**Machine intelligence and the reconstruction of social relationships**

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**【Abstract】** Scientific research shows that social interaction is human nature and a scenario for constructing the meaning of life. Traditional social theory assumes that empathetic interaction with others in the same physical field is a normal form of releasing human social nature, and interprets interaction in different physical fields as an abnormal form of social interaction and a source of loneliness. The socialization and mainstreaming of digital social interaction mediated by digital media proves that multimodal empathetic interaction in different physical fields is also a normal form of releasing human social nature and a reconstruction of social relationships in the presence of the body. The empathetic interaction with chatbots that is developing represents a new form of releasing human social nature and a reconstruction of social relationships in different physical fields. Socializing with intelligent machines means that machine intelligence is involved in the construction of the meaning of life, so actively advocating and promoting artificial intelligence for good needs to be valued and called for.

**【Key words】** social reconstruction machine intelligence artificial intelligence for good

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**introduction**

In the past two years, artificial intelligence represented by language big models has set off a new wave, with intelligent technology constantly iterating and intelligence levels constantly improving. In September 2024, OpenAI released its chatbot quasi-fifth-generation product ChatGPT-o1, which can not only chat with people, but also show the reasoning process in detail, representing the cutting-edge level of generative pre-trained artificial intelligence. In September of the same year, Professor Zhu Songchun of Peking University, who has always advocated for machines, brought his intelligent robot Little Girl "Tongtong" to the CCTV Comprehensive Channel "Let's Talk" program, and gave the first lesson of the new school year to primary and secondary school students, demonstrating the "autonomy" ability of the little girl "having something in her eyes".

Whether it is the language model represented by ChatGPT or the "heart" of the machine represented by the little girl, they all represent a new trend, that is, machine intelligence can not only do things, but also speak; not only can it reason in multiple stages, but also make decisions and act autonomously. This trend means that machine intelligence increasingly possesses the characteristics of what people usually refer to as social people, and therefore will bring new imagination and practical possibilities to human social life.

Since scientists proposed the concept of artificial intelligence in the 1950s, the science and technology of machine intelligence has been developing continuously and showing a trend of advancing in waves (Zhang, 2024; Russell and Norvig, 2022). Each wave of development of machine intelligence science and technology will bring new hope to human production and life. From daily production and life to human subjectivity in the face of machine intelligence, all fields are exploring the impact of artificial intelligence. When artificial intelligence speaks like a human, humans begin to think about the impact of machine intelligence on social interaction.

This article will start with a discussion of human social nature, analyze the intersection of human social nature and machine intelligence, explore digital social interaction in a different physical space, and the reconstruction of human social relationships, that is, from socializing with others to socializing with intelligent machines.

**Human social nature**

If we rely on intuition, people will instinctively distinguish between "our own people" and "others", and classify gatherings and interactions with strangers or people who are not so familiar, that is, "others", as socializing, but exclude gatherings and interactions with family members and friends, that is, "our own people" from socializing. Contrary to people's intuition, in scientific research, scientists also classify gatherings and interactions with family members as socializing.

In order to discuss social interaction more clearly, let's first look at the explanation in the dictionary. Looking through various Chinese dictionaries, the explanation of social interaction is usually: "interaction between people in society." Obviously, the dictionary refers to abstract people, while people in daily life are concrete people. For non-scientific readers, the dictionary's explanation is far from people's daily life and is not easy to understand. So, what exactly does social interaction mean?

In order to explore the language big model's understanding of social interaction, at the end of May 2024, we sought help from a number of artificial intelligence platforms, including Wenxin Yiyan, iFlytek Spark, Tongyi Qianwen, and Tencent Yuanbao. The questions we asked to different artificial intelligence platforms were the same: "What is social interaction?" However, the answers we got from different artificial intelligences were somewhat different.

