Chapter 9 Coexistence with Animals, AIs, and Robots

1. Self-interpretation

Humans are living things as well as a kind of animal. Since ancient times, humans have regarded themselves as special creatures and have positioned them at the top of the world of creatures. But in modern times, each creature is considered to have its own environmental world as a species, and the view of superiority or inferiority is denied. However, the consciousness of giving special attention to humans and human society do not change easily.

Each creature has its own characteristics. Having characteristics is a separate issue from the evaluation of superiority or inferiority. In order to separate the classification of features from the superiority / inferiority evaluation, it is necessary to set up a comprehensive framework and compare the features rather than simply listing them empirically.

But today, it's not just the relationship with living things that needs comparison. In the digitized society, AIs (artificial intelligent beings) and AI-equipped robots have also appeared. Comparing humans, animals, AI, and robots to explore the possibilities of "coexistence" is a requirement of the digital age.

Humans are not only "human beings" as living things, but also "human communications" at the same time. In other words, humans communicate with each other. Humans can communicate with dogs (animals) and also with AI dog-shaped robots (AIBO). The standard for a human to understand the other human is self-interpretation, "who do you think you are?"

As discussed in Chapter 2, this book interprets the human (mind) as a "four-dimensional communication systems integration". The premise of this interpretation is the functional perspective of "structuring the communication system." In this chapter, we will explore the coexistence among different systems by comparing humans, animals, AIs, and robots from the perspective of system structuring. The key is the "soul" *.

* In the philosophical tradition, "humans" have been variously characterized in comparison with animals. For example, "reason," "spirit," "labor," "existence," "play," "decentralization," "symbol manipulation," and so on. However, there is something in common in diversity. That is the "transcendence" that creates distance inside mind. However, no convincing explanation has been given so far regarding the grounds for "transcendence." This book seeks the basis of human "transcendence" from the "self-referential communication system" from the perspective of structuring the communication system.

2. System types

First, recalling Chapters 2 and 7, we will summarize the characteristics of "biological life," "materials and machines," "creatures (animals)," "AI and AI robots," and "humans" from the perspective of communication systems (structuring),

Biological life

The basis of the human mind as an integrated body of a four-dimensional communication system is the "body as flesh". The body is also regarded as an integrated body of multidimensional communication systems. And there is "biological life" in the foundation of the body.

As mentioned in Chapter 7, "biological life" is, from the perspective of a communication system, a communication system among cells that exchanges biochemical molecules (which exchange electron energy). This is abbreviated as "living system". It is the communication system among nerve cells that governs this complex system, especially the internal "environmental model".

Materials and machines

The basis of the living system is "materials". Even in materials internal elements (parts) communicate with each other. However, like the living system, it lacks the <structuring> that controls communication from the inside.

Imagine, for example, elementary particles, clusters of galaxies, rocks, water, and clouds. They communicate at various levels. However, they are all constantly flowing under the influence of the outside. In other words, there is no system there.

Machines are also materials synthesized from materials. It is internally regulated, unlike simple materials. However, the adjustment is not a self-adjustment like the living system. Automated coordination among internal parts of the machine is pre-designed and controlled by outsiders. Machines are often referred to as "systems," because they are supported by the human communication system behind them.

Creatures (animals)

This time, we turn our attention to "creatures," which are a complex integration of "living systems." Creatures other than humans perform emotional communication using physical expressions on the basis of the living system. This applies not only to animals, but also to plants, even if they are weak. In Chapter 2, we gave examples of insect crickets. As explained there, it is "drive (instinct)" that controls the emotional communication system.

Now let's turn our eyes from crickets to familial animals. What stands out here is the imaginary communication that governs the emotional communication while being activated. Recall the example of a coyote. It is "intelligence" that governs the imaginary communication system. "Intelligence" and "instinct" are in conflict in the heart of the dog who was ordered to "wait!" In front of the food.

AI and robots

AI (artificial intelligence) is a system that performs conceptual communication using digital symbols that are unrelated to physical expression, in contrast to living things. On the other hand, in AI-equipped robots, the automated communication system inside the machine is controlled by a conceptual communication system using digital symbols.

What AI is actually doing is classifying data by "type" and forming a concept as a classification of classification. Data, classifications and concepts are arrays of symbols. It is a human who reads (interprets) the meaning of the array. In the first place, it is a human with world experience who set a "type" for the first time and implemented it in AI.

