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Analysis of Ihde's Human-Technology Relationships and the Designer Fallacy Theory with the Case of WeChat

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ABSTRACT

Don Ihde classifies human-technology relations into four categories: embodied relations, hermeneutic relations, alterity relations, and background relations. This essay takes WeChat, a popular Chinese instant messaging and social media software, as a case study. To analyze these relations, I apply Ihde's theory to a few functions of WeChat: the video call and voice call functions, which belong to embodied relations; the instant messaging function, which belongs to hermeneutic relations; and the WeChat Payment, which belongs to alterity relations. In the study of WeChat Payment, Ihde's theory of designer fallacy is used to consider this electronic payment technology critically.

Keywords

Ihde's Human-Technology Relationships, the Designer Fallacy Theory, Wechat, China, Case Study

I. INTRODUCTION

In *Technology and the Lifeworld* (1990), Don Ihde articulates four ways in which we experience or relate to technology.¹ He calls these relations Bhuman-technology relations. These relations comprise a conceptual framework that has largely defined a discourse in philosophy of technology known as post-phenomenology.

Post-phenomenology may not be the only approach to philosophy of technology that purports to open the black box of technology. But post-phenomenology is as much characterized by its empirical turn as by its inventive formalisms (Aho, M. 2016).

After reading Don Ihde's analysis of the human-technology relationship, I decided to make a list of all the technologies I use during the day and then choose to give up using one or more of them while recording my feelings. When I looked at the technologies I had listed, I skipped WeChat almost without hesitation as if I had acquiesced to my inability to abandon this smartphone application or this technology (Aho, M. 2009). I found a reasonable explanation for myself quickly: if I didn't contact my parents on WeChat for a whole day, they would be so worried that I couldn't take the risk.

I think there are probably many people, especially those in mainland China, who rely on WeChat as much as I do. WeChat is not only a popular instant messenger; it is also playing an increasingly important social function (De Souza, J. 2017). For WeChat users, what is the specific relationship between them and WeChat, and why are they facing a situation where human beings cannot live their daily lives without a mobile app? Has the situation today moved away from WeChat's original functional orientation and the purpose for which the designers invented it? Are there some potential risks involved? This essay will be divided into three parts to answer these questions, examining several WeChat functions according to the human-technology relationship proposed by Ihde (Gouzouasis, P., & Bakan, D. 2011). Furthermore, based on some recent examples we have witnessed, the essay discusses the inconvenience caused to a small but equally important group of people when the majority of the society relies too much on online communication platforms with payment functions, such as WeChat. The analysis and reflection are based on a study of the human-technology relationship and the designer fallacy discussed by Ihde (Gardner, H., & Davis, K. 2013).

In regard to education, a lot of discussions has emerged asking how technology has transformed, or will transform, the ways of teaching and learning. In terms of musical activities, critical discussion has also been presented as to how technologies may enhance or degrade learning of "natural" musical skills, musicianship, or musical understanding (Himonides, E. 2018), or how they are able to transform people's embodied relationship with music (Ihde, D. 1990), even constituting bodily choreographies of musical activities (Ihde, D. 2006).

The study add the literature in the following way. Literature is not enough to justify the different ways of technologies. I have used to explore the new concept which is never be investigate before (Ihde, D. 2011, September 1). In this article I investigate smart phone application of WeChat because, WeChat is not only a popular instant messenger; it is also playing an increasingly important social function. There are no any study in which they highlighted the WeChat payment method. So, this study is unique (Ihde, D. 2013). I also will argue that Ihde's formalisms admit of hidden structures or dimensions in human-technology relations, dimensions that extend his conceptual framework. These hidden dimensions have so far proven elusive in post-phenomenological analyses which rely on the unaided, undirected powers of nomination (King, A. 2018).

II. BACKGROUND RELATIONS

In his discussion of the phenomenology of technics, Ihde states that the task of the phenomenology of human-technology relations is to reveal the various structural features that exist within these ambiguous relations, and he carries out this task by focusing on the interaction of our bodies with our surroundings through the intervention of technological means (Leman, M., & Nijs, L. 2017). Human-technology relations, then, can be equated with the involvement of technology in the structure of the human experience of what surrounds us. Ihde divides these relations into four types, embodied relations and hermeneutic relations in mediated relations, alterity relations, and background relations (Nørskov, M. Revisiting Ihde's Fourfold. 2015). According to his approximate definition of background relations, the phenomenological investigation in such relations shifts from focusing on the technology in the foreground to focusing on the technology present in the background. We can know that the technologies that fall into this category are automatic or semi-automatic machines designed to run in the background and remain in the background or become part of the technological environment itself (Sokolowski, R. 2000).

