab war in the 1980s was exposed to the Afghan forces. As the opposite of documentary photography, the picture is shot deliberately, and the hillside is built by the artist in the studio. The ambush is a fictitious event. Wall has not previously been to Afghanistan. In a conflict he learned through reading, the characters in various poses on the screen are on a brown hillside. Dead soldiers revived in their works, like zombies - like some fashion, they started talking again, each part of the work is authentic and full of texture. Wall appears to have been created an epic historical theme painting. Part of the shooting is like drawing a sketch, and the synthesis work is entering the original manuscript. Despite the fact that it is a "realistic oil painting", after careful observation, it will be found that the arrangement of each soldier is closer to the scatter perspective of Chinese painting. The most complicated part of the whole creation is to combine the materials by digital technology without leaving any traces. This picture is simply impossible to achieve in a traditional "decisive

moment”, but it needs to be completed through various “decisive moments”. In his work, the sights that can be seen by the artist are artificially magnified. It is. His colossal work is made of transparent negatives and mounted on a light box. It is 2.29 meters high and more than 4 meters wide. It is very wide. This kind of breadth is not just the physical size, but the full width or detail of the filmic experience.

Chinese artist MiuXiaochun's photographic works are famous for their large-format. Many of his works are taken after continuous shooting with multiple images in the face of sweeping scenes, and then processed on the computer. At the beginning of the shooting, he used the Hasselblad 6×6cm square frame more often, up to two and collated them. Later, as the observation mode changed, he just wanted to show more details in the picture, which allowed the viewers to find a lot of interesting things by themselves. At this time, he had to use a big camera to present all the details, so he used 4×5 inches, then 8×10 inches, and then collage a lot of 8×10 inches negative films together, like the picture of "Celebration", whose film is more than one meter. He used 8×10 inches, 4×5 inches, 6×6cm, and 135 film together in one pieces. But because 8×of 10 are too heavy, it can only guarantee the clarity of the whole scene, but it is not conducive to catching more details, so he shoots with 135 or 6 6cm to grasp the details of the picture without any stop. The picture is not made in one day, but in a few days at the same time. Therefore, his work, whether it is a vertical composition or a horizontal composition, cannot be achieved by traditional photography. Therefore, he uses digital splicing to show the complicated urban landscape which represents the actual situation of the rapid expansion of China's cities. The ancients can express a very luxurious feeling in the scale, such as landscape painting, which has a sense of cosmology, from heaven to earth, from near to far. However, photography can easily be limited many times, because of the equipment. MiuXiaochun broke through this restriction, he utilized post-production to make the scene bigger, and gradually found the connection with the ancient painting. The extension of his work in the horizontal direction broke through the space limitation of the single picture, which extends the visual retention time of the audience.

In normal field of view and visual conditions, or in images that have not been digitally synthesized, it is impossible to capture so much information in a larger field of view. The synthesis makes the artist's narrative space wider and more comfortable. Through digital synthesis, it is not difficult to break through the limits of human eyes, so that the image has a wider field of view. And as long as the artist needs it, every part of the picture can be clearer. This is not possible with naked eyes, non-synthetic images or even traditional synthetic techniques. This is the greatest attraction that digital technology brings to such works.

### **Pixels as strokes**

When digital photography technology enters the image performance of contemporary photography with irreversible strength, people generally use digital technology to provide direct help to their own image creation, but few of them have reflection on digital power. However, when

the imaging possibilities of digital photography, especially when its image resolution capability reached its peak, some efforts and attempts to rethink the meaning and reproducibility of its definition finally emerged. Such efforts are sometimes manifested in anti-clear and anti-reproduction as external features. The basic imaging element of digital photography is the pixel. Generally, the pursuit of high resolution is the basic requirement for imaging, because high resolution can ensure superior definition and huge output of the picture. However, some art practitioners do the opposite. They are not afraid to expose some pixel patterns in the picture. If the main expression of traditional silver salt photography depends on the performance of silver salt particles, silver salt and the granule is the "stroke" of the photo, then the "stroke" in digital photography is the pixel that is highlighted after being doubled.

In "JPEG" series by German artist Thomas Ruff, he compresses digital photos from the Internet, including disaster events, man-made landscapes and natural landscapes, and compresses the encoding in a horizontal and vertical way. He processes and then enlarges the compressed image as much as possible into a huge size of 1.5m\*1.8m or larger. These images are composed of enormous blocks or bright or dark square pixels from a close point. To identify a specific image, The audience keeps a distance of 10-15 meters from the work. Sorted by library taxonomy, Ruff's selection of images includes American architecture, atomic bombing, oilfield burning, the Iraq war, etc., involving landscapes, natural phenomena, social and historical events. Even the news photos that cover such a major historical moment as the "9.11" incident are abstracted and compressed equally. The pixel lattice is the truth, and the pixel lattice is the image. With unique wisdom, Thomas Ruff provides a mirror to watch the world, just as the audience in the museum choose to take minute or long distances by walking closer or further. Ruff's work presents an interesting question to the viewer: "How to treat the authenticity of digital images." Digital images transmitted over the Internet have proved difficult to distinguish between 'real' and 'forged'. Ruff uses compression to extract most of the information in the figurative photographs, making the image of an abstract surface outline of mathematical operations. People can't get aesthetic pleasure or other emotions caused by it. At this time, these compressed images seem to be able to bear the promise of 'authenticity'. A pixel is the pixel itself and cannot be used as a carrier for any additional information or content. Ruff uses image compression, the most commonly used technique for propagating network images, to 'objectively' tear the authenticity of the image to the viewer<sup>ii</sup>. ”

