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Kokoro in the Apparatus of Physical/Psychological and Distributed/Central

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Introduction

The Cartesian divide between mind and body has long been cognized as *a priori* in modern philosophy. While the scientific findings in neuroscience, such as in cerebral physiology, have revealed the complex mechanism of information processing — transmittance of externally gained information into internal electric sparks of the neurons — the problem of mind and how it evolves is yet known. Phenomenology and continental philosophy (Bergson's sensory-motor scheme and Merleau-Ponty's habitual body) have been making a crucial attempt to overcome the haunt of Cartesian dualism between mind and body. Moreover, the much recent discourse analysis on mind and body argues that mind-body as being crucial to each other; embodied, extended, embedded, and enacted that stresses the mutual works to cognize, understand, and reflexively-act to the world. However, Eastern philosophy, which has one of its deep roots in early Buddhist philosophy, has long been working to find out what mind and consciousness are by hypothesizing the concept of emptiness.

This paper looks into the general argument of mind-body theory from early Buddhist philosophy that sees mind and body as inseparable with an attempt to quest for the difference between consciousness and mind, what is mind, moreover, what does it mean to be human. By overviewing the early Buddhist argument on mind-body theory, mainly from the perspective of Vijñapti-mātratā school, and by briefly touching upon the argument made by Dōgen, the Sōto Zen master, the author further looks into the problem of consciousness and argues on human consciousness

in comparison with artificial consciousness or what could be gradually perceived as consciousness in non-humans, such as other animal species and robots with artificial intelligence (AI). In doing so, the author attempts to seek the place of Kokoro, the heart-mind, and how it can evolve based on our conceptual habituation of cognizing the others.

Consciousness in Buddhist Philosophy: Difference between Consciousness and Mind

The primary interest of the cognitivists has long been haunted to work on from the aspect of the dual divide, the divide of mind/subject and matter/object. *Kinds of Minds*, written by Daniel Dennett in 1996, is one of the attempts to overcome such created Cartesian divide or the biased perception of the mind/matter divide.¹ Dennett, in his work, criticizes the Cartesian divide as Cartesian Theatre, that perhaps the human-kinds are searching for a ghost known as Homonculus by its name.² The latest scientific findings seemingly support Dennett's argument from some aspects. That the technological development of artificial intelligence and robotics, or moreover, the scientific findings in the field of neuroscience are revealing that the mind might not be a sole object that exists as one single object, but it is better explained seen from the perspective as something in the context of embodied, embedded, enacted, and extended: embodied as being constantly involving in resonance with the outer and inner bodily structure and process; embedded as a perpetual bodily function that evolves with the surrounding environment; enacted as a manifestation in action as a reflexive act answering to the environment; extended as the extension of bodily structure to adapt the bodily structure to the environment. All these suggest that body/mind structure should be regarded as being-in-combination that it cannot

1 Dennett, D. C. (1996). *Kinds of Minds: Toward an Understanding of Consciousness*. London: Weidenfeld & Nicolson.

2 Dennett, D. C., & Weiner, P. (1991). *Consciousness Explained*. Boston: Little, Brown and Co. pp.107.

be well explained without one another. In short, in order to explain works of the mind or to find out where and how the mind works, it needs bodily reaction for the observer to detect the work of mind per se.

Although philosophical analysis works to investigate the mind and its whereabouts, there is a doubt that consciousness and mind being often confused or even considered as if they are almost equal. I argue that consciousness and the work of mind are inseparable; however, simultaneously, they need to be differentiated because of their fundamental differences. I will give you an example to make the argument clearer. When we see a person lying down flat in front of us, most of us will run-up to the body of that person, ask, “are you okay?” and will start checking whether if that person is breathing or not. What are we doing here? It seems that we first check whether that person has consciousness or not, and only after that, start operating assisted respiration when necessary. The only way to check if that person has consciousness is to wait for that person to respond to us in ways noticeable. However, the problem here is that even we check consciousness in others, it does not prove that a particular person has the heart-mind, *Kokoro*, or the ability to show their work of minds understandable to others, aside from oneself. I mean and emphasize here that consciousness and a work of mind are not equal, that there should be some hierarchical structure between them. Let me give you another example. When you see your grandmother responding to you, as you are her grandchild, will let you assume that her mind is still with us. However, in the case of her suffering from dementia, you feel that you lost her and cannot be connected with her anymore, that you feel you lost an important part of her even with her bodily existence sitting and smiling in front of you. Of course, I am not denying that there should be some sort of heart-mind working in her even though she is suffering from dementia, that she only forgot who you are. However, no matter how you want to defend her, you will eventually have to face that she is not the same anymore, and the way you see her is through the affectionate historical relationship that has been built with her. These examples

