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Why was the "I" created?

A hard trick set by the brain

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Foreword

You may be wondering from this title, "Is this a philosophical story? or about religion? or trying to talk about morality?" But it is not. I have already uploaded a paper on the Internet named "Where is the Mind?". This paper is a sequel to that paper, and it is an attempt to further delve into "the existence of the 'I'" from the standpoint of science.

For those who have already read the paper "Where is the Mind?", I think it is unnecessary, but I would like to first give an overview of the paper, and a supplementary explanation, and then get to the main topic of this paper. The URL of the papers "Where is the mind?", and that of "What am I?", and "What is 'being visible'?" which will be cited later, are shown in the "Afterword".

Definition of the words

Before beginning, I would like to explain four things about the use of words. The first is why, as the title of the paper suggests, is it written as the "I" with a quotation mark? This point will be explained in detail later at section (1-3) "The definition of the "I" inherent in the world of the mind", so for the time being, you may continue reading with a general interpretation.

Fig. 1 **The word**
before one's eyes



The second is the meaning of the words, "before one's eyes " such as "the world before our eyes " and "the world seen before our eyes", which will be used frequently from now on.

Please look at Figure 1. At first glance, it is a picture with a strange composition, but it is the world that I or you see through my or your eyes. In other words, it is the world that we can see when we open our eyes, and we cannot see when we close our

eyes. The world will be expressed as "the world before our eyes " or "the world seen before our eyes ". It will be explained later at section (1- 1) "the apparent world" but what is indicated by these are not about the material world. I hope you will keep this in mind.

Third is the word "apparent", which will be also used frequently. It is used in two ways. Namely, it will be used as "existence" or "act", but this will also be explained in detail later in section (1-3) "Explanation of words". For the time being, please think of it means "something different from what is considered by common knowledge".

Fourth is how to use "look" and "see". In Japanese, "見る"(miru) is used only as a transitive verb (vt.) and not as an intransitive verb (vi.). On the other hand, "見える"(mieru) is used only as an intransitive verb and not as a transitive verb.

In translating this paper into English, "look at" is used as a transitive verb, and "see" and "be seen" are used as intransitive verb, in addition to them "be visible" is used as the same meaning of "be seen". I am wondering about if there is a difference from the original usage of English, but I hope you will keep in mind that they are going to be used as such meanings.

For example, I will indicate as follows when we are turning our gaze to a coffee cup,

I look at a cup. (vt.), I am looking at a cup. (vt.),

and indicate the cup which appears in our field of vision because of gazing it as follows.

I see a cup. (vi.), A cup is seen. (vi.), A cup is visible.

Table of contents

Chapter 1 Outline and supplementary explanation of the paper "Where is the mind?"

(1-1) The apparent world

(1-2) Re-examination of "the existence of the 'I'"

An additional explanation / Am I looking at something? / Am I thinking about something?

(1-3) The definition of the "I" inherent in the world of the mind

The thought of the "I" / Sorting out the words / Explanation by using figures / Summary of "What is the mind?"

Chapter 2: Psychological Space

(2-1) Characteristics of psychological space

(1) The positions of the objects do not match

(2) Superimposition of characteristics

(2-2) Existence and Recognition

Chapter 3: Why was the "I" created?

(3-1) Two elements and two systems that make up the "I"

(1) Apparent body

(2) Apparent Mind

(3) Apparent Acts

(4) Systems of Superimposition and Synchronization

(3-2) The existence of the "I" in the world of the mind

(1) The "I" inherent in the world of one's own mind

(2) The meaning of being a copy of the external world

(3) Creation of the thought of the "I" from the apparent acts

(4) The Role of memory connecting two worlds

(5) Why was the "I" created?

Chapter 1: Outline and supplementary explanation of the paper "Where is the mind?"

(1-1) The apparent world

It all starts with the understanding of the fact that the world we see before our eyes is the "apparent material world" created by brain activity. This was the first point of discussion in the afore mentioned three papers. From this fact, we can derive the fact that our own body that we see before our eyes is also an "apparent body" created by brain activity. Furthermore, if we define the world created by brain activity as the world of the mind, then the world that we see before our eyes, including our own body, is the "world of the mind." Of course, this is under the premise that the material world and the physical body exist.

It is relatively easy to understand that the world we see before our eyes is not the material world, but the apparent material world, and there are many people who claim to do so, even if they do not specialize in philosophy, psychology, or cognitive science. However, it seems that the number of people who claim that their body seen before their eyes is an apparent body created by brain activity is small. I understood relatively early that the world before my eyes is the apparent material world, but it was a mystery why the apparent material world created by brain activity exists outside of my own body. I had assumed that my body seen

before my eyes is my physical body. The mystery was solved by a surprisingly simple reason.

If the world we see before our eyes is the material world, there will be many contradictions. One of them is the "counterexample of color". Namely, color does not exist in the material world. Electromagnetic waves reflected at objects as substance form an image on the retina of the eyes, which are converted into electrical signals and reach the brain. Colors are created by brain activity, and they color the world before our eyes. Therefore, it leads to the conclusion that the world before our eyes is not the material world, but the apparent material world created by brain activity. If we extend this logic, we can see the skin color at our body before our eyes. Therefore, the body before our eyes is also an apparent body created by brain activity. However, I don't think that this explanation will convince you, but there is no doubt that the interpretation of our own body before our eyes is hindering our understanding of the world before our eyes.

If we assume that the world before our eyes is the material world, various contradictions will arise, such as the "counterexample of color" that I have mentioned just now. In the same way, if we assume that the body before our eyes is the physical body, there also arise some contradictions. For more information, see Chapter 3, Section 4 of the afore mentioned papers "Where is the Mind?", or see Section 3-2 of "What am I?". It is explained in detail, so I would appreciate it if you could refer to it.

This paper begins from the starting point that both the world and our body we see before our eyes are the "apparent material world" and the "apparent physical body" created by brain activity. You may think, "It is too stupid to keep up a contact with your story.", but I would appreciate it if you could stay with me for a while. I'm not going to talk about mere suggestions or guess. I will proceed with the story in a logical way.

(1-2) Re- examination of "the existence of the 'I'"

Another point in the afore mentioned three papers was that what we assume as "I" in daily life is an "existence inherent in the world of our own mind" actually. In this paper, from the viewpoint that the mind is created by brain activity, and that the body and the mind are qualitatively different, but they are inseparable, the story starts by defining "I" as follows,

$$\text{"I"} = \text{my body} + \text{my mind} \quad \textcircled{1}$$

Common knowledge tells us that "my body" is a physical body that exists in the material world, and that "my mind" is an abstract being, as indicated by the words; intellect, emotion, and will. Of course, there is nothing wrong with defining the "I" in this way.

From common knowledge,

$$\text{"I"} = \text{my body} + \text{my mind (abstract existence as indicated by intellect, emotion, and will)}$$

②

However, it is important to note that we are not talking about the material world, but about the "world we see before our eyes", that is, "the world of the mind created by brain activity". Therefore, "my body" is the one that we see before our eyes, and as I have just said, it is the "apparent body" created by brain activity.

Now, let's consider one more thing about "my mind". We believe that "my mind" performs a variety of activities: I see, I hear, I feel, I think, I remember, I speak, I judge, I decide, etc. However, it seems that this is not the case. Let's take, for example, the act of "I look at." The details were explained in the paper "What is 'being visible?'", so I will limit myself to a brief explanation here.