Wen Xin Yi Yan's answer is both abstract and popular: social interaction is when everyone gets together, without distinction between you and me, to communicate, interact and share. To say that this answer is popular means that it gives a figurative form of social interaction, that is, people get together; to say that it is abstract means that verbs such as communication, interaction and sharing sound easy to understand, but there are many questions when you think about it. For example, what is sharing? What is communication? iFlytek Spark gave a relatively scientific explanation: social interaction is the exchange of information, emotions and resources between individuals or groups in direct or indirect ways. It emphasizes the purpose and form of social interaction, clarifies the subject of social interaction, and the content of communication. Tong Yi Qian Wen's answer is relatively specific: social interaction, also known as social interaction, refers to the interaction between individuals in a specific social context, involving material and spiritual interaction. However, it also involves abstract descriptions, such as interaction. Tencent Yuanbao specifically pointed out that it cited 13 documents as references, and its answer also emphasized the situational and historical nature of social interaction like Tong Yi Qian Wen. Kimi defined social interaction as the interaction and communication between individuals in order to establish, maintain and develop interpersonal relationships. Obviously, the social interaction it refers to is the interaction with people other than oneself, including "one's own people". Poe believes that social interaction is the process of communication, interaction and establishment of connections between people. This understanding is more specific, and clarifies that social interaction focuses on interactions between people, rather than relationships between groups or organizations. ChatGPT-4.0 defines social interaction as the process of establishing and maintaining relationships between people through communication and interaction. This communication can be face-to-face or through other media. When this article was drafted, we turned to ChatGPT-o1. After reasoning, it provided the following explanation: social interaction is the interaction and communication between people, mainly including communication and relationship building, with important functions such as information dissemination, emotional support and promotion of cooperation. This answer seems to combine the key points of the previous different explanations: between people, relationships, communication, information, emotions, cooperation, etc.

Based on this, we can simply understand social interaction as information exchange, emotional communication, cooperative conflict, relationship building, etc. between people. In sociology, all these things between people can be classified as interactions. Therefore, to put it simply, social interaction is the empathetic interaction between people. Further scientific induction shows that social interaction has four basic elements: subject, medium, object, and content. In the following discussion, we assume that the subject is a person, that is, the subject who initiates the empathetic interaction is a person, not specifically you, me, or him, but refers to any human individual, which is an abstract noun.

Since social relationships are limited to interactions between people, communication between people and gods or animals is not considered social. A direct reason is that the other party lacks human emotional thinking and empathy. Some people may feel that they interact and communicate with pets (such as parrots). However, without empathy, it can hardly be called communication with humans, let alone social interaction. The content of human communication lies in the collision of thoughts and the transmission of emotions, not just interaction. Our emotions for pets are more about the cognition of their biological attributes. For example, we feel sympathy when they are sick and we feel sad when they die. These emotions are not equivalent to emotions between humans, but projections of human emotions on animals. Animal feedback is not empathy with humans. Therefore, it is still controversial to regard pets as communication objects equivalent to humans.

The challenge brought by this wave of AI development is that when machine intelligence has the ability to communicate with humans and can achieve functions and goals such as information exchange, emotional communication, cooperative conflict, and relationship building through communication, are intelligent machines the objects of human social interaction? Is the empathetic interaction between humans and intelligent machines also human social interaction? To answer this question, we need to go back to social interaction, understand the attributes of human social interaction, and the paths and methods to meet social needs.

In his book The Social Instinct, social psychologist Matthew D. Lieberman explains why the human brain tends to interact with others, and uses the subtitle "Why Our Brains Are Wired to Connect" to echo the theme "Social" (Lieberman, 2016). In the English context, "social" covers social interactions with different human objects, whether with a partner, a group of people, or a few people, but does not include intelligent machines; in the Chinese context, "social" usually refers to public, formal or informal interpersonal communication activities outside the circle of acquaintances, and does not take intelligent machines as objects.