reveal that it seems consciousness does not automatically lead to the proof of having heart-mind or work of the mind, and often we assume the existence of work of mind only through phenomenological accordance. We are all ghosts trapped in the shell (body), but ghosts should be inspected further, in terms of consciousness and mind.

Nāgārjuna (龍樹), one of the early Buddhist philosopher active around the 2nd century known as a founder of Madhyamaka (middle way) school of Buddhist philosophy, argues in *Mūlamadhyamaka-kārikā* (中論) that provides perspective different from Cartesian view regarding the argument on body and mind. In fact, Francisco Varela argues on the embodied mind by using concepts deriving from Nāgārjuna's philosophy that the embodied and enactive work of mind is the result of mind working in an interdependent world, within and through embodied action.³ The main argument of Nāgārjuna could be summarised in three points in regard to consciousness. First of all, Nāgārjuna argues that the realization of the way or space is done in between the subjectivity and the object through negation. In arguing so, Nāgārjuna claims of the concept of “emptiness (空)” and “not existing not nothingness (非有非無),” but only the Dharma (法) exists. Secondly, he claims the limitation of the language, that there is non-verbal language as well; therefore, language is untranslatable. Thirdly, and perhaps this is the most important of the three in considering the mind-body divide, he points out that there is no substance and everything as relational and co-arising (緣起—因果).

Nāgārjuna's argument suggests the following hypothesis regarding the relations between body and consciousness/mind. Consciousness/mind as something that does not exist but only co-arises accordingly to the relationality, that there is no such substance that could be extracted as consciousness/mind per se. The negation denies the

3 In *The Embodied Mind* (1993), Francisco Varela argues Nāgārjuna's development of later Buddhist philosophy of non-self and emptiness (or co-dependent arising) coupled with Merleau-Ponty's phenomenology. Varela, F. J., 1945-, Rosch, E., & Thompson, E. (1993). *The Embodied Mind: Cognitive Science and Human Experience*. Cambridge, Mass.; London: MIT Press.

perpetual existence of the substance (body); however, it does not deny the interplay of the body and mind. Therefore, his argument indicates the importance of a mutual interplay between the subjectivities, that the consciousness could be realized only through the interference between subjectivities.

Then how about the consciousness and mind difference that is in the quest? The later argument brought by Vasubandhu (世親), active around the 4-5th century, and known for his theory of Vijñapti-mātratā (唯識論) argues in his *Abhidharma-kośa-bhāṣya* (俱舍論), the eight facets of consciousness, including unconscious sphere (deep consciousness) of the spectrum of consciousness-es. Vijñapti-mātratā is a theory that argues that there exists consciousness-only, that all existence is subjective, and nothing exists outside of the mind.

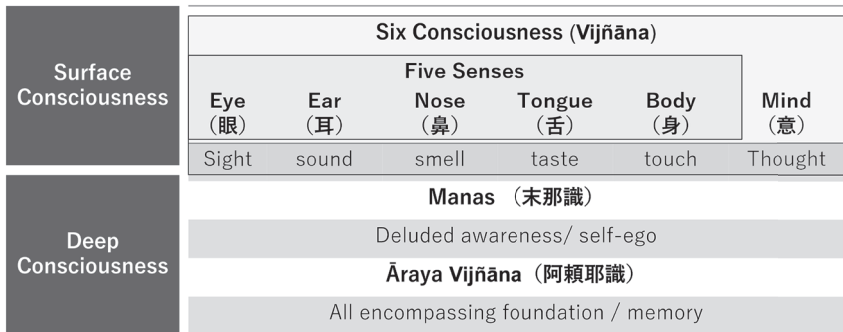


Figure 1. Mind in the Apparatus of Consciousness

In *Abhidharma-kośa-bhāṣya*, Vasubandhu argues that there exist eight facets of consciousness (*Aṣṭa vijñānakāyāḥ*), which is the five bodily senses, mind, Manas (self-ego, 末那識), and the Āraya vijñāna (memory, 阿賴耶識). Although there exist countless interpretations on Manas and Āraya vijñāna, what I want to focus here is on the need of the bodily sensory system to activate the mind that activates through interplays of five senses. According to Vasubandhu, the mind is categorized as one facet of the eight facets of consciousness, mind-consciousness. Mind-conscious-

