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Digital Mask: Reflection on AI Face Changing and Disembodied Communication from the Perspective of Belting's "Image Embodiment"

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Abstract: Interpersonal communication is a type of communication-based on body images. In the age of social media, the change of image media from the body to the electronic screen affects the characteristics of facial imaging and people's cognition of communication objects. With the support of digital technology, facial images have undergone a dynamic process of production, separation, and presence, forming a faceless digital mask, which provides the possibility for the separation and free combination of face and body in interpersonal communication. Based on Hans Belting's analysis of the relationship between body image, media, and body in "image anthropology", this paper discusses the pasteurization, disembodiment, and initialization of faces by AI face-changing technology and the alienation of AI face-changing to interpersonal communication in virtual space.

Keywords: Digital mask, Hans Belting, AI face swap.

1. Introduction

Hans Belting, a famous German art historian, formed his image theory based on absorbing resources such as phenomenology, semiotics, and media theory. Based on the research perspective of the trinity of "image-media-body", he reflected on the substitution of technological objects (such as portraits, cameras, mobile phones, television, and computers) for real people [1]. In recent years, AI face-changing technology has also been illegally used in interpersonal communication, through the acquisition of user facial data and the use of AI face-changing applications to directly achieve the wearing of "digital masks" and to defraud the user's relatives and friends. Hans Belting believed that the body is not only a medium for images but also capable of producing them. As a part of the body with social attributes, the image, disembodied communication and virtual presence of the face will have a huge impact on the security of personal information and the related legitimate rights and interests of the public, and will therefore change the structure and mode of interpersonal communication.

2. Literature review and research questions

In Belting's view, the "mask" is an artifact, and the traditional mask has only one fixed facial expression. The essence of the "mask" is a facial imitation image, which turns a face into a symbolic

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face [2]. In the era of social media, "digital masks" in interpersonal communication show diversified, dynamic, and fluid characteristics. Based on Belting's "image embodiment" theory, this paper discusses how to form a "digital mask" in social media platforms. How to realize interpersonal communication based on a "digital mask"? And what impact will the intervention of "digital mask" bring to interpersonal communication?

2.1. Masked survival in the digital age

With the development of the Internet, anonymous survival and free expression in virtual space have always been the state of free existence pursued by netizens. Driven by digital technology, the "mask" is re-activated and appears in the network space with new characteristics. In recent years, the researches on "mask" in media ecology mainly focus on two aspects.One is wearing a "mask", which is mainly represented by VR and AR technology. One is a virtual dynamic image based on a person's facial features. Most of them directly analyze the influence of the body on communication, and it is insufficient to study the change of the essential form of communication from the dimension of the relationship between image and body. At present, the academic research on "digital mask" mainly focuses on the relationship between the use of emojis and the formation process and environment of the mask. As a means of social interaction, emoji is a mask in social performance [3]. Nowadays, physical absence is the norm in long-distance communication. Human emojis can fill this gap [4]. In addition, human face acts as an intersubjective medium connecting self with others and all things in the world [5].

To sum up, the development of digital technology has provided various forms of body "representation" for Internet users to communicate in virtual space. From emojis to virtual faces to AI face-changing, faces are gradually obscured in the process of communication, and the presence of the body is ignored in communication, while the object of communication is emphasized and highlighted.

2.2. Belting's image embodied media view

Hans Berting's research is mainly from the human perspective of the image, and his theory emphasizes that images need to achieve "embodiment" through external cultural rituals [1]. In this process, the two different "eyes" of viewing the world, namely "pictorial" and "non-pictorial", suggest two distinct cultural attitudes [6]. In terms of media studies of images, it is not easy to draw the line between faces, masks and portraits. Media bring users into the world of "images", and people living in images will gradually lose the ability to think independently and judge the truth [7]. In terms of the relationship between body and image, we are not the master of our own image, in a sense, we are at the mercy of the image. In Berting's view, individuals can produce images, and when people turn the perceived images into memories and re-visualize them, the body is the medium for image production [8]. The body itself is also a medium, and Berting often understands the body as the brain, thus the body becomes the maker and owner of various mental images, and at the same time, the body is also the receiver and perceiver of materiality [9].

It can be seen that in Hans Belting's theory of image embodiment, the relationship between body, image, and media even affects an individual's feelings and cognition of the world. At present, with the development of face recognition technology and deep forgery technology, AI face exchange technology has further broken through the original form of the human face, and the data, mask, and disembodiment of the human face have become one of the important forms of the existence of the body in virtual space, therefore this paper aims to analyze the relationship between body, medium, and image (Figure 1)in AI face-changing in interpersonal communication.