Fig.2(a) The physical world

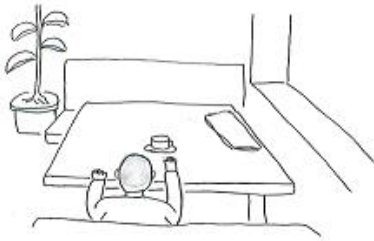


Fig.2(b) The word before one's eyes



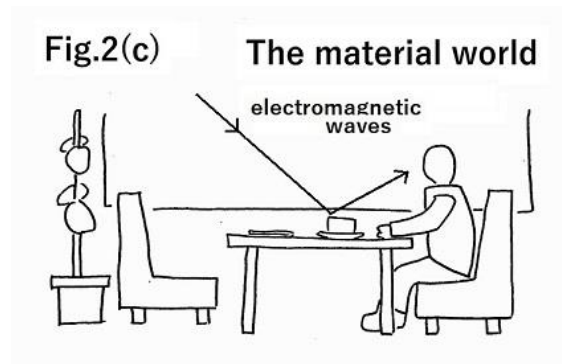
For example, let's consider a situation when "I'm looking at a coffee cup." Figure 2(a) shows a picture which is a little difficult composition to understand, but it represents the material world that spreads from behind some person to the front of that one. Certainly, in the "material world", the "act of looking at" can be defined. In other words, directing the eyes of the physical body to the coffee cup as a substance is the "act of looking at" itself. On the other hand, the "act of looking at" cannot be defined in the "world before our eyes" as shown in Figure 2(b). This is because the world before our eyes is the apparent material world and the body seen before our eyes is an apparent body, and it does not have eyes that are equipped in the physical body. Therefore, the apparent body does not have the function of "looking at".

It can be said that the coffee cup before our eyes is an "apparent existence" that exists in that position because of the act of looking at. This is because the person in Figure 2(b) has the feeling that "I am looking at" but is not actually "looking at". To mask this fact, the "thought of I am looking at" is prepared to the opposite direction of the "apparent gaze" that we believe is equipped in the apparent body.

Incidentally, since there is no color in the material world, the cups in Figure 2 (a), which represents the material world, and Figure 2 (c), which will be used next, are not colored, but the one in Figure 2 (b), which represents the world of the mind, is colored.

Additional Explanation

I think it's unbelievable for you that the world before your eyes is the apparent material world created by brain activity. If this idea is wrong, then all my arguments that I am going to talk about will collapse to the core. Therefore, I would like to explain it from a different perspective.



Look at Figure 2(c), which shows the scene of the material world in Fig. 2(a) from the side. A coffee cup is placed on the table. On the other hand, on the right, there is the physical body of a person who is looking at the scene. There is a complete physical separation between the two. The only thing that connects between the cup and the person's physical body is the

electromagnetic waves sent from the cup, if we take visual perception as an example. There is nothing else that unites the two. Moreover, it is a one-way flow from the cup to the person, and there is no work from the person to the cup except turning the eyes of the person's physical body to the cup. However, just because the person looks at it, it does not mean that the material world itself is taken in. What is taken in is only electromagnetic waves, and all that is obtained from them is just the image of an upside-down and left-right inverted coffee cup reflected on the retina.

However, when we turn our physical eyes to the coffee cup, the apparent material world, including the cup, appears in the world before our eyes as shown in Fig. 2(b), and we make the mistake of superimposing this situation on the material world shown in Fig. 2(a). As a result, we come to mistakenly perceive the world before our eyes as the material world.

Certainly, it is an indisputable fact that the material world exists around our physical body, and I am proceeding with the discussion based on that premise. As our gaze shifts, the apparent material world continuously appears before our eyes, so it is natural for us to think that it is the material world and that we are looking at it.

The confusion in this regard can be known from the use of two verbs in relation to the act of looking: "look at" and "see." If you are asked, "What are you looking at?", you will answer, "The coffee cup before my eyes." On the other hand, if you are asked, "What do you see?", you will answer "the coffee cup before my eyes". You can know that the coffee cup before your eyes is interpreted in two meanings. To mask our misconceptions, there are two types of verbs: transitive verbs and intransitive verbs. Again, it is true that there is the material world around

our physical body. The root cause of this misconception is the misinterpretation that the apparent body before our eyes is the physical body. As I mentioned earlier, it is explained in detail at Chapter 3, Section 4 of the paper "Where is the Mind?" and in Section 3-2 of the paper "What am I?", so I would appreciate it if you could refer to it.

Am I looking at something?

The original meaning of the coffee cup seen before our eyes is that it is not a cup as a substance, but an "apparent cup" created by brain activity because of the act of looking at and it exists at that position. In other words, it is not "I am looking at the cup", but "The cup exists at that position before our eyes." Applied to Figure 2(b), the coffee cup seen before our eyes is not directly related to the act of "I am looking at", but it exists at that position where it is being visible. Therefore, the act that accompanies the "thought of 'I am looking at'" in this case is an "apparent act", and "my mind" that accompanies the "thought of 'I am looking at'" is not actually performing the "act of looking at", so it can be said that it is an "apparent mind". In fact, as I have already mentioned, the true meaning of the "world of the mind" is the entire world before our eyes, including our own body before our eyes. From now on, we will distinguish the "mind as common knowledge" from the true meaning of the "world of the mind" and name it as an "apparent mind".

The expression "Objects exist at the position where they are visible" may seem the same as common knowledge. It is true in the material world. However, please note that what we are discussing is not the material world, but the apparent material world created by brain activity, that is, the world of the mind. It is not something a matter of course.

The fact that we can know the existence of the coffee cup before our eyes even though we are not looking at it means that the object before our eyes is "existence and at the same time recognition". We tend to think that recognition is a high-level function that is different from the world before our eyes, and it takes place deep in the mind, so to speak, but even if it is a form of lower-order recognition, there is no doubt that "existing before our eyes" is a form of "recognition".

In fact, the world we see before our eyes is the "world of the mind" created by brain activity, so it is not particularly strange when we think like it. In addition, the fact that the existence before our eyes is also a recognition is important when coming to think about the "existence of the 'I'". Recognition is discussed in Chapter 4, Section 2 of the afore mentioned paper "Where is the Mind?", and in Section 4-2 of "What am I?" It is explained in detail, so I hope you will refer to it.

We will also consider "existence and recognition", later in section (2-2).

Am I thinking about something?

Although the three papers mentioned above do not address this theme, let us consider the act of “I am thinking” by taking Figure 3 as an example.

**Fig.3(a) Inversion
of a figure**



First, mentally flip the shape shown in Figure 3(a) upside down, and then also flip that shape horizontally. I don't think this is a particularly difficult task. The result of what kind of shape this will become is shown in paragraph two steps below.

In the face of such challenges, I think we manipulate the shape before our eyes variously in our “apparent mind” by using the shape as a clue. Perhaps behind this, brain information processing works, and I assume that very short-term memory is involved in holding the image. At the same time, I think that through manipulating the image before our eyes, we hold the thought of “I am thinking.” It is undoubtedly true that the brain engages in the manipulation of images before our eyes as its function. However, as I mentioned earlier, there is no actual act of “I am looking at the shape before my eyes.” It's just “being visible.” Nevertheless, being to derive an answer suggests that while we have the thought of “I am thinking,” it must be said that this is merely an “apparent act”.

The “existence of the ‘I’” that accompanies the thought of “I am looking at”, as mentioned earlier, can be said to be an “apparent existence”. In the same way, that the “existence of the ‘I’” that accompanies the thought of “I am thinking at” can also be considered as an “apparent existence”. However, even if we call it an “apparent act” or an “apparent existence”, it is hard to believe that something utterly useless exists in the world before our eyes. The same can be

**Fig.3(b) The result
of inversion**



said for the figure shown in Figure 3(a). It should serve as a clue for thinking. This point will be discussed later in section (3-1).

The figure flipped upside down and left to right is figure 3(b).

As another example, let's consider the case of solving a math problem. When we are taking a math exam, we think we can solve it but cannot solve it. The time goes by heartlessly, and we leave the classroom with a feeling of regret. After that, I suppose there are many people who have had the experience of suddenly knowing the answer, even though they have not thought about the problem.

In another case, many researchers have said that new discoveries and ideas suddenly come to mind when they are relaxing, such as during taking a walk or taking a bath. Of course, before that, it is a prerequisite that they have taken enough time to work on the problem.

As can be seen from these examples, we tend to think that problem-solving only occurs when we are consciously addressing it, because there is the thought of "I am thinking." However, this is not the case. While it may not apply to all thinking, it is also true that the act of "I am thinking" often results from the information processing of the brain automatically.