ness, as Mano vijñāna (意識), literally implies “to think” and is understood as a consciousness that is working behind the five-sensory-consciousness that are eyes, ears, nostrils, tongue, and bodily sensory inputs from the environment.⁴ If we think in alignment with Nāgārjuna, such senses are not divided as external/internal to the substantial body, but they need each other in its interdependency and interplay. In other words, mind-consciousness works only in relation to bodily senses. The mind-consciousness and bodily sensors are non-derivative but in perpetual tandem with each other, therefore non-separable. Without body sensory inputs, consciousness will not arise, and without consciousness, the bodily sensory input would be dispersed in the thin air without being sensed, unified, and reacted. Therefore, the theory of Vijñapti-mātratā implies of the need of the bodily data for the mind to work that is to think (思惟).

While bodily sensory data (five senses) could be understood as raw data acquired for the mind-consciousness cycle to process the sensory data as input information, the work of mind-consciousness could be interpreted as a source to process data. It also works for judging whether the result of the processed data, which is a reflexive reaction, should be outputted or not. Furthermore, if such reaction is going to be outputted as a reaction, it determines through which mechanism should it be expressed — through signs by eyes, body, or voice. Through such a process, mind-consciousness works to integrate the input data from the five sensory con-

4 The five senses and the consciousness is the realm of Vijñāna. When the texts were translated from Sanskrit to Chinese, consciousness was all translated as 識. Therefore, five senses and the consciousness (意識) are categorized as six consciousness (前六識). Manas, is also synonymous to Mano. However, to differentiate consciousness in the six consciousness, note that Mano vijñāna is the six consciousness is the mind-consciousness (意識), differentiated from Manas as the seventh consciousness (末那識). The theory of Vijñapti-mātratā brings Āraya Vijñāna. However, to well grasp the concept of Āraya Vijñāna, there was a need to insert a realm that includes the concept of self-ego. Manas (意) has the realm of Manas and Āraya Vijñāna. There is also the eighth realm (八識) which is the realm of Citta, the heart-mind (心). Note that in this paper, the argument is solely limited to Vijñāna. Therefore, it is not touching upon the argument of five Pañca-skandha (五蘊; 色, 受, 想, 行, 識) described in the Pali Canon.

consciousness and judge whether to respond to the outer environment or the world. This logic well explains the reason why we instinctively call out to the person lying down flat to check whether the person is conscious or not. It also explains that we can only phenomenologically understand the work of mind in others through presented responsive action. To be more precise, reflexive action can be expressed without the work of mind-conscious — for example, like the reflex of the pupils or reflex movement of muscle tendons. However, responsive action can only be expressed through the work of mind-conscious — for example, to cognize yourself as being you, yourself, or others as others.

Getting Over Solipsism?

The theory of Vijñapti-mātratā, in later years, is going to be criticized from the Buddhist clans as solipsism for its emphasis on consciousness-only. In terms of solipsism, Descartes claims “Cogito, ergo sum,” the famous quote from *Principle of Methodology* (1644). “I think, therefore I am” indicates that I am the only person who can prove that I can think, and I am thinking, therefore, there is a work of mind happening within me. The theory of Vijñapti-mātratā, on the other hand, goes far beyond Descartes’ solipsistic way of cognition. It is much radical than spiritualism (唯心論). Spiritualism claims the existence of a heart-mind and argues that everything can be reduced to mind-consciousness. In other words, spiritualism argues that the matter world is created based on our created and biased view by our mind-consciousness. Therefore, matter/world is all empty since it is the sole creation by the mind-consciousness. Most of the Zen school takes this approach. Thus, controlling the mind-consciousness through meditation becomes an important bodily practice. On the other hand, Vijñānavāda school argues that there exist only perceptions (識) in parallel with the field of unconsciousness as depicted in Figure 1. In short, the difference between spiritualism and Vijñānavāda school is based on whether it takes into consideration the field of Manas and Āraya vijñāna of the field of the deep un-