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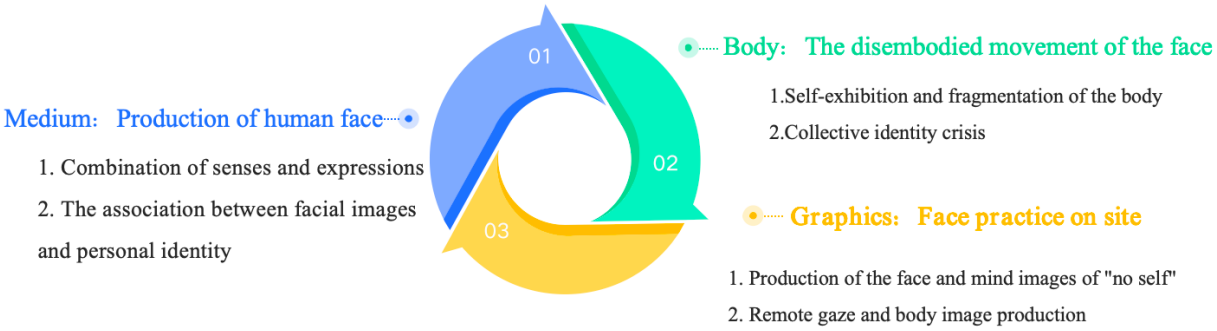


Figure 1: The relationship between body,medium and image

3. Face as an image resource: face digitization and terminal identity production

In Belting's view, the body is an important medium of images, the body is an important resource of images, and the history of faces is the history of media. Therefore, the human face, as the body with the most dense structure, the most diversified dynamic form, and the most abundant graphical form, is the key field of body image production.In the process of interpersonal communication, the face image is not only an expression but also a terminal identity in the era of social media.

3.1. Facial image: Dynamic combination of senses and expressions

The history of the human face can be traced back to Stone Age masks, which represented or recreated the face [2]. In the era of digital media, diversified photography and photography applications have provided more abundant forms of expression for faces. According to Belting, "The expressive function of the face is both to show and reveal, but also to hide and disguise. It's hard to tell what's real from what's fake on the same face. In life, expressions turn the face that was owned into the face that was made. Facial expressions trigger the continuous activity of countless faces, and if we extend the concept of 'mask', then everyone's face can be understood as a mask. "[2]. In his view, the face is not only an image, the face can produce an image. The expression of the face is formed by facial activity, in which expression, gaze and sound take turns to dominate. The face is more like a stage than a mirror.

At present, the application of AI face-changing technology is also based on the dynamic combination of "face" senses and expressions. Different from traditional masks in breaking through life and death, masks in the digital age have deeper entertainment and anonymity characteristics, so they are often shown in vivid dynamic images on social media platforms with high fidelity. AI face-changing technology not only realizes the application of the produced image of the face, but also continues to generate new face images through deep forging on this basis, and the face image at this moment is no longer based on the production of a certain natural individual, but on the production of digital images that have been formed.

3.2. Facial society: The association of facial images with personal identity

Expression, as a kind of non-verbal sign, came into being before language. The human face is perceived by transforming the body into an image through the transformation of expression. In the human body structure, only the face can realize the process of transforming the human body into an image that can be perceived and easily recognized. Therefore, the face is no longer just a part of the body, it's become a symbol of the user terminal identity in the virtual space.

"The mask on the face and the face on the body are not opposites, but reflect a relationship between nature and culture [2]." Belting believes that although the artificial mask is an image, it is not a copy

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of the real face, but a symbolic face. In the digital era, masks worn on the face are presented in the form of "digital masks", such as the emergence of AI face-changing technology reflecting the public's demand for anonymous communication in the Internet space.The development of big data technology promotes network users to gradually live in a virtual space with a more real identity, and social burnout and personal information leakage have a negative impact on the use of social media by the public. AI face changing is the manifestation and expression of network subculture forms such as fan culture, anonymous survival, and entertainment survival on the Internet. In recent years, AI face-changing technology has not only been applied to the self-expression of network users, but even used in interpersonal communication, to wear the "digital mask" of relatives and friends as an exchange intermediary, to defraud the exchange object, and to seriously violate the property safety of Internet users.

4. The formation of digital masks: AI face change and the disembodiment of human faces

Manfred Fabler believes that survival in the virtual environment is a form of "mirror-less survival", which means that the mirror is no longer our only tool and path to understanding our face [2]. Nowadays the functional and symbolic electronic screen has become a substitute for the "mirror", and relying on electronic media technology, the public can generate a new "face" on the basis of a natural face through the superposition and iteration of data, which is a face without a face.

4.1. Self-exhibition and fragmentation of the body

Self-presentation is a kind of self-presentation and self-performance with initiative. The word "exhibition" in self-exhibition is also translated as "presentation" [10]. In his book Self-Presentation in Everyday Life, Erving Goffman first systematically identified the numerous "masks" that exist in social interactions, and he used the theory of theatrical performance to describe society as acting with a specific intention. In his view, all social interaction is a kind of social performance based on self-interest. In social interaction, individuals always tilt the balance of situation definition toward themselves by acting, inducing, and even cheating [11]. Belting also pointed out that "self-expression (which is different from self-awareness) is foremost a contrivance, a mask." It is impossible for the self to be fixed to the image produced by the face [2]. There is an intentional relationship between the expression and the self-expression of the view.In the era of digital media, the diversified functions of various cameras provide multidimensional forms of expression for self-performance.