(1-3) Definition of the "I" inherent in the world of the mind

I think it would be problematic to conclude everything from only two examples: "I am looking at" and "I am thinking", but it turns out that when we think "I am doing these acts" the "I" is not doing any specific acts, but they are "apparent acts" with no substance. In other words, if we interpret the acts that are carried out based on the thoughts of "I am looking at" and "I am thinking" as being carried out in "my mind," then it seems reasonable to think that "my mind" is an "apparent existence" that does not involve substances.

Therefore, the equation ① is will be expressed as following.

$$\text{the "I" (an apparent existence)} = \text{Apparent body} + \text{Apparent mind} \quad \textcircled{3}$$

What is indicated by the equation ③ will be redefined as the "I". In other words, the existence of the "I" consists of an "apparent body" and an "apparent mind", so to speak, and does not perform "acts involving reality". If we consider equation ③ from the opposite point of view, we can interpret it as the "I" being created from an "apparent body" and an "apparent mind" as shown in the following equation. It will be discussed in section (3-2).

$$\text{Apparent body} + \text{Apparent mind} \rightarrow \text{the "I" (an apparent existence)} \quad \textcircled{4}$$

Now, I would like to review how the mind is perceived by common knowledge. As the words, "knowledge", "emotion", and "will" indicate, "knowledge" represents looking, listening, thinking, speaking, remembering, etc., "emotion" represents joy, anger, sadness, etc., and "will" represents making decisions, doing, etc. Since all of these are thought to be carried out by brain activity, it can be said that the mind is created by brain activity. At the same time, it is necessary to pay attention to the fact that these acts are carried out under the "thought of the 'I'".

The thought of the "I" (私という思い watasi toiu omoi)

It is generally believed that the "I" is engaged in acts related to knowledge, emotion, and

will, based on the thought that "I am performing these acts." But it is not true. As I have just said, the "I" is not engaged in "acts of reality". However, as the thought that "I am performing these acts" exists, the existence of the "thought of the 'I'" is not denied. As I mentioned earlier, when you think you are looking at an object before your eyes, it is true that there is a thought that "I am looking at it" in the opposite direction of the apparent sight line. However, it is undoubtedly different from what we think. This is because the "I", which consists of the "apparent body" and the "apparent mind," does not perform the specific acts that we think as common knowledge.

The "apparent mind" that is accompanied by the "thought of the 'I'" is different from the "apparent body" and cannot be directly recognized. If it is an "apparent body", the existence in the world before our eyes is simultaneously recognition, so we could acknowledge its presence by directing an apparent gaze towards it. However, the other "apparent mind" cannot be directly recognized. We can only recognize its existence through the thought of "I am doing these acts." In other words, we can only recognize its existence through thoughts like "I am looking at", "I am thinking", and so on. This must be the reason why the "existence of the 'I'" which consists of an apparent body and an apparent mind is an elusive and mysterious existence.

The phrase of the "thought of the 'I'" may be like the philosophical term of "Self-Recognition" or "Self-Consciousness". Indeed, there may be similarities, but since the "thought of the 'I'" is a concept tied to "acts", as seen in expressions like "I am looking at." etc., I will use it as a term with a meaning different from the philosophical terms. However, it is a fact that the "thought of the 'I'" and "self-recognition" are similar, so for the time being, it is acceptable to interpret both as having the same meaning and proceed with the reading.

One point I would like to point out here is that when we say, "my mind" consists of knowledge, emotion, and will, then the "thought of the 'I'" serves as the core of the "apparent mind". It will be discussed the details later in sections (3) and (4) of (3-2).

Sorting out the words

In addition to the fact that the story is difficult to understand to begin with, I think that the use of confusing words makes the story even more difficult to understand. Therefore, I would like to clarify the meaning of the words and summarize the story so far by using figure 2 again.

First, the meaning of the word "apparent" is different from what we think in common knowledge. It is used in two main meanings.

The one is when we focus on "existence". Namely, the "original objects exist in the material world". These are the terms; the "apparent material world", "apparent objects" and "apparent

physical bodies", and they correspond to the "material world", "material objects" and "physical bodies". In summary, it looks like this:

the apparent material world → the material world

apparent objects → objects as substance that exist in the material world

apparent physical bodies → physical bodies

Another one is when we focus on "acts" as opposed to "existence". For example, the act of "I am looking at" that I mentioned earlier is the case. It is true that the physical body performs the act of looking at, but in the world before our eyes, although we are directing our apparent gaze to apparent objects, we are not performing an act that involves any reality. Or, as another example, when we reach out for the coffee cup before our eyes, it is true that in the material world the physical hand is extended toward the cup, but the apparent hand before our eyes does not extend it toward the material cup.

Since the brain is engaged in various activities, it is true that it is processing information such as vision. But under the definition that the world created by brain activity is the world of the mind, the term "apparent acts" is not used to mean that the "I" is engaging in those acts that are accompanied by those entities.

The expression an "apparent mind" expresses that is located at the head of the apparent body and does not perform any substantial acts, while the true meaning of the "world of the mind" is the whole world that spreads out before our eyes. Please note that it is different from the "mind as common knowledge".

The term "apparent the 'I'" is used in the same meaning as the "I" that is consisted of an "apparent body" and an "apparent mind".

This paper deals with the "I" as an "apparent existence". It can be summarized in the following figures.

Explanation by using figures

Now, let's summarize what we've talked about so far using Figure 2 again. Fig. 2(a) represents the material world. In the world a physical body exists, and information is processed by the brain located in the head. This represents the state indicated by equation ②.

On the other hand, Figure 2(b) shows the "world of the mind" as a whole, representing the world of the mind created by brain activity. It's a confusing figure, but it's the world that is

seen through my eyes or your eyes. In the "world of the mind", a coffee cup is depicted, which is an "apparent object", as well as the arms and legs, which are part of the "apparent body" of mine or yours.

The "apparent mind" cannot be directly represented in the figure, but is in the head of the apparent body and is indirectly recognized by the apparent acts such as "I am looking at", "I am thinking", etc. To put it another way, it shows a situation in which the "I", consisted of the apparent body and the apparent mind, is inherent in the world of one's own mind. This illustrates the situation shown by equation ③.

It cannot be directly represented in the figure too, the "apparent gaze" is directed at the "apparent coffee cup". As I mentioned before, the apparent body is not equipped with eyes. There is also no brain to process information. Nonetheless, the thought of "I am looking at" is created in the reverse direction of the "apparent gaze". Or the thought of "I am thinking" is also an apparent act. Therefore, it is an "apparent mind" or an "apparent the 'I'" who is supposed to be doing such activities.

In the paper "Where is the mind?", the terms the "apparent mind" or the "so-called mind" are used, while in the paper "What am I?", the term "apparent mind" is used.

This paper will proceed by using the term "apparent mind".

Summary of the paper: "Where is the mind?"

This is the overview and supplementary explanation of the paper 'Where is the mind?' In summary, there are the following four points.

- ① The world and the body that we see before our eyes are the apparent material world and the apparent body created by brain activity. The world created by brain activity is defined as the "world of the mind", then they are all apparent existence inherent in the world of the mind.
- ② In the world before our eyes, acts such as "I am looking at" do not exist, they are "apparent acts". The fact that we can recognize the existence of objects before our eyes means that they are existence and simultaneously recognition.
- ③ The "I" consists of the "apparent body" and the "apparent mind" and is "inherent in the world of one's own mind". On the other hand, the "thought of the 'I'" exists in the opposite direction of the apparent gaze, based on the "thought of being performing these acts". It cannot be directly recognized, can only be recognized by the "thought of being performing these acts".

Chapter 2: Psychological Space

The review about the paper "Where is the mind?" has become lengthy, but let's proceed to consider how the "I" that is inherent in the world of the mind was created and why it was created.