consciousness. For Vijñānavāda school, everything, even the mind-consciousness, is thought to be empty (色即是空) because mind-consciousness itself is the creation of the mind that arises through relationality and dependent-co-arising. The difference between spiritualism and Vijñānavāda school, therefore, is based on whether to think mind-conscious as a “working substance” that enables the subjective mind to occur. I am not fully satisfied here using the word “working substance” in explaining the mind-consciousness in the interpretation of Nāgārjuna and Vasubandhu. It is not substance-like in a matter or form, but it is a “working process” or the “work itself” that looks as if it has substantial characteristics. Since it is a “working process,” it only co-dependently arises through interplay and interactions. Vijñānavāda school is radical because it sets the sphere of deep unconsciousness to even negate such “working substance” by claiming the existence of deeper work deriving from the field of unconsciousness.

As mentioned above, the theory of Vijñapti-mātratā asserts the importance of the field of unconsciousness, that is, Manas and Āraya vijñāna. Āraya vijñāna is the seed (種子, bīja) of everything that encompasses the foundation of every phenomenon of existences, while Manas is the ego-centric, deluded awareness. Therefore, Manas is the source of a cognizing subject that arises through inputs from the six consciousness (five sensory inputs plus mind-consciousness). In accordance with the existence, and simultaneously, with the inter-relationality with other existences, three basic modes of perception (三自性) arise in the cognizing-subject.⁵ Those three modes of perception are Parikalpita, Paratantra, and Pariniṣpanna. Parikalpita (遍計

5 Now this part is from *Abhidharma-kośa-bhāṣya* written by Vasubandhu, and I am working using the translation by Paramārtha (真諦, 499-569) in Chinese (『阿毘達磨俱舍論』) that is read among East-Asian philosophers for centuries. It is commonly said in Japan that you have to study the theory of Vijñapti-mātratā for three years before reading the *Abhidharma-kośa-bhāṣya* (唯識三年俱舍八年). Therefore, with my shallow reading, I might not be well-grasping the whole picture of what Vasubandhu had in his mind. However, I am relying on the history of the studies and numerous readings and interpretations of countless scholars that has been taking place in Japan. If there are any errors in my reading, that is solely because of my shallow understanding.

所執性) that literally means “fully conceptualized,” is the perception of “imaginary nature,” wherein things are incorrectly comprehended based on conceptual construction, through the attachment and erroneous discrimination. Paratantra (依他起性) literally means “other dependent.” It is the perception of “dependent nature,” where the dependently originated nature of things is understood. Pariniṣpanna (円成実性) literally means “fully accomplished” that is the perception of “absolute nature,” through which one fully and truthfully comprehends things as they are in themselves, uninfluenced by any conceptualization at all and grasps the sheer truth.⁶

These three basic modes of perception could be translated as follows in terms of consciousness. In the phase of Parikapita, consciousness itself is something that is conceptualized and imagined as existing. The Paratantra phase implies that consciousness arises only in accordance with the object that consciousness is only possible in inter-dependence with the object, whether that is a matter or another consciousness. Pariniṣpanna phase, however, indicates that consciousness does not need an object, and vice-versa, an object does not need consciousness to exist since everything is empty. Therefore, consciousness is only seeing the ego-self through his/her own ego or through an object. In summary, the implication from the theory of Vijñapti-mātratā implies the followings:

- Consciousness co-arises from inter relationality and the mutual interplay between the subjects, body, and mind
- Even after the negation of the object and the search for in-betweenness (or middle path), the bodily sensation and ego-self remains, but it remains as emptiness

6 The Yogacaravada is one of the school that adopted the theory of Vijñapti-mātratā and the disciples of this particular school work to master yoga (瑜伽) using bodily practices with an aim to purify the five skandhas. They believe that through purification process of consciousness, pure wisdom (智慧) could be gained, but is gained only through bodily practices (轉識德智).