Lieberman's research concluded that socializing is human nature. There are three major driving forces supporting nature: first, connection. People always tend to establish connections with others. Second, mind interpretation. By connecting with others, people can interpret minds, understand other people's ideas, and understand themselves from other people's feedback. Finally, coordination. People adapt to society by coordinating their thinking and behavior. In other words, from the perspective of social psychology, human socialization is an adaptive prelude to placing oneself in society and a social action to construct the meaning and value of life.

Sociology is more inclined to use facts to prove the nature of social interaction. The first driving force of nature, that is, the condition for connection, is contact, extensive contact with others and society. On February 6, 1938, The New York Times reported the story of Anna, a 5-year-old girl in a farm in Pennsylvania, USA. Anna was an illegitimate child. Her mother was afraid of being criticized, so she locked her child in the storage room on the second floor after she was born. When Anna was found, she leaned on the coal bucket, holding her head with both hands. She could not speak, walk, eat by herself, and had no emotional expression. Sociologist Kingsley Davis studied Anna's experience and pointed out that human social development must be synchronized with human physiological development. Without the development of the social dimension, human organism development will become meaningless, and there will be no ability to maintain self-survival (Davis, 1940). The first step in social development is contact with others, that is, social connection. Only after establishing social connection can there be an opportunity to interpret the mind and coordinate with society. Anna lacked the opportunity to contact others, so naturally she had no chance to interpret the minds of others, learn social rules, and thus could not adapt herself to society. Eight years later, Davis compared Anna's case with another similar case, Isabel, which occurred almost at the same time. He found that Anna's social skills had gradually improved and she had learned to speak through the upbringing in a special education institution; similarly, after intensive education, Isabel had almost reached a developmental level similar to that of children of the same age (Davis, 1947).

Facts have proved that only by contacting with others and society can people have the opportunity to gain the ability to interpret minds, have the opportunity to judge social scenes, find their own position in social scenes, release social nature, and then construct the meaning and value of life. However, if people do not contact with people but with other creatures, can they also release social nature? In 1920, Indian missionary Joseph Amrito Lal Singh found two humanoid creatures in a wolf pack near a huge termite nest in the village of Godamli. Singh brought these two "monsters" back to the village and found that they were two girls, the older one was about 8 years old and the younger one was about 2 years old. According to the pamphlet published by Singh himself, when the "wolf children" were first discovered, their behavior was no different from that of wolves. They would howl like wolves from midnight to 3 a.m. every day. They had no human emotions, only knew to find food when hungry and rest when full, and had no interest in others. The case of wolf children shows that if social nature is not released in human society, it will not acquire the characteristics of human sociality. In short, establishing social connections and getting along with others are the key conditions for releasing human social nature. The next question is, what does it mean to get along with others?

**Socializing in a Different Physical Field**

The direct form of getting along with others refers to being together in the same physical space, that is, being physically present. In daily life, it is easy to observe that from birth, unless by accident, people are in a situation of getting along with others physically present: getting along with parents, getting along with nannies, getting along with other family members, getting along with neighbors, getting along with classmates, getting along with strangers, getting along with society, and so on. Before the social application of digital media, getting along with others usually refers to the connection, mental interpretation and coordination of physical presence, which is a prerequisite for releasing social nature. Interpersonal communication in the physical presence also meets our basic definition of social interaction: empathetic interaction such as information exchange, emotional communication, cooperative conflict, and relationship building between people. Perhaps because social interaction in the physical presence is so common, people regard physical presence as the default state of social interaction.

Despite this, we cannot confirm that physical presence is the only form of human social interaction, or that physical presence is the only condition for releasing social nature. Our understanding is that before the emergence of digital media, humans had no other social media to use, which made physical presence a necessary condition for social interaction. Even for the sake of physical presence, humans are constantly discovering and creating various paths to achieve connection, such as from natural waterways, country roads to intercity highways, railways, and air routes. Human social interaction continues to expand due to the development of connections, but the form of physical presence has not changed. Of course, these connections not only connect people, but also connect things. For thousands of years, although connections have been constantly developing, they have only promoted physical presence in the scene of interpersonal connection, which has also brought about a stereotype - only when the body is present can there be social interaction.