Once such technologies are up and running, they will exist as an undetectable background. There may be technologies that produce small noises, though these are usually ignored in our lived experience. For instance, lighting, heating and cooling equipment or systems in modern homes, and scarecrows used to scare away food-stealing crows on farms in the past, are all in background relations with humans

(Selinger, E. Ed. 2006). When we walk into a room with lighting on at night and walk around in it, it's hard to notice the proper light in the space during these activities is provided by technology. The same goes for air conditioning, which plays an essential role in the hot summer months. When we enter a building with air conditioners on, we can only feel the temperature around us suddenly becoming cooler and more pleasant without interacting with the specific technology. And in the outdoor farmland, when there is a wind blowing through, the scarecrow's clothes will follow the swing (Tuuri, K., Parviainen, J., & Pirhonen, A. 2017). It can produce the role of guarding the field without human presence. These technologies indirectly affect humans by changing the environment around them.

In light of the above analysis of background relationships, we can conclude that people's relationships with WeChat when using its functions do not fall into this category. Therefore, in the following essay, I won't discuss the human-technology relations that WeChat is involved in from the perspective of background relations but rather from the perspective of embodied relations represented by the video call and voice call functions, hermeneutic relations represented by the instant message function, and alterity relations represented by WeChat Payment. The changing technologies we interact with do forecast significant changes in the conditions in which humans work and live. Still, such changes are not and should not be the technologies against us. (Tuuri, K. & Koskela, O. 2020)

III. WECHAT VOICE CALL AND VIDEO CALL: EMBODIED RELATIONS

As the most basic and vital functions of WeChat, video call and voice call functions belong to the first of the four types of human-technology relationships proposed by Ihde in which humans have the most direct contact with the world, i.e., embodied relations. People take this kind of technology into their experience in a particular way by way of perceiving through such technologies and the reflexive transformation of their perceptual and body senses. In my daily life, glasses are a perfect example with which I establish an embodied relation. As a visual embodiment of optical technology, glasses shorten the distance between me and the world, or rather they extend my body and bring me to the things I am observing. When I put on my glasses, even if I am sitting in the last row of the classroom, I can see the

teacher's blackboard as if I were sitting in the first row; when I take off my glasses, even if I am in front of the computer right now, I can't read the text on it without putting my face on the screen. Since I have worn glasses for a long time, I often forget it exists after getting used to the modified vision. But if I look to the left and right or turn my eyes up and down, I can see the rim of the glasses. So as a less complex but important visual embodied technology compared to others, glasses have a good "transparency" and can withdraw from people's awareness when they use them. For users, they want to enjoy the physical extension of the technology, and they desire more power through the use of the technology. But they do not wish the technology itself to have perceived limitations, and they want it to be transparent.

WeChat voice call actually functions the same way as a telephone. You need to dial a number and wait for the other side to answer to make a telephone call. And to make a voice call on WeChat, you need the other side to be your WeChat friend, and you send an invitation to call and wait for a response. Telephone calls, or voice calls on WeChat, are embodied relations with humans, which can shorten the distance between two or more users and bring one person to another through sound. "Your voice retains its partly unreal near-distance, reduced from the full dimensionality of direct perceptual situation. This telephonic distance is different both from immediate face-to-face encounters and from visual or geographical distance as normally taken. Its distance is a mediated distance with its own identifiable significations. "

However, the telephone does not have the same transparency as glasses that allow the user to ignore it because it only extends the human body in an auditory sense. We can synchronously hear the sound made by a person at a distance but cannot visually eliminate the real sense of remoteness. This remarkable disparity generates a quest for consistency in the auditory and visual sensations and a desire to hear the sound and see the picture simultaneously. When I was a child, I had to go and live with my grandmother in another city during the school holidays because my parents were busy at work. I needed to call my mother every day out of longing for her. Every time I was connected to the telephone, I felt as if she was right next to me. I even get addicted to this feeling, so sometimes, I make many telephone calls a day. This constant use of the telephone to shorten the distance between my mother and me is my desire for the transparency of the telephone technology, which I wish could

extend my body to bring me to her. But since the telephone could not bring my body and my feelings to another location, I could only satisfy my desire to eliminate physical distance by using the telephone many times to get the fleeting feeling that I was with my mother.