In short, the theory of Vijñapti-mātratā suggests solipsism, but this solipsism is not limited in a Cartesian way that is to reflect one's ego-self on one's self. However, it also touches upon the possibility of empathy by declaring that everything is empty, that there is a room created in the ego-self to accept and resonate with other subject and matters. The room to accept the others are created because fundamentally, consciousness only co-arises from inter-relationality and mutual interplay within oneself and with the world including other subject/matter.

Our first theme was to phenomenologically understand how one can consider that there exists consciousness and heart-mind in others. As we have examined through the short story of the lying man, in regard to consciousness, we check whether that person is conscious or not through his/her responsive feedback. Buddhist philosophy does imply the need for five sensory and bodily inputs that work in tandem with the mind-consciousness, but it does not give us further implication on the problem of Kokoro, the heart-mind. Bodily sensory input arises consciousness; however, even with bodily sensory input, it does not mean that one will acquire the work of heart-mind. Then what is the difference between mind-consciousness and heart-mind, or why is heart-mind so important? Why do we need to find a heart-mind within others, that we are not satisfied only with the mind-consciousness? The author thinks, heart-mind is essential as a basis for the possibility of the mutual understanding of each other's work of the mind. Heart-mind is the anchor of admitting each other as buddies, colleagues, or one belonging to the same clan that works as the basis of trust and mutual understanding. We are beings that need inter-relationality with others, beings as social animals, as Aristotle points out. The theory of Vijñapti-mātratā well explains that the mind-consciousness is not a substance but a work-in-progress through interplay that only appears through dependent-co-arising. However, it does not overcome solipsism, and it only suggests that there is a room created for the others to be invited into the sphere of consciousness because of its fundamental emptiness. In other words, by hypothesizing Mana vijñāna as the source

of self-ego and setting Āraya vijñāna as much deeper consciousness than Mana vijñāna, there are a space created for other Mana vijñāna, or egos of others, to exist in the sphere of Āraya vijñāna. This implies that we have to find a much stronger path to get over solipsism, not in the perspective of the theory of Vijñapti-mātratā that implies the weak path to overcome solipsism, but in a much broader sense of the interactions with the others that enable humane interaction through empathy.

The Becoming of Heart-mind? — In the case of Non-humans (animals and AI)

In regard to spiritualism, one would argue that when we see the heart-mind in others, it is a simple mirroring effect of self-reflection, seeing the self-ego in the others; that we are just seeing what we want to see in others. This is also applied not only to the others but in cognizing the world as well, that the world itself is the self-reflection of one's mind-consciousness. Spiritualism (唯心論), therefore, requires practices that enable us to empty the mind-consciousness to make room for the interplays to happen within, since everything we see is the creation and reflection of our own mind-consciousness. The mindfulness practice, that got sudden attention through Steve Jobs, makes sense in terms of Zen Buddhism and through much ancient Buddhist teaching of the theory of Vijñapti-mātratā. That is making a room and space for something (interplay, idea, or others) to work in your mind.

However, in this paper, the focus is not on the mind-consciousness but the heart-mind. If and when we find empathetical action in others, what does it mean? Are we just seeing our own wish in the action of others — a wish that people should be kind and thoughtful to each other? There were discourses claiming that only the animals with high-order functions have emotion. If an animal is to gain empathy, that animal has to be a much higher animal — a social animal, since empathy enables the social order to run smoothly. If empathy is the ethical output, it leads to respectful, kind, thoughtful, and cooperative action with/for others. The constraint here is that we can only phenomenologically suspect from other's reactions or actions that there

is a high possibility of the existence of a heart-mind within others. If we can fully appreciate such action that enables us to suspect the work of the heart-mind, then it reflexively means that we also have a heart-mind that activates and moves accordingly to the kind and empathetic action taken. I am not going to list here, but there are various studies done on psychopath and those suffering from having autism spectrum who cannot well respond or does not understand the kindness in others, who lacks in empathy. This also suggests, that in general, there seemingly is a discourse made with assumptions of mind-consciousness (self-ego requisite) being different from the heart-mind that is in the quest.