(2-1) Characteristics of Psychological Space

The world involving our apparent body that unfolds before our eyes is the apparent world. They are created by brain activity, which means it is the world of the mind. Therefore, all elements that are said to constitute the mind—knowledge, emotion, and will—are included there. Thus, I will define this space that encompasses all of them as "psychological space" and proceed with the discussion. From now on too, I will continue to use the terms the apparent material world, apparent objects, and apparent physical bodies. The term "psychological space" will be used in contrast to physical space, just as physical space refers to the space in which matter exists, and psychological space will refer to the space that contains apparent objects and apparent physical bodies. However, I will refrain from discussing whether psychological space exists independently of physical space.

(1) The positions of both objects do not match

When considering psychological space in contrast to physical space, there are two important points to keep in mind. The first is that the location of apparent objects in psychological space does not match that of the corresponding objects as matter in physical space. For example, when reaching our apparent hand to grab a coffee cup before our eyes, we can undoubtedly grasp it. From this kind of experience, we might get the impression that the location of apparent objects in psychological space coincides with that of the corresponding physical objects. It is certainly true that the apparent coffee cup exists in front of the apparent body, while the material coffee cup exists in front of the physical body, and this "mutual positional relationship" is undoubtedly consistent. I do not intend to deny that.

What I would like to point out here is that the thought is incorrect that the coffee cup as a material object and the hand as a part of the physical body exists at the position where they are currently visible. Though it is not a strict expression, to put it simply, it does not mean that material objects exist at the opposite position of the apparent objects we see now. Furthermore, it does not mean that psychological space and physical space are in a relationship of two sides of the same coin.

In fact, the world we see before our eyes is the world of the mind created by brain activity, and it has no direct relationship with the material world. We can grasp a coffee cup which is a material object by extending our apparent hand, because there is a system that synchronizes both, that is, the “synchronization system”. The reason we can smoothly carry out our daily lives is due to the superiority of the synchronization system that skillfully connects the two worlds.

However, it is not perfect. There are many instances when the system causes confusion. For example, when using a comb in front of a mirror, there is no confusion in the left and right movements, but since the depth direction is reversed in the reflected world, if you are not used to it, you might struggle to use the comb effectively. Some might say, “That is about the world reflected in the mirror, not the real world,” but I would like to point out that the world reflected in the mirror is also the apparent world created by brain activity.

(2) Superimposition of characteristics

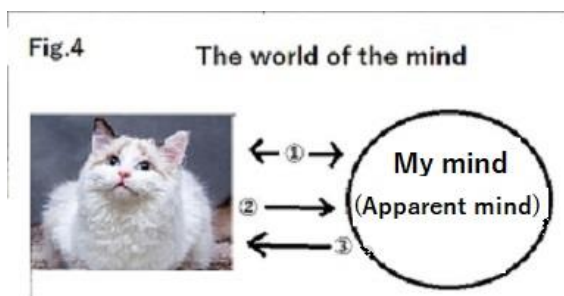
The second is the problem about the superimposition of characteristics associated with psychological activities. In psychological space, various psychological activities exist as indicated by the following terms: intellect, emotion, and will. For example, in terms of vision, there are apparent objects, and in terms of hearing, there are apparent sounds. And, in terms of an apparent body, there are touch, pressure, and taste, etc. Furthermore, as higher-level activities, there are emotion, memory, learning, thinking, and language, etc. It is necessary to pay attention to how these different types of activities are arranged in the appropriate positions within psychological space, that is, the problem of the “superimposition system”.

It is well known that there is visual dominance over auditory. For instance, when listening to the audio of a television show through earphones, the voices of the characters ought to be heard right next to your ears. In fact, if you are not looking at the screen, the sounds are heard directly from your ears. However, when you are watching the screen, it feels as if the voices are heard from the characters' mouth. Rather than feeling like we can hear it, the voice exists at the characters' mouth. You might feel unfamiliar with the expression “the voices exist”, but if asked, “Where does the voice sound from?” the only option is to answer, “from characters' mouth”. There is no doubt that the sounds exist, and if they exist, the locations should be identifiable. This kind of doubt likely stems from the fact that it's harder to pinpoint the location of auditory perception compared to visual or tactile perception. In this way, I will refer to the superimposition of different characteristics in psychological space as the ‘superimposition system’.

The positioning of these heterogenous characteristics in an appropriate location within

the same psychological space does not remain merely in the senses. The same applies to emotions. For example, when a kitten appears before our eyes, the thought of being cute arises in the “apparent mind”, but at the same time, we also recognize that the cuteness is being projected onto the kitten before our eyes.

The same applies when a tiger appears before our eyes. If it is behind the bars of a zoo, some people might think of it as a cute big cat. However, if it suddenly appears in the jungle right before our eyes, it is not hard to imagine the extent of the fear that would arise. At this case, the fear is a part of the “apparent mind”, and at the same time, the fear also attaches to the tiger itself.



In this way, the superimposition of different senses and emotions on the same object before our eyes are not particularly strange when we consider that the world before our eyes is the world of the mind created by brain activity.

The issue here is the relationship between the “feeling of cuteness” when facing a cat and the “cat before our eyes.” In other words, as shown in Figure 4, the “feeling of cuteness”

① Is it conveyed from the "apparent mind" to the "cat before our eyes"?

or conversely,

② Does it arise in the "apparent mind" through the "cat before our eyes"?

or

③ Does it arise simultaneously in both the "cat before our eyes " and the "apparent mind"?

It may seem like a simple matter, but it undoubtedly becomes an important point when considering the nature of the world before our eyes.

As it will be discussed later in section (4) of (3-1), this kind of superimposition is closely related not only to sensations and emotions themselves but also to the more advanced notion of the “thought of the ‘I’”.

In other words,

the "I" = apparent body + apparent mind ③

In equation ③, various sensations and emotions are arranged at the appropriate positions related to the apparent body and the apparent mind. On the other hand, as shown in items ② and ③ of Figure 4, if emotions, etc., are created from the objects before our eyes towards the “I”, this becomes significant when thinking about the “I”.

In other words, higher-level thoughts such as “looking at” or “thinking” are also

appropriately positioned. For example, regarding the act of “looking at”, the thought “There is one who is looking at” is created in the “apparent mind” in the opposite direction of the apparent gaze. When we say “thinking”, we often use language, but along with the use of words, the feeling that “There is one who is thinking” is indeed produced in the “apparent mind”. In this way, various characteristics such as sensations, emotions, and even the “thought of the ‘I’” are likely to play a significant role in the “creation of the ‘I’” as they unfold in relation to the events in the world before our eyes.

(2-2) Existence and recognition

You might think this theme is trying to discuss philosophy, but that's not the case. It will be about how existence and recognition are understood in physical and psychological space.

First, this is a discussion in physical space. In physical space, no facts have been revealed that directly link existence and recognition. To put it boldly, recognition arises from the functions of the brain composed of matter, and while there may be discussions about the relationship between the brain and recognition, there is no discussion about the relationship between the existence of matter and recognition itself.

On the other hand, it may be expressed that machines controlled by computers recognize what their targets are and deduce answers. Indeed, the information processing mechanisms of computers that identify what their targets are bear similarities to the information processing mechanisms of the brain, and expressing that process as recognition may, in some sense, be reasonable. It is a fact that various machines utilize computers to process information and perform advanced tasks. However, it seems unreasonable to think that this process is the same as the recognition mechanisms unique to living beings such as humans.

On the other hand, in psychological space, the questions of “How are apparent objects created in psychological space?” and “How does that lead to recognition?” become challenges that need to be addressed. While the detailed mechanism of the former is not well understood, physiological systems such as vision and hearing produce apparent objects based on visual perception or apparent sounds based on auditory perception, which then become existence in the psychological space. Regarding the latter, it may be speculated that the brain's information processing overlaps related contents at the apparent objects through the superimposition system, leading to recognition.

**Fig.5 The world
before one's eyes**



Please look at Figure 5(a). You can likely see that it is a circle, but it is a figure that has no notable features other than that. Still, I think you can understand that a figure exists. Next, please look at Figure 5(b). New features have been added to the previous figure. As a result, I think you can infer that it might be an

apple. It can be said that there has been a shift from a lower level of recognition where we understand the existence of something without knowing what it is, to a higher level of recognition where we understand what it is. This change is likely influenced by the superimposition system, which assigns meaning to figures.