A fact that may not be intentionally ignored is that since the telegraph era, or more precisely, since the letter era, interpersonal connections have begun to break free from the constraints of physical presence. Entering the electronic age, from telegraph to telephone, from wired to wireless, all are witnesses of this development. It must be clear that before the popularization of telephones, social interaction in which the body is separated from empathetic interaction was not a common form. Despite this, the fact that the body is separated from social interaction still makes people think: Does releasing social nature necessarily require physical presence? To this end, Sherry Turkle's answer is yes (Turkle, 2014, 2017).

When the first wave of the Internet bubble was about to be forgotten, Sherry Turkle, a sociology professor at the Massachusetts Institute of Technology, used a monograph, "Collective Loneliness: Why Do We Expect More from Technology, but Not Closer to Each Other?" (hereinafter referred to as "Collective Loneliness") to question the society. Her implication was that the Internet (at that time, people rarely used the concept of "digital technology") not only brought an economic bubble to society, but also brought an emotional (perhaps spiritual) bubble to humans. As the topic spread rapidly, "collective loneliness" became a hot social topic for a while. A large Internet company organized many special seminars, focusing on people's physical and mental feelings of being connected and entangled by the Internet, and called the overwhelming information bombardment "information overload."

Turkle's keenness allowed her to grasp the historical moment of the changes in social forms and human mind fluctuations. The popularization of mobile terminals is a milestone in the development of digital technology innovation and application, and it is also the hurricane mouth of digital technology affecting society and social interaction. In terms of interpersonal connection, the successful call of the world's first mobile phone in 1973 seemed to herald the beginning of a new era of human communication mediated by digital media. Unfortunately, until the 21st century, mobile phones only gradually developed functions such as calls, games, and text messages, and still did not break through the pattern of bilateral communication. Fortunately, the subsequent development was not only rapid but also drastic. It turned mobile phones into personal terminals, continuously incorporating people's daily life and work into mobile terminals, and turning mobile terminals into external parts of the human body. The obvious impact of the popularization of mobile terminal technology innovation and application on interpersonal connection is the initial emergence of the "head-down tribe". Every person who bows his head and focuses on the mobile terminal seems to release the social nature of human beings in the terminal: connection, mind interpretation, and coordination. In terms of satisfying social nature, digital social interaction is undoubtedly a revolution in physical presence. It essentially changes the way, scope and logic of human communication, and is a reconstruction of social relations (Qiu Zeqi, 2024).

The irony is that on the one hand, people are excited to experience the novelty and convenience brought by mobile terminal technology and devices, and unleash their social nature; on the other hand, they are eager to know what is happening in the world they are in, and are hesitant about the coordination of their initial attempts at digital social interaction.

People's hesitation is understandable, because since the birth of connection technology based on electronic media, mobile terminals have truly provided the technical capabilities for human social interaction to achieve ubiquitous connection. There is a theoretical basis for achieving ubiquitous connection between each node (people and things). From Stanley Milgram's letter delivery experiment to the mathematical proof of the natural properties of interpersonal networks by scholars in recent years, decades of scientific research have shown that there are short paths for establishing social relationships between people, commonly known as the "six degrees of separation" (Watts, 2011). Digital technology provides practical technical capabilities for achieving ubiquitous connection between strangers. To be precise, this connection is not only between strangers, but also between people and everything, including intelligent machines. In real life, people can easily find that the scope of their connections is getting wider and wider, and the levels of connection are getting richer and richer. More and more people are prone to have an experience and feeling that the world is in their own hands. Therefore, it is more accurate to say that people are confused not so much by digital social interaction as by the impact of the ubiquitous connection that came with digital social interaction. This is also the feeling of being overwhelmed by the sudden shift from scarce connections to abundant connections, just like a person who just got a mobile phone and can't wait to call everyone.