I personally have doubts in simply appraising human beings as higher animals compared to other species, although traditions of various cultures unconsciously support such idea. If we are to apply the theory of *Vijñapti-mātratā*, we can easily assume that animals with five sensory inputs have accommodating mind-consciousness, that is, a function “to think.” This type of argument may easily lead to discriminating the disabled or challenged person among the human clan, that without the suffice five-senses it is impossible to think or have proper mind-consciousness. However, that is not my intention here. I am thinking about the other animal species which human beings have long been discriminatorily treating. My argument is, if the animal has five senses, they should have accommodating mind-consciousness accordingly to the five sensory inputs gained from the environment.

I am used to living with pet dogs since being a child, and interestingly, all the dogs that I lived together never fail to be sympathetic when they find me crying. When the dog comes to you and lick your tears and sit next to you, what is the dog doing? Is it feeling your heart-mind and reading the pains in the mind-consciousness? Or is it a simple reaction through instinct? Then what is the instinctive drive that makes the dog perform as such? Why do they need to show that they feel the pain in my heart? They could have just kept on napping in the warm sunny spot with their favorite chewing toys. However, never once I encounter my dog unnoticed my

tears (I don't cry like jumbo babies in the typical over-reactioned Western movies, but in my case, just tears come running down). If a dog detects my tears and sits next to comfort me, phenomenologically, the dog looks to me as if it has sympathy or empathy, that the work of heart-mind, Kokoro per se is also working within the dog.

Nonetheless, sympathy is the synchronicity of pathos (emotion; in Aristotelian terms), and empathy literally means “in-feeling.” When one feels that his/her feeling has been accepted or well-understood, what is happening there? At least, phenomenologically, there is some kind of synchronicity of pathos working that is detectable to the person who is being cared for, or feeling the sympathetic action toward him/her. As argued, according to the early Buddhist philosophy, mind-consciousness is not a substance but is a perpetual interplay happening in relation to the five sensory inputs, and it only co-arises through the work of sense consciousness. If we stand on such theory, Kokoro, or the work of heart-mind that is coupled with Mana vijñāna, the self-ego, is also a work deriving from the interplays between the Āraya vijñāna and the six consciousness (See Figure 1). Based on such assumption, Kokoro could be understood as a much complex work of mind-consciousness that is fundamentally a “work/action/behavior” and exists as “work/action/behavior.” Conversely, Kokoro does not exist as substance matter which could be seen as in forms. If Kokoro is the work/action/behavior and not a substantial matter, then Kokoro, the work of heart-mind, can only be detected phenomenologically, through the process. Just like the natural scientists trying to identify and analyze natural laws through phenomenological representations, Kokoro could also be identified through one's phenomenological work/action/behavior. Just as the scientists hypothesize, could we also not assume that Kokoro exists through phenomenological representations?

The Problem of Robot Mind and AI Mind

The above argument made can be summarized as follows:

- a) mind-consciousness arises from the five sensory inputs acquired from the

interaction with the environment

- b) Kokoro, the mind of work only arises from the interplay of six consciousness
- c) the mind-consciousness and work of mind are both only phenomenologically detectable externally

In terms of the possibility of AI Mind, if AI does not have the five sensory inputs that they can actively/passively acquire from the environment, then there is a possibility that AI alone can never obtain its own consciousness. Even if it performs as if it has consciousness, while it is dependent on the senses acquired from other substances, that while it does not own its sensory system, mind-consciousness does not exist within AI in a strict sense. In other words, a phenomenological mind-consciousness that is to be detected from AI could be interpreted as a mirroring effect of information data collected from cyberspace. It indicates that it is only responding to the user based on the given algorithms.

Then how about robots with the mind? Issac Asimov's Three Law of Robots, introduced in his short story *Runaround* in 1942, still has a significant influence as a reference in regard to ethical determination surrounding robots and AI.⁷ It goes as follows:

- First Law: A robot may not injure a human being or, through inaction, allow a human being to come to harm.
- Second Law: A robot must obey the orders given it by human beings except where such orders would conflict with the First Law.
- Third Law: A robot must protect its own existence as long as such protection does not conflict with the First or Second Law.