It is often thought that recognition arises from a separate stage beyond the world before our eyes, but rather, it can be said that being visible or being heard is recognition itself, which reflects the characteristics of psychological space.

Namely, there are two types of recognition. One is that the existence itself in psychological space is recognition (Stage 1), which is a type that is self-contained within psychological space. The other is the understanding of what it is (Stage 2), where information processing of the brain is involved, and the meaning is projected on it through the “superimposition system”.

Chapter 3: Why was the “I” created?

What is going to discuss here is not the existence of the “I” in the physical space as represented by the following equation,

$$\text{“I”} = \text{a physical body} + \text{an abstract existence} \\ \text{indicated by intellect, emotion, and will.} \quad \textcircled{2}$$

but it is about the 'I' that exists in psychological space shown by the following equation.

$$\text{The "I"} = \text{an apparent body} + \text{an apparent mind} \quad \textcircled{3}$$

(3-1) Two elements and two systems that constitute the “I”

As shown in the equation ③, the components that make up the “I” are the two elements of an “apparent body” and an “apparent mind”, which are supported from the brain information processing by the “superimposition system” and the “synchronization system”. That is, the two elements are

an "apparent body" and an "apparent mind"

and two systems that support those relationships are,

the "superimposition system" and the "synchronization system".

Furthermore, among these, it can be said that the core aspect of the “existence of the ‘I’” is carried by “apparent acts”.

Namely, the key to understand the “I”, which is composed of these two elements and two systems, is “apparent acts”, and what backs them up are the “superimposition system” and the “synchronization system”. Through “apparent acts”, the “apparent body” acquires the meaning of “my body”, and the “apparent mind” acquires the meaning of “my mind”.

These two elements and two systems do not exist independently of each other; rather, they are in a complementary relationship and together constitute the “world of the mind”. In fact, I would like you to keep in mind that both elements exist in the same psychological space.

I will explain about those from now on, but since they are closely related to each other, there will be some overlap in the discussion. Thank you for your understanding.

(1) Apparent Body

The thought that "The world before our eyes is not the material world " may be difficult to accept, but even more difficult to accept is the interpretation of our own body before our eyes. As I have mentioned before, it is not a “physical body”, but an "apparent body" created by brain activity, which may be hard for you to accept.

There are various reasons why the apparent body before our eyes is mistakenly recognized as the physical body. From a visual perspective, the apparent body seen before our eyes itself is existence and at the same time recognition. In addition to being visually recognized, the apparent body is further deepened in meaning as one's own body by being superimposed with sensations such as touch, pressure, and pain. For details, I would like you to refer to the relevant papers introduced in section (1-1) "The apparent World". However, one thing I would like to mention here is that the "apparent acts" that I will discuss later play a significant role in the interpretation of the "apparent body" and further the "apparent mind".

As you know, a series of experiences from infancy play a significant role in recognizing the body before our eyes as our own body. From the stage where infants cannot roll over, they engage in actions such as staring at toys suspended above them and reaching out towards them, experiencing "apparent acts" where the apparent hand they see before them unfolds in coordination with their intentions. Furthermore, the sensations brought about when the apparent hand touches the toy further deepen their recognition as their own body. The apparent body itself is a passive existence, but as known from the current example, it becomes

an active presence through apparent acts. What we are discussing here, of course, is based on the premise that the physical body exists and the apparent acts are based on the behaviors of the physical body. In this way, it is important to note that the apparent acts accompanying the apparent body play a crucial role in the apparent body acquiring the meaning of the physical body.

(2) Apparent mind

When it comes to how the mind is interpreted, for example, for relatively lower-level activities, they are such acts as looking, hearing, and moving hands. On the other hand, for more advanced activities, they are such acts as thinking, remembering, and making decisions.

Certainly, it is an undeniable fact that these acts are based on the brain's information processing. However, at the same time, these conscious phenomena can be considered “apparent acts” in the world of the mind, which give rise to the “apparent mind”, and simultaneously seem to create the “thought of the ‘I’”.

As I have mentioned before, the “apparent mind” is different from the “apparent body” and cannot be directly recognized. It is recognized according to apparent acts such as “I am looking at.”

For example, from the thought of “I am looking at,” through the “superimposition system”, a thought arises that “There exists the ‘I’ that is looking at” behind the apparent eyes of the apparent body, that is, in the opposite direction of the apparent gaze, thereby obtaining a place of the existence of the “I”. Furthermore, through the synchronization system, the thought that one can manipulate the apparent body leads to the acquisition of the meaning as an acting entity. It will be defined as an “actor”.

It can be said that the “apparent mind” has its origin in the “apparent acts”. Details will be discussed in section (3) of (3-2). The reason why I use the term the “apparent mind” is because, as we have already discussed, the true meaning of the “world of the mind” represents the entire world before our eyes, including our own body, which is different from the “apparent mind”.

(3) Apparent acts

The “apparent acts” refer to the ones that are seen on the apparent body in the world before our eyes. For example, the acts we experience in our daily lives, such as “I am looking at”, “I am moving my hands”, and “I am thinking”, are indeed apparent acts that are accompanied by corresponding activities of the physical body. Regarding “I am looking at”, the eyes of the

physical body are turning towards an object. Regarding “I am moving my hand”, the physical hand is moving towards an object. Concerning “I am thinking”, the brain is processing information.

However, the acts unfolding before our eyes, while being given meaning through the systems of superimposition and synchronization, are ultimately merely apparent acts and do not involve acts with reality. It seems possible to consider that these apparent acts, linking the apparent body and the apparent mind, lead to a sense of unity that cannot be separated.

There is a strong notion that the body and the mind are separate entities. In fact, as shown in equation ②, common knowledge views them as distinct. However, in the world of the mind, the two are an integrated existence, and it seems that the “apparent acts” serve to create that sense of unity and connect the two. Through apparent acts, the apparent body acquires the meaning as the physical body, while the apparent mind acquires the meaning as the mind.

Details will be discussed later in section (3) of (3-2).

(4) Systems of Superimposition and Synchronization

The superimposition system refers to the fact that one characteristic superimposes with another certain characteristic on the same object that exists within psychological space, as mentioned in section (2) of (2-1). For example, voices superimpose with the characters on the television screen seen before our eyes, or the feeling of cuteness superimposes with the kitten before our eyes, and furthermore, the thought "I am looking at a kitten" evokes the feeling of cuteness in our apparent mind. The superimposition system supports the coexistence of seemingly different characteristics in psychological space by allowing them to superimpose in appropriate positions.

The synchronization system refers to the alignment that the apparent body and the physical body move in harmony, which was mentioned in section (2) of (2-1). For example, when our apparent hand is moving towards an apparent coffee cup, our hand as a physical body is also moving towards the coffee cup as a material object. This is the synchronization system. Here, the issue is which movement occurs first. Common knowledge suggests that the movement of the physical hand comes first, and it is then followed by the apparent movement of the apparent hand. Indeed, considering that the world before our eyes is a copy of the material world, this seems to be a very natural thought.

However, a problem arises here. It concerns the role that what "being visible" plays. For example, when reaching our physical hand for a coffee cup in the material world, the issue is how we judge whether our hand is correctly aimed at the cup. Simply put, if we are not aware of the condition of the hand moving toward the cup, it must be impossible to control the movement of our physical hand.

Certainly, recent machines have excellent functions and can skillfully tackle tasks even without the human-like conscious phenomena. This must be because they are building a different information processing system than humans. However, the issue we are discussing here is about human information processing, and I will talk about this point in the next section.