The video call function is also an embodied technology. It helps remove the distance between the people on the other end of a call, letting them visually approach each other and get closer. We often say that seeing is believing, and it is much more satisfying to identify and interact with someone visually than to hear their voice. According to my experience, WeChat is the most commonly used video calling application in China, or we can say that it is WeChat that brings video calls into people's everyday lives. So when I want to make a video call with someone, my first choice is WeChat. An interesting phenomenon is that I didn't make video calls very often before. Still, when I move to a place far away from my original living environment, I have video calls with my family or friends almost every day.

Previously, I could shorten the distance between the important people in my life and me according to my needs, or in my own ability to overcome obstacles to see them. For example, when I was in college, I would go home every month to meet my parents, but now the long distance that I could not avoid has prevented us from meeting face to face for quite some time. Due to the difficulty in overcoming distance by ourselves, we immediately turn to technology to extend our physical capabilities to the maximum extent possible, such as using video calls over voice calls. As I talk to my parents over WeChat, we look at each other and discuss what is happening in our lives. I sometimes ask them to pick up the phone during the call and walk around to show me the house. The video call function takes me to a place where I don't exist, as an extension of my body, allowing me to experience another environment. However, even if I hold the phone very close and look hard at the screen, I cannot ignore that my parents and I are not in the same place. It is because the ability of embodied technologies to expand the human body's senses is limited. No matter how "habituated" we are, the material or actual technology has always only partial or quasi-transparency. The above is an analysis of the human-technology relationship proposed by Ihde from the perspective of embodied relations in the context of WeChat's voice call and video call functions.

IV. THE INSTANT MESSAGING FUNCTION OF WECHAT: HERMENEUTIC RELATIONS

In this section, I will discuss the hermeneutic relation in four human-technology relationships using the example of WeChat's instant messaging function. The word hermeneutic means the study of the interpretation of texts. In Ihde's article, he explains it by analyzing the evolution of hieroglyphs and the process of evolving texts based on graphics. Unlike technologies that immediately impact people using them, such as glasses, technologies that belong to the hermeneutic category do not become part of the user's body as an extension but need to be interpreted. Only if we can read the technology can it bring the state of the world to us. These relations arise when we enter into practices with artifacts to ascertain knowledge about the world that would not otherwise be available. For instance, "you read the thermometer, and in the immediacy of your reading, you hermeneutically know that it is cold. There is an instant deity to such reading, as it is an already constituted intuition (in phenomenological terms)." This immediacy is not always present. Suppose I am accustomed to using Celsius to build an understanding of temperature. When I read Fahrenheit, I need to make a transition, converting the information I receive into information I can interpret to create a better understanding of the world around me.

With WeChat's instant messaging function, I describe the world around me or express my feelings by sending a text message, and when the recipient reads and understands what I have sent over, I present my world to them. The chat function enables real-time communication between WeChat users via text. As long as the receiver can interpret the content I send over, we can connect in different places worldwide. Thus, there is also transparency in the technology that establishes hermeneutic relations with humans, but it is different from the embodied technics discussed above. In embodied relations, perception goes "through " the technology, in hermeneutic relations, the technology itself is the perceptual focus. hermeneutic transparency is not perceptual but representational/textual transparency.

Although we send most of our content in text form when chatting, in recent years, people have become increasingly interested in using various memes, stickers, and emojis that come with WeChat. Users are continually learning what various non-

textual chat contents represent based on their understanding of the text. For example, emojis have different past and present meanings or what significance is attached to a particular funny picture. It seems to have formed a trend that various hot memes or pictures are widely circulated among WeChat users. It can be considered a characteristic of WeChat. Because of its vast number of users and wide popularity in China, some hot topics, whether interesting memes we talk about or some social issues have immediate and extensive spread among WeChat users and groups through the chat function. Once we are familiar with these contents and comprehend the topics or memes that we did not understand initially, we in turn spread them more widely through chats with other people, continuously deepening our comprehension. In a hermeneutic relation, the world around the user is converted into message text and sent out through the instant messaging function, which is then read by the recipients and may impact how they understand the world. We can say that hermeneutic relations maintain the status of technology as a general mediator of the world in human practice, altering the continuum of human-technology-world relations, but to some extent also altering the variables in this relationship.