Chinese artist Wang Chuan benefited from Ruff's work and created the series of *Yanjing Eight Views*. "Yanjing Eight Scenes " was shot with a lower resolution digital camera, which represents eight famous attractions that no longer exist today. These sights have been seen in Beijing history and have been named after beautiful literary methods. However, Wang Chuan's "eight scenes" are not using the powerful reproducibility of digital technology to create the eight scenes at that time. Instead, pixels are used as visual components of the picture. When the image is enlarged to a certain size, the rectangular color blocks formed by each pixel make up the entire

image, and the photo becomes a mosaic combination like an abstract painting. Wang Chuan's work reflects the truth behind digital photos as digital information. The numbers are rational and objective, and the combination of pixels is extremely neat and regular. As the film continues to magnify, there will be more and more ambiguity, and digital photography will treat every detail equally. When you zoom in, a square pattern with the same shape will appear. In these "fight scenes" pictures, Wang Chuan used this "pixelation defect" to tell the world that this is a digital image. This is the era of pixels. "This is a visual style that is different from traditional photos, perceptual chaos and blur constructed from absolutely accurate pixels. The world in front of us becomes a combination of each pixel data, which is at the essence of digital photos."iii

### **Fictional image**

Photography has the function of recording and criticizing reality, and also has the power of fiction. Most artists who use digital technology tend to be more obsessed with the image fictional capabilities of digital photography because traditional photography does not have this ability. The image creation method in the digital age can transform the existing image resources, and it can also completely abandon the attachment to the existing images and independently construct a new image.

American artist Keith Cottingham is famous for taking portraits, but he makes his images rather than shooting. For example, in the *Virtual Portrait* series, he created a portrait of a boy who seems to be "cloned", from the surface it seems to be commonplace portrait photography with classical charm. In fact, the portrait of the boy is a computer-made virtual model which mixes many people of different nationalities, ages, and genders, and then the artist shoots the boy's skin and synthesizes the skin material into this virtual model, then creates exactly the same, non-existent, but incredibly real portraits. They are an association of the real world and the digital world. This fictional portrait looks so real.

The *Deisis* series of the artist, KanstantinChudjakow, produced 23 images of Christ and the saints, which are the product of storing and re-arranging the characters' facial features on the basis of 60000 photographs. Each huge face is made up of separate light and unique angles. Every part of the image is authenticated, but the face is fictional.

The artist MiuXiaochun's work *Looking the well in heaven* re-deconstructed the works of the 15th century Netherland painter Hironimos Boss, "The Paradise of the World", and transformed the original work from the three paintings to the nine screens through 3D software, and changed the single viewing angle to seven angles. Later, he re-set the storyline according to the original framework, making his work more artistic than Boss's. MiuXiaochun reasonably used the cross-fusion between media to convert two-dimensional image elements into simulated three-dimensional images by computer, and also used virtual cameras to shoot from various angles. He utilized cool colors to express the paradise of heaven, and used warm colors to express the depression in hell. The human world is a frosty post-industrial atmosphere and the characters

created by the three-dimensional model are expressionless. by borrowing such virtual personalities. The author replaced all the characters in the original painting with virtual characters, and the metaphorical images in the original with a new visual image information, thus reshaping a contemporary “human paradise”.

Photography is a qualitative leap from ingesting images to fictional images. Photography is no longer part simply relying on photographic equipment to capture images. Imagery is only a part of a piece of work. The unique perspective of artists, combined with multimedia digital technology can make a different kind of reality in the virtual scene.

### **Conclusion:**

In the film era, it took a large amount of time and efforts for preliminary shooting and post production in the photography darkroom. The film was so expensive that led to pressing the shutter actually meant taking an adventure. However, in the digital age, all of these cost nothing, the essence of digital images is virtuality and imitation. Both virtuality and simulation target at the true expression of visual images because the more virtual it is, the more it needs to look exactly alike and even more real than the reality. The fundamental process of preliminary shooting means limitation, while digital composition or retouched images can easily break all the restrictions. Actually the pitch of the digital images is creation. And in this sense, it comes closer to painting, but the form of photography makes the image look more realistic. QiuZhijie puts forward the two directions of the digital darkroom in the book "Photography after Photography". One is the digital extension of the traditional darkroom, and the other is the simplicity of digital operation, which brings the artist's bold creativity. Images, virtual images continue to appear in contemporary photography. The digital technology has changed the way images are produced, and made photography evolves from shooting images to manufacture images, even to create totally virtual images. The image is formed in a completely different way from the original traditional photography. From another point of view, it is the widespread application of digital technology that enables the rapid development of contemporary photography. Digital technology that based on a variety of hardware and software has become the artists' weapons to create the fantasy world. From two-dimensional images to three-dimensional, a new photographic language and viewing style has emerged, which has brought more extensive ductility to contemporary photography.

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