(3-2) The existence of the “I” in the world of the mind

As I have already mentioned, this paper is progressing under the following three schemas regarding “I” or the “I”. Namely, I started the story under the idea that the “existence of the ‘I’” consists of two elements: “my body” and “my mind”.

$$\text{“I”} = \text{my body} + \text{my mind} \quad \textcircled{1}$$

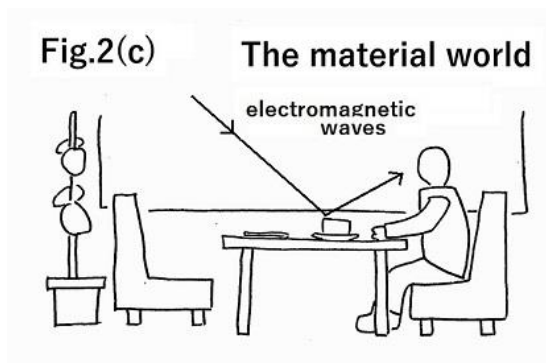
And, in terms of common knowledge, it can be said that it is thought to be composed of the following two elements.

$$\begin{aligned} \text{I} = & \text{the physical body} + \text{the abstract mind} \\ & \text{as indicated by emotions, thoughts, and will.} \quad \textcircled{2} \end{aligned}$$

On the other hand, as the “I” is composed of an “apparent bod” and an “apparent mind”, this paper is proceeding with the following scheme.

$$\text{the “I”} = \text{an apparent body} + \text{an apparent mind} \quad \textcircled{3}$$

(1) The “I” inherent in the world of one’s own mind



Let's proceed with the discussion using Figure 2 once again. Please take another look at Figure 2(c). It represents the state of the existence of “I” in the material world as shown by equation ②. On the other hand, Figure 2(b) depicts the situation in which the “I”, as indicated by equation ③, exist in the world of the mind. The schematic in ③ suggests that the “I” is composed of an “apparent body” and

an “apparent mind”, which may give the impression that the “I” exist independently from the surrounding world. However, that is not the case. Under the definition that “the world produced by brain activity is the world of the mind”, the “world of the mind” encompasses everything including the apparent body before our eyes.

**Fig.2(b) The word
before one's eyes**



From this interpretation, it is indeed a strange matter, but it means that the “I” consisted of an “apparent body” and an “apparent mind” and exists within the world of one’s own mind. In a sense, it presents the appearance of a nested structure. Therefore, the question “Why was the ‘I’ created?” must first answer to addressing the question “Why was the world before our eyes created?” I will discuss this point in the next section.

(2) The meaning of being a copy of the external world

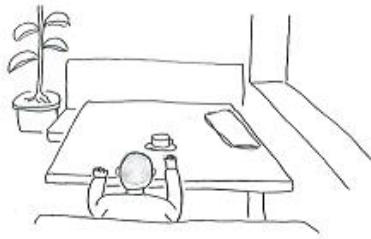
There is no doubt that various organisms, starting with humans, possess excellent information processing capabilities through their brains. However, we do not have the vast memory capacity as computers, nor do we come close to computers in terms of processing speed. Nevertheless, even under such conditions, we skillfully live in the external world. It can be said that creating copies of the external world and utilizing them is what compensates for the weakness.

The world and our body seen before our eyes, in a sense, a copy of the material world and the physical body. Of course, it is not a perfect copy. In fact, if you place a photograph of someone's face before your eyes and look at it, it becomes immediately clear. Just by shifting your gaze slightly, the photo becomes blurred, and you can no longer tell whose face it is. One might insist that “The blurriness is due to the reduction in our eye resolution caused by the shift in gaze.” That is exactly right. It is the low resolution that causes this blurred image to appear in the world before our eyes. In other words, I think this will serve as one piece of evidence that the world before our eyes is not a material world, but an apparent world created by brain activity. What do you think?

Furthermore, how different the material world (the external world) from the world before our eyes are explained in Chapter 2, Section 1 of the paper “Where is the Mind?” in the section “Actually, the Strange Material World”, so I would appreciate it if you could refer to it.

What is expressed here as the “copy of the external world” refers to the shape of the objects and their positional relationships in the two worlds. For example, as shown in figure 2(b), the coffee cup that exists in the world before our eyes represent the shape of the cup as a material object, and is positioned before the apparent body. Similarly, in the material world, as

Fig.2(a) **The physical world**



illustrated in figure 2(a), the coffee cup as a material object exists in front of the physical body. This relationship is referred to as the "copy of the external world".

Even if we call it a copy of the external world, it is not just a mere copy. Behind it there are important elements such as the "superimposition system", the "synchronization system", and "recognition". First, through the superimposition system, the coffee cup seen before our eyes gains the meaning of a vessel for drinking coffee, while the hand before our eyes take on the meaning of a physical hand. Consequently, in relation to the "desire" to drink coffee, the coffee cup becomes the "inducement" for action, and our hand becomes the "means" to take the cup. It is important to note that the existence in the world before our eyes is also recognition, and it plays a crucial role.

One of the advantages brought about by the existence of a copy of the external world can be cited as the efficiency of information processing through the synchronization system. In the material world, when a hand as a physical body moves towards a coffee cup as a material object, based on the synchronization system, the apparent hand before our eyes move towards the apparent coffee cup. By using the movement of this apparent hand as an indicator, it becomes possible to control the hand as a physical body in the material world.

"Existing in the world before our eyes is also recognition." contributes to the simplification of the steps of information processing. For instance, when we reach out our apparent hand to an apparent coffee cup, if the hand is misaligned to the left or right of the cup, the misalignment will be recognized because of "being visible is also recognition". It is assumed that recognition occurs by transferring from the situation before our eyes into another phase. However, it is completed in the world before our eyes.

It will be discussed how the synchronization system is formed in section (4) of (3-2).

The Role of Words

When considering information processing, one thing to note is the role of words. Namely, it is not necessarily correct to think that the activity unfolding in the world before our eyes cannot be controlled without the use of words. Let's consider again the example of reaching for and grabbing a coffee cup, as shown in Figure 2(b).

In a situation when there is a power outage due to a typhoon, and you must carefully bring

your hand close to the cup relying on the light of a candle, you might think of the word “approaching”. However, it is not the word “approaching” that makes it recognized that your hand is approaching. Rather, the scene itself before your eyes, which is “approaching”, is the recognition, and as a result, the thought of “approaching” arises, and it becomes being verbalized. In other words, there is a temporal gap between recognition and its verbalization. In fact, when we consider our daily acts, most of them are not verbalized. Even in the case of animals that are considered to lack linguistic functions, they can control their behavior. It can be thought that animals that have reached a certain level of evolution control their actions within a framework of the apparent body and the apparent material world, like us humans.

Indeed, in cases when advanced reasoning is employed, words are necessary, and it is undeniable that they play an important role. However, I want to point out that it is a mistake to think that we cannot control the act of bringing our hand close to a cup without words.

As can be known from such an example, existing in psychological space is simultaneously recognition. And moreover, because of the brain's information processing, various meanings are assigned to the objects before our eyes through a superimposition system. One part of the answer to the question posed earlier, "Why was the 'world before our eyes' created?" is that it is advantageous in terms of information processing to "create a copy of the external world in psychological space".

(3) Creation of the thought of the “I” from the apparent acts

As it has already been mentioned, the “thought of the ‘I’” forms the core of the “apparent mind”, but it is not recognized directly. Rather, it is believed to arise from the idea of an “actor”, that is, “one who acts”, which derives from “apparent acts”. To understand why this is considered so, let's think through the “apparent acts”, such as “I am looking at”, “I am moving my hands”, and “I am thinking”, discussed in section (3) of (3-1).

The first example is about the act of “I am looking at”. The apparent material world, including the apparent body, appears before our eyes by the act of “looking at”. However, as mentioned before, the correct interpretation is that it is not the “I” that is looking at it. The truth is that it exists there because of the brain's information processing. Of course, it does not mean that the material world itself exists before our eyes. However, we do not think of it that way, but we mistakenly recognize the world before our eyes as the material world and hold onto the thought that “I am looking at it.” As a result, the thought of “There is the “I” that is looking at” is created in the opposite direction of the apparent line of sight.

Who is performing the “apparent act” of “looking at”? It can be said that the one responsible for creating that thought is the “actor”. In other words, based on the “apparent acts”, the thought of “actor” performing that act arises, which leads to the creation of the “thought of the ‘I’” as a result. From another perspective, it can be said that the thought of the “actor” is created through the “apparent acts” via the “thought of the ‘I’”. If it is shown in a diagram, the “actor” arises as an existence performing those acts, and as a result, this leads to the creation of the “thought of the ‘I’”.