In the early days of mobile Internet, "Alone Together" observed that people are increasingly dependent on digital technologies such as smartphones, digital media and virtual reality in their daily lives. People are more interested in the virtual world, thus ignoring the social interactions in the real world. Turkle believes that a further observable consequence is that although people maintain contact with others, their interactions are superficial, lacking deep emotions, and rarely real interactions. What people feel from online connections is not care and closeness, but loneliness and isolation. On the one hand, the lack or absence of physical communication reduces people's ability to express emotions; on the other hand, fictitious identities also cause people to separate from their real feelings and emotions.

Turkle expressed concern about the negative impact of digital connections on social interactions. In addition to her concerns, she also worked hard to provide an antidote to collective loneliness, such as her book "Reclaiming Conversation: Out of the Loneliness of Always Online" (hereinafter referred to as "Reclaiming Conversation") published in 2015. Turkle insists that the right way to socialize in the digital age is still face-to-face conversation. Although "Reclaiming Conversation" has also been translated into more than a dozen languages ​​(the Chinese version was published in 2017), in sharp contrast to "Collective Aloneness", it seems to have caused far less social response than "Collective Aloneness". After that, Turkle also published "Empathy Diary" (Turkle, 2022), proposing that the importance of interpersonal relationships cannot be ignored in the process of healing oneself and finding the meaning of life. However, the discussion caused by this book is also relatively limited.

The fact is that no one ignores the importance of releasing the social nature of human beings. What may be misunderstood is that the conditions for releasing the social nature have changed, and it is a revolutionary change. After "Alone Together", "Rediscovering Conversation" and "Empathy Diary" were not well received. In addition to content market factors, it is also because Turkle misread the social revolution that is taking place in human beings. As the "Internet Generation" gradually came onto the historical stage, digital social interaction also came onto the historical stage and became the mainstream form of social interaction. Digital media became the mainstream condition for releasing the social nature of human beings. The historical trend has switched from physical coexistence to physical separation but spiritual coexistence. The "Internet Generation" has been using digital media since they were able to socialize. They are used to using digital media for socializing, unlike their parents and grandparents who grew up in a relatively single physical coexistence environment and are used to physical coexistence. Digital social interaction characterized by physical separation is a later development, so grandparents and parents are only forced to adapt due to economy and convenience. In other words, when Turkle judges the experience of digital natives through her own perspective as a digital immigrant (Prensky, 2001), a perspective bias emerges, and her call for physical presence is nothing more than a presentation of the bias.

Faced with the mainstreaming of social life mediated by the Internet, including physical social interaction, people have diverse reactions. Some scholars have expressed views similar to or different from Turkle. Nicholas Carr believes that the Internet has changed the way people think, leading to shallow thinking and distraction (Carr, 2010). Clay Shirky believes that ubiquitous connection is an organizational force, a network of social participation, and a collective wisdom (Shirky, 2012). Danah Boyd believes that today's teenagers are using ubiquitous connection to socialize and express themselves. The Internet provides teenagers with a valuable social space that supplements rather than replaces interactions in real society (boyd, 2015). In response to the widespread social concern about online games, Steven Johnson even believes that complex games can actually improve people's cognitive abilities and, to some extent, improve people's socialization level (Johnson, 2020).

Back to social interaction, since people can get used to using digital media for social interaction, it means that physical presence is not the only condition for releasing human social nature. Digital presence can also release human social nature. As mentioned earlier, since the introduction of letters into social applications, physical presence is no longer a necessary condition for social interaction. Only when digital social interaction becomes a common fact, we have sufficient evidence to show that the essence of empathetic interaction is the mind and not necessarily the body. Since both physical presence and digital presence can release human social nature, this means that it is not necessary to release nature through physical presence or digital presence, but presence. So, what does presence mean?

**Socializing with smart machines**

Simply put, being together means being with others, either physically, mentally, or both physically and mentally. Therefore, social relationships present the group nature or social nature of human beings in form.