"Meaning (interpretation)" occurs as self-referential symbolic communication points to (that is, refers to) a conceptual, imaginary, and emotional communication system, as explained in Chapter 2. However, what is progressing in AI is the communication among symbols. There is neither emotional communication nor imaginary communication. Above all, there is no self-referential communication.

Humans

It is the self-referential linguistic symbol communication system that characterizes humans. In this system, linguistic symbol communication is connected to linguistic symbol communication, instead of connecting digital symbols to symbols as in a computer. Therefore, it is self-referential

communication. From this repetition, a self-referential communication system is established.

It is the "self" that <structures> self-referential communication as a system. The "self" exists as long as it controls communication. In other words, it is a function of functional unification. When this "self" is referred to, it is called "I".

The self-referential communication system directs the communication of linguistic symbols to the other three dimensions: the communication system of concept, imagination and emotion. The self means the self as "the self that means the world" by controlling each dimension of the mind by reference.

The meaning of the world has a structure of <four-dimensional correlation> based on the function of four-dimensional integration by the controlling self. However, when the meaning of the outside world is stopped, self-referential communication simply slips and shuts itself in self-illusion.

The "self that means the self that means the world" has been regarded as "self-consciousness". However, this way of thinking has hindered the comparison of "humans" and animals in the same line. Through reconsidering from the perspective of a universal communication system, it will be possible for the first time to position and compare "humans" in various communication systems.

3. Mind, Self and Soul

The basis of ethics is <magic> based on the implicit rules of familial herds, as explained in Chapter 2. Magic is the origin of human culture, the archetype of religion, and the origin of civilization. The core of the magic is the "spirit" and "gods", that is, the "soul".

The belief that there is a soul is not just for people in the primitive age. Even today, not a few people believe in the existence of the "soul." In the digital age, even the similarity between "soul" and virtual reality has been pointed out.

But what is the "soul" in the first place? Isn't it the illusion or self-illusion of the person who stopped the meaning of the world? Or does the soul have some reality for humans? Let's think about the true nature of the "soul" from the perspective of the communication system. At that time, the Japanese old word "Tamashii" that retains the spirit of the primitive people is used as a clue for consideration.

Tamashii

"Tamashii" is an artificial word of "tama" and "shii". "Tama" consists of "ta" and "ma", "ta" refers to the movement of the hand, and "ma" indicates the source (pause) of the movement. On the other hand, "shii" is a variant of "doing". The fact that "tama" resides in "things" is called "naru (becoming)", and the fact that "forms" are created by working in "things" is called "arawareru(appearing)", that is, "aru(being)". The "karada (body)" in which "tama" works is "mi (substance)", and if it is not working, it becomes "kara (shell)" *.

* There is "kokomo" in a word similar to "tamashiil". The original meaning of "kokoro" is the internal organs, from which it refers to what is behind the body. In this way, "Kokoro" is spatial, while "tamashii" is functional. In addition, "mono(things)" vaguely refer to things that can be seen, and are divided into awe-inspiring "kami" and eerie "mono." The above is based on Ikuo Nakamura's interpretation of "tamashii".

The important point in the above explanation is that "mono (things)" become alive through "tama" acts as "tama-shii". Things move. Things that are moving appear to be alive. However, that is just an impression from the outside.

Things that are moving are not always alive. Living is due to the working from the inside. The working from the inside brings the movement. In the old language, this "working from the inside" is regarded as "tama-shii".

Working from the inside

How should we think about this "working from the inside"? There have been various interpretations so far *. From the perspective of the communication system, "working from the inside" is nothing but <structuring> that governs the communication system. And if the "inside working" is structuring, it is the "mind ③" that we usually feel and think s when we look at the inside of the body.

* For example, Aristotle defined "soul" as "the reality of a living natural object (Energeia)". This is the "working from the inside" of the Aristoteles style. This view is sharp, but still vague. Based on the dissection of the brain, he also stated that the human soul consists of three layers: plants, animals, and logos).

"Mind ③" has already been explained at the beginning of Chapter 2. When reviewing, "Mind ①" is the heart (circulatory communication system) which is the center of the body, "Mind ②" is the "Cranial nerve communication system" which is the center of integration of the body, and "Mind ③" is usually felt or thought by us, and Mind ④ is the "soul." The difference between Mind ② and Mind ③ is whether the viewpoint is placed outside or inside the body.