If represented in a diagram,

“Apparent acts” → the “actor” → the “thought of the ‘I’”

or

“Apparent acts” → the “actor” ← the “thought of the ‘I’”

(Note: the direction of the second arrow is reversed)

When you think about it yourself, you might be able to truly feel its meaning, don't you think?

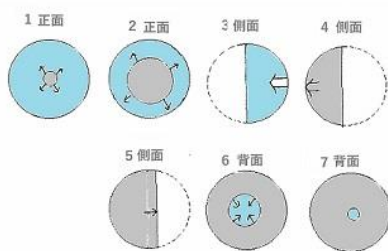
As a second example, let's consider the case of moving your hand toward an object before your eyes. First, the thought arises to move your physical hand, and at the same time, your physical hand moves. This is reflected in the apparent movement of your apparent hand in the world before your eyes. As this apparent act is recognized, the thought “I am moving my hand” arises, and the apparent hand before your eyes acquire the meaning of “my hand”. The thought of “I am moving my hands” forms the meaning of an “actor”, and at the same time, it leads to the creation of the “thought of the ‘I’”.

In this case also, please try it yourself. When you try to type on the keyboard, you see your fingers moving before your eyes and you may think that “I am moving my fingers with my will.” From that experience, the meaning of an “actor” is created, and the “existence of the ‘I’” is confirmed, isn't it? However, there may be someone who thinks, “Someone like me who has typing skills can type unconsciously.” While it's true that moving your fingers is unconscious, isn't it also certain that the content you type is based on the “thought of the ‘I’”?

As a third example, let's consider the case of “I am thinking.” In this case, unlike the first two cases, advanced functions are involved. For instance, imagine a spherical object made of stretchable rubber with a hole opened on it, and the scene when you flip it inside out. You might visualize the image of the sphere in your mind and think that you can widen that hole and flip it around. You might think, “It's a simple thing.” However, when it comes to expressing it in a way that is understandable, as shown in figure 6, it turns out to be difficult.

Namely, the hole is widened from stage ① to ②, the hemisphere is inverted from ③ to ④,

Fig.6 Inversion of a sphere

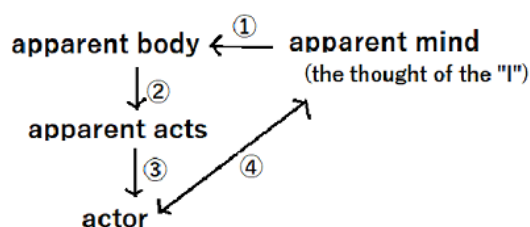


and the back surface is stretched from ⑤ to ⑦.

It is likely thanks to the brain's information processing that we can create and manipulate images, but the created images are events within a psychological space. It seems unreasonable to think that they happen automatically, rather, it can be said that they are based on the apparent acts of "I am thinking." From that, the meaning as an

"actor" is created, and simultaneously the "thought of the 'I'" is created.

Fig.7 Creation of the thought of the "I"



Let's summarize the discussion up to now by using figure 7.

① A command is issued from the "apparent mind" to the "apparent body".

② "Apparent acts" appear in the "apparent body".

③ Through ① and ②, the thought of an "actor" arises.

④ From the thought of being an "actor", the "thought of the 'I'" arises in the "apparent mind."

⑤ Through ① to ④, a higher concept such as intention is generated in the "apparent mind".

In summary, the various "apparent acts" create meaning as an "actor", while at the same time, behind the apparent gaze, the meaning of the "thought of the 'I'" is created.

In common knowledge, there is a strong belief in the "unity of body and mind" and that the two cannot be separated. This is also reflected in the "apparent body" and "apparent mind", they share a strong sense of unity. This unity is thought to arise from the fact that both are created in the same psychological space through brain activity and are connected by "apparent acts".

(4) The role of memory connecting two worlds

It is not only the "I" that is created in psychological space by brain activity. Everything seen before our eyes is copies of the material world and the physical body created by brain activity. The role of the copies is thought to be for the efficiency and simplification of information

processing, as well as for the judgment, decision, and execution of acts. In fact, when we take acts in the “material world”, it is undoubtedly true that we are utilizing the information obtained from the “world before our eyes”, namely the “world of the mind”. Let's examine this point next.

An act of avoiding a puddle

For example, if there is a puddle before your eyes, you would probably avoid it. Now, when asked, “Why can you avoid it?”, how would you respond? You would answer, “Isn't that obvious? If I see a puddle, it's because I don't want to get wet.”

However, there is a problem with this answer. The world that you see right before your eyes is, as we have discussed many times, the apparent material world created by brain activity, that is, the world of the mind. The question is how the apparent acts in the apparent world relate to the movements of the physical body existing in the material world. Behind this avoidance behavior, there is knowledge about the water due to the superimposition system, and it can be said that there is control of the body through the synchronization system to put that knowledge into the act. It is important to note the fact that these factors enable the behavior of avoiding puddles.

I think that memory holds the key to enabling these systems. You might say, “Isn't that obvious? It's because we have knowledge (memory) about water and we have the desire not to get wet.” However, I would like you to note that the issue being discussed here is about the relationship between the psychological phenomenon of not wanting to get wet and the physical phenomenon of avoiding a puddle. In other words, I am speculating that memory is what bridges the gap between psychological phenomena and physical phenomena.

I don't know how the apparent world is created in the psychological space by brain activity, but there is no doubt that there is a causal relationship. There is a question, “Are psychological phenomena merely shadows of brain activity?”. But I do not think that the brain would intentionally produce something unnecessary. This issue is important because the fact that “existing in the world right before our eyes is simultaneously recognition” has significant meaning, and it seems that memory is involved behind that. It is believed that the system where recognition and memory are related are formed through various experiences during the growth process. Let's consider a somewhat simplified case like the following.

The formation of memory through trial and error observed in the behavior of babies

☒ 8

Act of a baby



As shown in Figure 8, let's consider the situation where a baby, who still cannot crawl well, is reaching out the baby's hand to grab a teddy bear before the baby's eyes. In this case, we assume that the baby is not very accustomed to the way of moving the hands.

If the direction of the apparent hand is misaligned with the stuffed animal, the desire to somehow reach the stuffed animal arises, leading to the will to correct the direction of the apparent hand. In response, the physical hand moves, and this result manifests as the movement of the apparent hand before the baby's eyes. At this time, the acts which are memorized based on the recognition that "By applying force in this way, the apparent

hand moves and can approach the object," become successful experiences. Through the accumulation of these experiences, the way of applying force becomes established in memory, forming the synchronization system. On the other hand, the superimposition system leads to the acquisition of the meaning that the apparent hand before the baby's eyes is a physical hand, and that establishes itself in memory.

For the baby, what is recognized is not the actual scenes of the material world or the movement of the physical hand, but rather the plush toy seen before the baby and the movements of the apparent hand related to those toys. Furthermore, this kind of behavior does not work well from the beginning. It seems that through so-called trial and error, the relationship between the movement of the apparent hand and that of the physical hand is established through memory, leading to smoother acts.

When trying to move the apparent hand closer to the stuffed animal through trial and error, all those acts are also recognition. At one point, when the apparent hand accidentally moves closer to the stuffed animal, that is also recognition, and that act is etched into memory. It may not be a direct relationship, but it seems possible to consider that recognition is indirectly connected to the apparent acts. In other words, I think that the connection between apparent acts and physical actions arises from the accumulation of the results of trial and error in memory.

There may be a mechanism of interaction that directly links the apparent acts and the movements of the physical body. However, at this point, I speculate that a relationship is formed between the two through the mechanism of memory. Memory, if not activated, is merely like a trace, but once activated, it has the property of leading to recognition.

Such a phenomenon, namely the act of being able to approach an object by moving one's

hand, is a completely natural occurrence from the standpoint of common knowledge that the world before our eyes is the material world, and there seems to be no room for questioning it. However, when we consider that the world before our eyes is an apparent material world created by brain activity, it becomes clear that it is not such a simple matter. Furthermore, it is evident how effective such a system is when we consider our daily lives.