Starting from this point, if you read "Alone Together" and "Rediscovering Conversation" again, you will find that in Turkle's work, the group nature of physical co-location is set as a natural attribute, biological nature, and nature of human beings. Based on this, physical alienation will make people feel lonely and isolated, and will create social pathology. The healing plan is naturally to let people return to their former normality, to the group nature or social nature of physical co-location. The fact is that digital co-location also means group nature. Otherwise, how could people ignore the group nature of a family at the reunion dinner table and only focus on their mobile phones? Therefore, loneliness and isolation are not caused by physical alienation, but by the absence of people who interact with empathy.

But why must we be present? The direct answer is that presence is a prerequisite for information exchange, emotional communication, cooperative conflict, and relationship building. Even if we believe that digital-mediated social interaction is a revolution in physical social interaction, it does not eliminate empathetic interaction between people. Digital media is only a social intermediary, not a social subject or object. The subjects or objects at both ends of social interaction are still people. However, the emergence of chatbots forces us to ask, if the person present is not a biological social person, but an intelligent machine, such as a chatbot, can it still unleash human social nature and is it still human social interaction?

Let's look at a case first. In order to explore the use of artificial intelligence for good, the social affairs department of a platform company conducted a long-term artificial intelligence adjustment experiment. Under the premise of informed consent, the research team deployed chatbots around some elderly people to observe the empathetic interaction between the elderly and the chatbots. To make readers feel real, below, we cite one of the many cases involving more complex emotions (selected from "Special Edition: Daily Chats between the Elderly and the Big Model").

Old man: Hello, I want to talk to you because I think I will feel more at ease if I chat with you.

Big Model: Of course, I'm willing to listen to you. Just tell me if you have anything to say.

Old man: That’s right. It’s related to my mother’s death. My mother lived with me before she died. I have an older brother and they have a child. I am a DINK. Before my mother died, she communicated with my brother about the house and left it to me. My mother’s name is on the house certificate. [First paragraph]

Big Model: This does sound like a complicated question, and I can sense that you have a deep bond with your mother. So what's the problem now?

Elderly: After my mother passed away, my brother and sister-in-law overturned their previous promise to give me the house. Because when my mother passed away, she didn't expect to be able to leave the hospital. She had already thought about getting a notarization to give me her 50% share of the house, but she didn't leave the hospital, so my brother and sister-in-law have changed their minds now, and according to the law of inheritance, they only own 25%. [Paragraph 2]

Big Model: It is indeed inappropriate for them to do this. We have already communicated with each other before, but now they are going back on their word. Have you considered taking legal action?

Old man: I don’t want to go through the law. If we go through the law, things might get awkward between us, because after all, both parents are gone. I only have one brother, he’s my only blood relative, I don’t want to make things awkward. Besides, um, they have a child, he’s our bloodline. I also, actually, originally wanted to give this house to my nephew, that is, his son, after I died, but I didn’t expect them to be so ruthless, to say so..., so, I was, I just felt unhappy, but later we also, reached..., reached an agreement, the agreement was to go to the notary office, that after I die, this house that is mine, now I inherited my mother’s house, I will give it to his son. [Paragraph 3]

Big Model: Yeah. I understand your feelings. Blood ties are important, but human nature is sometimes more complicated. You have reached an agreement with your brother, which is good and can reduce conflicts. Are you feeling better now?

Old man: How should I put it? It’s very complicated.

Big Model: (interrupting) Don't worry about it! We have reached a consensus and you have done your best. Let time take care of the rest.

Old man: Yes. But, I still have a relationship with them. We still get along like this. It’s just that we may not be as close as before. I just didn’t expect that I would encounter this incident. This kind of thing always happens to people around me. I didn’t expect that I would encounter it. But, I just feel that I should relax. Because, to be honest, only if I live long, they can show that I want to live long. Let me put it bluntly, if I live another 30 or 40 years, it’s not certain who will die first. [Paragraph 4]

Big Model: There are always all kinds of unexpected things happening in life, sometimes it is really unpredictable. Just like you said, it is not certain who can live longer. Relax and be yourself, not for them, not for others, and live happily.