V. WECHAT PAYMENT: ALTERITY RELATIONS AND DESIGNER FALLACY

In this section, I will analyze the WeChat Payment function based on the designer fallacy and the third human-technology relationship, alterity relation, proposed by Ihde. According to Tencent's introduction of the WeChat Payment service and my understanding as a user, we can understand WeChat Payment as the money transfer service provided by the Company for the recipient and the payer via WeChat and WeChat public platform. There are two payment methods: balance payment, which uses the balance in the payment account tied to the WeChat account to spend and transfer money, and quick payment, which links the WeChat account to a personal bank account. WeChat payment is a kind of electronic payment technology widely used in China that does not require directly using cash or bank cards. One does not need to understand how this system works but only shows the QR code required for payment or initiates a WeChat transfer to a user to complete a transaction. It fits Ihde's definition of technology as alterity relations, relations in

which technology is the terminus of experience. People use WeChat Payment to make it easier to pay for goods or receive money, not to expand their perception of the world.

Nowadays, probably the vast majority of people with WeChat accounts use WeChat Payment, and many of them are not personal users. Supermarkets, restaurants, merchants at farmers' markets, gyms, milk tea stores, and even hospitals and train stations are all using WeChat payments. When I'm in any city in mainland China, it's no problem to go out without cash and bank cards. However, when I realize that every store I pass has a WeChat Payment QR code on the door, or I see fewer and fewer people using cash in supermarkets, I start to wonder if the dominance of electronic payments is what WeChat's designers originally intended. Does this situation pose some potential risks? Just as the typewriter was initially designed as an assistive technology to help the blind or near-sighted; but eventually became a business machine that changed the gender composition of the secretarial profession of the era. WeChat is no longer just software for instant messaging and calling as it was in the beginning.

The designer's intent may be subverted, become a secondary use, or fail to achieve the intended purpose. We should see the complex relationship between designers, technologies, and the ultimate uses of technologies in different social and cultural contexts. (Ihde 2006, 53-54) In Shanghai recently, many people have been enclosed and isolated in their homes due to the epidemic. They have to participate in group purchases through WeChat mini program or buy groceries in WeChat groups, which means they need to use WeChat payment to purchase necessary survival supplies. This purchasing system has a huge loophole - elderly people do not know how to use WeChat Payment, blind people cannot use WeChat, and people without smart phones are left behind.

The designers of WeChat Payment probably did not expect the popularity of this technology to have such disastrous consequences, and it cannot be accurately predicted. However, we must be aware that technologies are designed to be much more complex than expected. Technology will change in practice as it is put into use, depending on the social context in which it exists. We need to be vigilant in embracing disruptive new technologies and not blindly accept them in full.

Vi. CONCLUSIONS

The doctrine of intentionality states that every act of consciousness is directed to some object. Consciousness is essentially the consciousness of something or other. Every act of consciousness we perform, every experience that we have, is intentional (Sokolowski 2000; Tuuri and Koskela 2020). The shaping of intentionality, that is, the involvement of technology in the process of people's experience of the world, is described by Ihde as human-technology relations. He divides these relations into four categories: embodied relations, hermeneutic relations, alterity relations, and background relations.

WeChat was created at the specific point in time, 2009-2010, when social networking on smartphones was taking off, thanks to the rollout of 4G technology. In both North America and China, there was a scramble to colonize this new marketplace, with many competitors offering different visions for how users might take advantage of real-time browsing and photo and video sharing. Harvey Zhou described how WeChat's approach to innovation in this period differed from before:

Of course, as the smartphone user experience becomes more established and predictable, the need for a grand design recedes, and the value of the traditional design thinking approach becomes greater. WeChat's leaders are starting to recognize this. Allen Zhang told us that for several of the more incremental features being developed today, such as Top Stories (personalized article recommendations), he is giving teams full authority to make their own design choices.

This essay takes WeChat as a case study. According to Ihde's view, I analyze the video call and voice call functions of embodied relations, the instant messaging function of hermeneutic relations, and the WeChat Payment function, which is alterity relations. In the research of WeChat Payment, critical consideration of this electronic payment technology is made in the context of Ihde's designer fallacy theory. We cannot predict the exact direction of newly designed technologies, but we should be cautious in accepting the convenience it brings. We need to consider the complete range of people who are able to use and not use it when promoting the popularity of the technology.

This research helps the technological investigators who hunting the new technology. This research also provide help to the government to protect the banking system. They can change their traditional banking system to digital banking system.

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