Now, if "working from the inside" is "structuring" and structuring is "Mind ③", is "Mind ③" immediately "soul (Mind ④)"? It is not. The "soul" is the "thing" that speaks of oneself. The soul speaks for itself. If so, the only thing that can be the "soul" is the mind with the dimensions of the self-referential communication system, that is, the mind that integrates the four dimensions. Because that is the only "self that means the self" and can tell the self.

Then, is the "self that means the self" the "soul" immediately? This is also different. The "self that means the self" cannot be seen. The "soul" is the "thing" that can be seen. If you can't see it, you can't call it a "soul." Only when you see it is the "soul".

As explained in Chapter 2, we need a "form" that is visible to humans. In order to see the "self that means the self," it must first be imagined as a "type" and then expressed as a concrete "form." The self that tells the self as an invisible inner working becomes a "soul" only when it is expressed on the visible outer side. The human soul is in the form of a person. Taking classical Noh as an example, the soul of "Okina" is in the form of an old man, and the soul of "Omina" is in the form of an old woman. The above ideas can be summarized as follows.

Tamashii (Japanese old word) … Inner working … Structuring
…Mind… Self that means self … Type … Soul (form)

Various "souls"

Self-referential communication governs through connecting to other dimensions of the mind: conceptual communication systems, imaginary communication systems, and emotional communication systems. At that time, the function as a structuring of each dimension, that is, the central line of sight of "reason," "intelligence," and "instinct," is referred to as "I." That is "I who thinks," "I who imagines" and "I who wants." And these multidimensional "I" also become various "souls" by being given a form.

On the other hand, looking at people's collective communication systems, there is also a structuring that controls and integrates collective communication. That is the ethics (legend) of the group as explained in the introduction. When people's self-referential communication is directed to this ethics and a common sense is formed, a collective me, or "we," is born. "We" are also imagined as a type, symbolized and expressed externally, like the "I"

of an individual person. It may be "gods" or a national spirit such as "Yamato-damashii".

4. The Reality of Soul

Many people believe that animals have both a "heart" and a "soul." In that case, the soul is in the form of an animal. Also, in the digital age, it is not surprising that more and more people think that AI and robots also have a "heart" and "soul." In this case, it will be a soul in the form of an AI or a robot.

However, from the perspective of a communication system, animals have a "heart" but no "soul." To have a "soul", animals need to have the dimensional mind of a self-referential communication system. Animals are unfortunately two-dimensional. Only humans with a four-dimensional composition have "souls."

On the other hand, in the case of AI and AI-equipped robots, a conceptual communication system is implemented in the machine body. There is a "mind (artificial intelligence)" that keeps digital symbols connected to digital symbols, but there is no instinct, no intelligence that connects to the instinct, let alone a self that makes meanings. They appear to be because they are managed by humans from the outside.

If so, is the common sense of people who assume the "soul" of animals and AI too simple? Or is the idea of this book absurd? Or maybe both are compatible? Let's think about it while comparing the "dog" on the animal side and the "dog-shaped robot" on the AI side.

Dogs and AI dog-shaped robots

Animal "dogs" perform imaginary communication as well as emotional communication. What is lacking there is conceptual communication and self-referential communication. People not only stroke their heads and laugh at the dog, but also talk to it. Dogs also lick and shake their tails and spoil them hard.

On the other hand, the AI "dog-shaped robot" operates digital symbols to perform conceptual communication. What is lacking here is emotional communication, imaginary communication, and self-referential communication. People not only talk to this AI "dog-shaped robot", but also stroke their heads and laugh. The dog-shaped robot responds by repeating the repertoire of voice and movement.
At that time, what is happening inside the human mind? The clue to clarify this is the tendency to assume that the other with whom a human communicates is "a human similar to oneself." In other words, it is considered that there is the same "soul" as oneself inside the "heart" of the other.

Deeming tendency

If the other with whom you communicate is a human, there is no problem with this "deeming". Rather, it helps to facilitate communication between people. What complicates things is that people behave as if they were the same human, even when dealing with animals and robots.