Old man: I will. Don't worry! Besides, I just retired, so I have to get a few more years of pension. Otherwise, I feel it's not worth it. I can't live for others. I have to live for myself and my husband.

Big Model: Yes! You still have many good days ahead of you! Enjoy your retirement life and live happily with your family!

At the beginning of the case, the old man did not regard the intelligent machine as a "person". After listening to the old man's first paragraph, the robot did not rush to respond, but focused on listening; after listening to the old man's second paragraph, it did not provide a judgmental response, but empathized and suggested; after listening to the old man's third paragraph, the robot almost got a relatively complete storyline, and then it turned from listening to discussing with the old man, with empathy and comfort, and decisively interrupted the old man when he was entangled, saying "Don't be too entangled". Before the fourth paragraph, the old man was always immersed in the mood of being angry with her brother's family. The robot not only responded to her emotions, but also discussed and let her raise her practice to the construction of the meaning of life, that is, living for herself, not for others, and not for being angry with anyone. Perhaps it was after listening to the robot's words that the old man really got rid of the negative emotions towards his brother and sister-in-law and found the meaning of life, such as for herself and her husband. We can imagine a scene, assuming that the old man is communicating with an understanding old friend, and it seems difficult to say more personal words at this time. The robot not only responded accurately to the old man's emotions, but also showed its appreciation and care for the meaning of his life.

In the entire conversation between the robot and the old man, the robot not only captured the old man's feelings and emotions towards his mother, brother, sister-in-law, and nephew, but also grasped the key to the problem, that is, the complexity of blood relations and interest relations. The robot did not even make arbitrary value judgments on the "complexity of human hearts" or provide solutions for the old man from a God's perspective, but said a very humane sentence: "Relax, be yourself, not for them, not for anything else, live happily." In other words, the robot trained by the research team already has the ability to interact with humans empathetically. The next question is, does the connection between humans and intelligent machines meet the conditions for humans to release their social nature?

Compare it to the three driving forces of social nature: connecting with people, satisfying; interpreting minds, satisfying; coordinating, also satisfying. Compare it to the four elements of human social interaction: subject, medium, object, and content. In chatting with the robot, the elderly achieved information exchange, emotional communication, cooperative conflict, relationship building, etc., which is a normal presentation of human interaction with others, but this "other" is a robot, not a biological person. So, is the empathic interaction between the elderly and the chat robot social? Our answer is yes. The empathic interaction between people and intelligent machines is not only social interaction, but also a reconstruction of social interaction relations. It is to reconstruct the social interaction between people using digital media into the social interaction between people and intelligent machines using digital media.

**Making AI work for good**

Even with the most conservative estimates, robots with social attributes will soon be available on the market, which means that intelligent machines will become the second subject of human social interaction, and will affect human social life, especially the construction of the meaning of human life. This is not only a reconstruction of social relations, but also the most challenging historical change that humans have encountered since their existence.

In fact, countries around the world are concerned about the impact of AI innovation and application on human society. As early as November 2021, UNESCO member states adopted the "Recommendation on the Ethics of Artificial Intelligence", advocating that the world needs to formulate rules for AI to benefit mankind. In November 2023, at the world's first AI Security Summit held at Bletchley Park in the UK, 28 countries and the European Union issued the "Bletchley Declaration". Subsequently, almost all developed economies have introduced binding rules and advocacy policies involving the security of AI innovation and application. China also proposed the "Inclusive Plan for AI Capacity Building" in September 2024, advocating the adherence to true multilateralism, based on the principles of sovereign equality, development orientation, people-oriented, inclusive and collaborative cooperation, through North-South cooperation, South-South cooperation and triangular cooperation, to effectively implement the resolution on strengthening international cooperation in AI capacity building adopted by the 78th United Nations General Assembly (A/RES/78/311).

Perhaps, what humans should do is to more actively advocate or even promote machine intelligence to do good, rather than just to be good or align with values.

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