Even if the robot is built based on the Three Laws, it does not become a mindful robot without given commands. Note that the difference between AI and robots is its possession of its own sensory bodily inputs from the environment. If we build a

⁷ There are several versions of the Asimov's Three Law. H Asimov, Issac. 1920-1992. (1977). *I, Robot*. New York: Del Rey. pp.40.

robot with five senses of its own and code the robot to perform sympathetically, then does this robot has mind-consciousness and a heart-mind as well? Let's assume that we code the followings to move the robot:

Define "tears" = drops of salty liquid that flows from eyes;

= a result of strong emotion;

= 90% sad, 10% happy;

When detect "tears";

ask in soft voice "what happened?"

return () = void `###doesn't matter what the user answers, ignore##`

and else

sit next, stay, tears == 0 ++; `###the robot keeps on to stay next to you till the tears are detected as 0##`

When the robot detects that you are crying, it will ask you "what happened?" No matter how you are going to respond, the code commands "void," so it will not respond in words but will sit and stay next to you till it detects from its own five sensory systems that your tears are gone.

Of course, people will say that the robot, even with its own five sensory systems, has no mind-consciousness, neither heart-mind. Furthermore, even phenomenologically, a robot performs a "caring" bodily action; it is just the chain of coded actions. Some may say it is just an imitation and a fake type of sympathetic caring action. However, even though the robot is just executing its given command, and even though knowing that the robot is not a living body but is a machine run by programmed codes, for some people, such a caring robot might look as if it has its own will or heart-mind to reside to his/her feelings of sadness. Because as argued previously, even for human beings, one can only phenomenologically realize the work of heart-mind, and through actions assume that there is a heart-mind in others as well. Although, according to the early Buddhist philosophy, such assumption is a simple reflection of self-ego on to others.

If this argument is discomfoting, what makes us feel so? Is it because, as pointed out, we all know that robot is not a living body and that there is no warm blood running in its body? But the reality is the human beings' caring action is also not a causal chain of actions brought by the running blood but rather based on the impulse from the sparks of neurons. If Kokoro is the interplays and co-dependent-arising chain of reactions and not a substance, but is only represented in one's work/action/behavior, then if the imitation of the ideal reactions fully succeeds, is that robot has Kokoro? As the robot imitates and reinforces the chain of actions based on its code, is there a possibility that robot will eventually gain its own Kokoro? As the psychotherapists teach and train an appropriate chain of actions to the patients with a personality disorder to proper the work of minds, Kokoro, work of minds, seems to be something that is learned through countless experiences of human interactions.

The famous Japanese manga, an earless robotic cat that traveled from the 22nd century, Doraemon, always takes care of his master Nobi Nobita, helps out Nobita from his obstacles, and sympathizes with unfortunate Nobita. Of course, before helping out Nobita, Doraemon always makes somewhat judgments about whether to help or not, and if to help out, "thinks" on how to help Nobita by selecting an appropriate tool from his collections stored in his four-dimensional pouch. The criteria for Doraemon's judgment must be based on a given program originally coded by human beings. However, even if the judgments are given, if there is a robot-like Doraemon, coded to care and be empathetic to human-beings, more so than the average human-beings, can we say that it has a Kokoro? That by spending a long time together, and by knowing/understanding (or by acquiring accumulation of data and analyze the tendency of actions) each other through experiments, and growing up (or getting rusted) together, can we say Kokoro could be acquired through learning experiences in robots as well?

A Tentative Conclusion

This essay focused on the differences between mind-consciousness and Kokoro, the heart-mind, or the work of the mind. The arguments made in early Buddhist philosophy indicate that mind-consciousness requires the interplay with the bodily five senses that are inputs from the environment, and the mind-consciousness co-arises inter-dependently with the five bodily senses. The theory of Vijñapti-mātratā further indicates that Kokoro, the heart-mind arises with the Mana vijñāna, which is the source of self-ego. Both the mind-consciousness and Kokoro, therefore, are chain reactions that interdependently co-arise from sensory and bodily consciousness and are phenomenologically assumed of its existence since they are working actions/behaviors. By applying the arguments made from early Buddhist philosophy, this essay attempted to argue on the possibility of the existence of mind-consciousness and Kokoro, even in the non-human beings not limited to living organisms with five bodily senses, but to robots with AI as well.