A dog is a two-dimensional communication system that integrates emotions and imagination based on the body. On the other hand, the AI dog-shaped robot is a one-dimensional conceptual communication system based on a mechanical body. Humans supplement conceptual communication for dogs, and supplement emotional and imaginary communication systems for dog-shaped robots. Moreover, a self-referential communication system is envisioned for both parties. In other words, people consider <both dogs and dog-shaped robots have a "soul" behind the "heart."

Then, how do dogs and dog-shaped robots "consider" their opponents? By analogy with the communication system, dogs should behave as if they are friends or enemies with whom they communicate. Dog-shaped robots, on the other hand, should judge their opponents by "type", classify them, and behave according to their repertoire. In fact, an experiment was recently conducted to confirm this analogy. (Asahi Shimbun digital version dated July 30, 2018). A few animal dogs and a dog-shaped robot "AIBO" were spent for two weeks together. Let's introduce it with interpretation.

Initially, dogs regarded dog-shaped robots as strange opponents and played with them, or were wary of long-winding. Some dogs behaved unfortunately when the experiment was over and they broke up. The dog probably communicated imaginatively with the dog-shaped robot and regarded the robot as similar to oneself. On the other hand, AI dog-shaped robots that only perform conceptual communication behaved according to the repertoire of dogs. No matter how improved it is, there is no denying the lack of repertoire of dog-shaped robots, the lack of behavior patterns, and the awkwardness of movement when compared to animal dogs.

Communication between souls

Both dogs and dog-shaped robots have a "heart". However, both lack a self-referential communication system. In other words, the hearts of both are not "the self that means oneself." Unless it is a "self that means the self," there is no "soul" as a "thing that means the self."

However, a human envisions a "self-referring to oneself" similar to himself / herself inside the heart of the other with whom he / she communicates. The dog-shaped "soul" is recognized inside the dog's "heart", and the dog-shaped robot-shaped "soul" is recognized inside the dog-shaped robot's "heart".

People are seeking a connection between "souls" in face-to-face communication. That's what it means to exchange interpretations of meaning.

That is also the reason why people have continued to believe in the "soul" since ancient times. That point will not change in the future. The perspective of the communication system explains the origin of people's earnest beliefs and reminds people of the reality of the soul by clarifying the true nature of the "soul."

In the future super-aging society, there is no doubt that more and more people will seek "communication between souls" after the deaths of close people, animals and robots. If so, as clarified in this chapter, it is necessary to properly incorporate "communication between souls" into human communication while keeping in mind that the true identity of the "soul" is the "self that means the self."

5. Competitive coexistence

Finally, consider the ethics of coexistence among animals, AIs, robots and humans. In the first place, the aim of this chapter was to explore the ideal way of such coexistence, and all the explanations so far have been preparations for that.

First, the following can be confirmed. From the perspective of structuring the communication system, animals, AIs, robots, and humans are all communication systems, so they are all in the same line. What is different from each other is the way of dimensional integration of communication systems. "Transcendence," which has been regarded as human uniqueness in the philosophical tradition, is a characteristic of the self-referential communication system dimension of four-dimensional integration.

If so, the "practical goal" that directs the ethics of coexistence should be clearly regarded as "coexistence in which different systems compete with

each other" rather than vague symbiosis like a good friend club. The image of "competitive coexistence" with AIs and robots is the following example.

In the world of shogi (Japanese chess), professional shogi players are now studying how to play through computer software. Computers that do deep learning reach out to those who are influenced by emotions. The research results of the shogi players are applied to the actual aspect of shogi, raising the level of shogi. The effect will be incorporated into computer software again, and will be further studied by players. What is appearing here is the first time in human history, or in the history of the universe, that humans and computers work hard together.

Such "competitive coexistence" can be considered not only in the game world but also in the field where nurses are engaged. A virtuous cycle in which the quality of nursing is improved may be brought about if the memory of the robot and the attentiveness of the human are combined when a human nurse and a nurse robot make a pair and go around the hospital room to check the patient's condition and state.

Of course, there will be various problems in implementation. Negative reactions such as "jobs are taken away" are deeply rooted in the introduction of digital technology. However, if the problem can be solved each time in the direction of competitive coexistence, it will have a positive effect on all sides. Anyway, let's take it positively now.

By setting the competitive coexistence between different systems as a practical goal, a practical direction will be born toward renewing the old view of human beings, establishing appropriate institutions, expanding the definition of family, and recombining the way of working and living. This is the concept of system ethics for the coexistence of animals, AIs, robots and humans.