AI face-changing technology was first built on the basis of face recognition technology, and its essence is a human image synthesis technology based on artificial intelligence, also known as deepfake technology (deepfake), which is a synthetic vocabulary of "deep learning" and "forgery". In recent years, the use of AI face-changing technology has changed from personal role replacement performance to other people's image grafting and face-changing fraud in interpersonal communication, and AI face-changing technology has evolved from the original entertainment means of self-demonstration to a tool for personal benefit acquisition.

4.2. Face dissociation and collectivized identity crisis

With the blessing of digital media technology, the face as a communication interface is projected on the digital screen. This process converts the physical presence of the person into a digital image and the facial image into a virtual face. In the era of mass media, the "face society" emphasizes that the face becomes the representative of the terminal identity, and now with the blessing of AI face-changing technology, the terminal identity is no longer clear and stable.

In the process of online communication, face-to-face communication between people is transformed into communication between people and dynamic images. The electronic screen

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magnifies the details of faces and facial features, forming a new gaze in interpersonal communication. It is different from face-to-face offline communication, this kind of gaze is a lack of extended interaction gaze, is a surface gaze of the image, reflecting the online communication process, the appearance of the face in the passive and active, image and image carrier between the rapid switching process.

5. Faceless digital masks: AI face changing and the presence of facial images

In Fassler's view, a mirror is a place that indicates the "presence posture", and the mirror provides a kind of self-confirmation for people. In the age of digital media, electronic screens have become one of the important tools for self-confirmation. And with the development of face recognition technology and deep forgery technology,the face becomes a key sign of identity presence in social media platforms, and the importance of the body in communication is being obscured.

5.1. Mental images: Links between facial images and memories

Belting believes that the body is not only a carrier of images, but can also produce images. He believed that the image contains two inseparable aspects, one is the mental image and the other is the physical image. In his view, the mental image is the manifestation of the physical material of the image in our mind, and he emphasized that the image only truly emerges when the physical image is transformed into a mental image, that is, we acquire "image consciousness" [1]. Therefore, memory, imagination, dreams, etc. can be regarded as concrete forms of mental images. French "media" scholar Regis Debray also believes that: "the image, whether it is a reply or a sculpture, comes from remembering."[12]. In Debray's view, images are the expression of people's panic about the world and death, and the communication between life and death, man and God is realized through the recording of images [12].

In the era of social media, online communication between people has become a kind of image communication, which links the mental image based on the digital mask in the electronic screen, thus opening the common semantic space between people. Although pictorial communication can transcend the limitations of the body in time and space, the essential connotation of the image has also changed, and the function of the image has been strengthened, resulting in the effect of image value-added. In recent years, the phenomenon of AI face-swapping fraud has increased. Individual network users by obtaining facial images of others, one-click replacements, and with their friends, and family members to carry out accurate targeted chat, the implementation of fraud, impact the family and friendship, weaken the foundation of social credit [13].

5.2. Virtual Embodiment: Remote gaze and the production of the body

Michael Argyle once proposed the "staring distance effect", he believes that the relationship between the face and the body is dynamically changed with the change in people's staring distance. From a distance, the face is a part of the body. But from up close, the face is pulled away from the body and dominates the entire body [2]. Based on Argyle's point of view, after the image is present, the most closely related process in interpersonal communication activities is "sight".

According to traditional imagology, gaze is only an illusion created by the materiality of image media, and when the image obtains material media, it is no longer related to the body of the creator and the viewer. Belting did not approve of the separation of the image from the viewing body, and he was inspired by Merleau-Ponty's analysis of the painting, arguing that the relationship between the gaze and the image is actually a kind of physical production [14]. During the staring process, not only the eyes are mobilized, but also the whole body.Therefore, in the age of social media, electronic screens magnify the face as a representation of the body in communication. In gaze, the digital face

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becomes the symbol of individual presence. As a perceived virtual existence, the body has very limited influence on people's cognition and perception of the communication object. AI face-changing technology is based on the independent production of the body in the communication of the gazer, takes the "digital mask" as the identity representative realizes the change of its terminal identity and the presence of the body.

6. Conclusion

Hans Belting's thought of "image embodiment" opens a new perspective for interpersonal communication research by exploring the relationship between image, medium, and body. In recent years, many scholars have paid attention to the body as a medium and its important role in communication, but few studies have been conducted from the perspective of body and image on interpersonal communication in the current picture reading era. Image, like text, is a symbolic content, not the medium itself. With the development of face recognition technology and deep forgery technology, images as content are undergoing qualitative changes. However, the application of AI face-changing technology makes the electronic screen not only not a "mirror", but even a magic field, which realizes the separation of facial images, the free combination of facial images and body images, and the production of terminal identity. We should be alert to the structural subversion of online interpersonal communication caused by the illegal use of AI face-changing technology. It will destroy the construction of "image consciousness" space in online interpersonal communication and cause a collective personal identity crisis.

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