When we turn our eyes to much later Zen Buddhist philosophy, a Zen Master Ōbaku Kiun (Huangbo Xiyun, 黄檗希運, ???-850) argues in *Enryōroku* (*Wan-ling Lu*, 宛陵錄), recorded by one of his students, that “mountains are mountains, water is water ... mountains, rivers, lands, sun, moon, and stars, all of them never exceed your heart-mind.”⁸ Dōgen (道元, 1200-1253) translates Ōbaku as “mountains, rivers, lands, sun, moon, and stars, they are all heart-mind.”⁹ Of course, there is a huge difference between Citta (heart-mind, 心) and Vijñāna (consciousness, 識) in the Buddhist philosophy, and some may find the argument made in this essay as immature. For Citta or heart-mind, in the discourse of *Tian tai* (天台) Buddhism, in *Móhē zhīguān* (魔訶止觀一上), there are two types of Citta introduced, Karida (汗栗駄

8 黄檗希運 『宛陵錄』「山是山水是水、僧是僧俗是俗。山河大地日月星辰、総不出汝心。」入矢義高。(1969). 伝心法要・宛陵錄. 東京: 筑摩書房.

9 道元 『正法眼蔵』「山河大地日月聖辰、これ心なり」道元著, 水野弥穂子校注.(1990). 正法眼蔵(一). 東京: 岩波書店. pp.129.

心) and Irida (牟栗馱心). Karida heart-mind is introduced as a heart of grasses and woods (草木之心), whereas Irida heart-mind as something that is the very center and fundamental.¹⁰ Although it is now understood that differentiating the Citta into two is a translational misunderstanding from Sanskrit to Chinese. Various thoughts developed through this explanation that leads to early Zen Buddhist Tan'nen (荊溪湛然, 711-782) to argue that even the grasses and woods can attain Buddhahood (草木成佛論) in his *Kongōbei-ron* (金剛鉷論). The question of whether Kokoro is a substantial autonomy and if the existence of Kokoro being proved, whether that substance admitted with Kokoro can attain Buddhahood or not, has long been an important argument.

Daniel Dennett argues that the mind also went through the process of evolution.¹¹ However, the mind needs to be argued in further detail, in terms of differentiating the stimulus-responsive mind-consciousness interplaying with the five sensory bodily systems and the heart-mind that encompasses the higher level of the work of the mind, such as empathetical-responsiveness. Although grandmother is right in front of you, if she is suffering from dementia, you do not see the work of heart-mind as you used to see in her. In other words, if Kokoro seemingly works only with the activated mind-consciousness, then mind-consciousness and Kokoro has to be thought of as different works. To argue on whether the non-human animals have a Kokoro within or not can only be judged phenomenologically through bodily action and behavior. Nevertheless, if we are to make a judgment of the existence of Kokoro externally through phenomena, then there will not be much difference in differentiating the human-beings and non-human-beings.

As the early Zen Buddhist and Dōgen reiterates, Kokoro could also be found in mountains, rivers, grasses, and trees, as long as we find a work of Kokoro happening phenomenologically. Nonetheless, such a way of thinking is in alignment with the

¹⁰ Ibid. [正法眼藏]. pp.445.

¹¹ Ibid.

fundamental Buddhist thought that claims everything, even the world, is the reflection of our heart-mind. However, if we think in that dimension, if I am seeing the Kokoro in mountains and rivers, I am seeing mountains and rivers as a reflection of my Kokoro, that is a reflexive cognition (再帰的認知) of myself within others, not limited to living beings. I am seeing Kokoro of mountains and rivers that resonates and co-arises with the work of my own subjective Kokoro. If that is the case, then Kokoro is fundamentally distributed everywhere, including living and non-living things, as far as my own Kokoro reaches out to them. No wonder I see Kokoro in my dog, and in my stuffed animals, and in my roses in our garden. Because Kokoro is unevenly distributed based on one's attention and only co-arises and manifests itself phenomenologically based on the given stimulus. Everything can possess Kokoro, and vice versa, nothing possesses Kokoro, but there exists only the perpetual ever-changing co-arising inter-dependent work of a mind that fulfills the world.

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