The apparent body that can be seen before our eyes is recognition itself, and moving in accordance with our own thoughts leads to the acquisition of the meaning of “my body”. On the other hand, under the intention to move the body, movements arise before our eyes, and along with the apparent acts, the meaning of the “actor” is created, which is thought to lead to the acquisition of the meaning of “my mind”.

In other words, From the equation ③, the composition of ② will be formed as common knowledge.

The "I" = apparent body + apparent mind ③

“I” = my physical body + my mind (knowledge, emotion, will) ②

The composition will be formed.

(5) Why was the “I” created?

The answer to the question "Why was the ‘I’ created?" can be found within the discussion from items (1) to (4) of section (3-2) that we have talked about. Therefore, as we proceed with the consideration, the points discussed in section (3-2) will serve as the foundation. There will be some overlaps in the content, but please understand.

In section (1), it was pointed out that what is created in the psychological space through brain activity is not just the “I”, but the entire world that unfolds before our eyes including the “I”. Therefore, in response to the question, “Why was the ‘I’ created?”, we must first answer the question, “Why was the world before our eyes created?”

In response to this, in section (2), I concluded that it is effective for us living organisms to create the copy of the external world, including our own body, to streamline and enhance the efficiency of information processing. In fact, it has been constructed so skillfully that it is hard for us to believe it is a copy. It is the reason why the subtitle of this paper is “A hard trick set by the brain”. It is believed that both superimposition and synchronization systems function effectively in the background of such systems. Additionally, the fact that existing in the psychological space is simultaneously recognition contributes to the efficiency and simplification of information processing.

Furthermore, in section (3), I examined the creation of the core of one’s mind, the “thought

of the 'I', and concluded that it is created from the "apparent acts" concerning the "apparent body" that unfolds in the psychological space. In fact, the "apparent acts" are not mere static phenomena, but dynamic phenomena that act based on one's thoughts, from which the creation of high-level psychological activities, such as "will", can be inferred.

In section (4), I examined the mechanism that connects the two different worlds, that is, the world of the mind and the material world, and it was inferred that memory may play a role in this connection. In fact, memory itself is a part of the brain's organization and is generally a static existence. However, once activated, it can create non-material phenomena in the psychological space. I suppose memory may be one key to solve the "Mind-Body problem".

Summary of this paper

The conclusion of this paper is that the copy of the external world, including the "I", has been created in the psychological space to utilize the nature of recognition, which is a characteristic of psychological space. In other words, under the definition that the world created by brain activity is the world of the mind, the "I" is inherent in one's own world of the mind. To reiterate, we are not aware of this fact, and that is why it is named as the "hard trick".

It can be inferred that the fact that the "I" was created in our own mind leads to the formation of higher psychological activities, intellect, emotional, and will.

The evolution of life of the physical aspect is well known, having been achieved over billions of years. Similarly, there should be evolution observed in the psychological aspect as well, which could be referred to as the evolution of the mind, though the actual nature of this remains unclear. I feel that a glimpse of the path of that evolution can be seen in the development process of infants.

Addendum

The word "why" in the title of this paper, "Why was the 'I' created?" has two meanings. One is "How did the 'I' created?", and I have explained it in the text. The other point is "What role does the 'I' play?" I speculated that memory might be involved, but I understand well that this is insufficient. I believe that the answer to that question requires obtaining a response to the inquiry "What is recognition?" In fact, I have talked that existing in psychological space is simultaneously recognition, but this leaves us the question: "What is recognition?" What does the series of phenomena of knowing, understanding, and recognizing mean? It seems necessary to clarify this from a scientific perspective rather than a philosophical one.

Afterword

I would be truly grateful if you had read through to the end. Perhaps, the majority opinion would be something like, “That is impossible.” In fact, I have also had it read by former colleagues, and most of them had similar impressions.

As for myself, I have not been concerned with the question of “What am I?” From the beginning, I did not think I could answer such a vague question. My initial interest was in understanding the role of the apparent material world before my eyes in information processing. However, this seems to have been fortunate. If I had tried to tackle the question of “What am I?” from the beginning, I would have likely ended up in a dead end. In fact, I think it is impossible to approach the question of “What am I?” from the outset. It is because there is an overwhelmingly reasonable, and therefore unassailable, strong common knowledge prepared. To break this through, I believe we must first clarify the essence of the world before our eyes and realize that interpreting the world before our eyes as the material world leads to contradictions.

The development of artificial intelligence is truly remarkable. What I am most interested in regarding artificial intelligence is what changes will occur when machines possess their own body and recognize it. As I discussed in this paper, I believe that for us humans, the recognition of our own body plays a significant role in the creation of the “I”.

The French philosopher Merleau-Ponty is said to discuss the importance of the existence of the body. I am not sure if my thoughts align with his, but as you can know from the discussions so far, I also pay attention to the significance of “apparent acts” that emerge in the “apparent body”. I am currently considering re-examining his theory on the body.

Various hypotheses have been proposed with the advancement of AI. However, what is more important than the hypothesis is to clarify what a common understanding is. With all due respect, I believe that the foundation of that common understanding is the recognition that the world unfolding before our eyes, including our own bodies, is an “apparent world” created by brain activity.

Since I live in the suburbs, various creatures wander into my room. This morning, an insect about 2 millimeters long was crawling on the inside of the glass window, trying to get outside. Even though it's only 2 millimeters long, its body structure is quite intricate. It skillfully maneuvers its six legs to walk around without slipping on the smooth glass and is also able to

fly in the air by using its wings.

The ability to control that activity should not be underestimated. It has a visual function that can detect the direction of light, sensory organs with perhaps molecular-level detection capability to sense food, and it also has reproductive functions for leaving descendants. Considering the excellent abilities of such organisms, I imagine that the cognitive abilities of us higher organisms are surely superior and beyond our understanding.

I do not know what the future for this small neighbor is but wishing it can live its life to the fullest, I opened the window and let it go. This was on a morning in autumn of 2025.

Self-introduction

Since the content of this paper may sound like a story that is far from common knowledge, you might think I am a dubious figure in pseudo-science, so I would like to briefly introduce myself. I, Shigeru Shiraishi, completed the doctoral program in psychology at Waseda University (Tokyo, Japan), and thereafter have served as a part-time lecturer in psychology at a university in Tokyo for many years. I fully understand that having received specialized education does not necessarily mean that the person's thoughts are scientific. Although it may sound presumptuous, I believe I have trained myself to develop logic based on the accumulation of objective facts. I would appreciate it if you could read this paper critically and send your thoughts or rebuttals via “4: Opinions and Questions”.

Address of the papers

English version: Where is the mind? A hard trick set by the brain

URL: <https://www.where-mind-e.com> (110pages on A4 paper)

(Note: Although the paper is quite lengthy at 110 pages in PDF format, I tried to provide an easy-to-understand explanation while introducing interesting topics.)

日本語版：心はどこにあるのか？ 脳によって仕掛けられた難解なトリック

URL: <https://www.where-mind-j.com> (A4 版 110 ページ)

English version: What am I? A hard trick set by the brain

URL: <https://www.what-am-i-e.com> (30pages on A4 paper)

(Note: This focuses on explaining Chapter 4, Section 3 of the paper 'Where is the Mind?'. It is about 30 pages in A4 size and can be read on the website as well as downloaded as a PDF

file.)

日本語版：私とは何か？ 脳によって仕掛けられた難解なトリック (A4 版 30 ページ)

URL: <https://www.what-am-i-j.com>

English version: What is “being visible”? A hard trick set by the brain

URL: <https://www.what-visible-e.com> (10pages on A4 paper)

(Note: The starting point for puzzle solving is to understand “What is ‘being visible’?”. It is aimed at a concise explanation by focusing on this point.)

日本語版：見えるとは何か？ 脳によって仕掛けられた難解なトリック (A4 版 10 ページ)

URL: <https://www.what-visible-j.com>