New Translation (September 2026)

Where is the Mind?

A hard trick set up by the brain

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On making a new translation

It has been about ten years since I uploaded the English translation of the paper "Where is the Mind?" on the Internet. At that time, the performance of software for converting Japanese into English was not very high, so I had no choice but to translate it myself. However, my English proficiency was at a junior high school level, so I think it was somewhat difficult to read and understand for you.

In recent years, with the remarkable advancement in the performance of software that converts Japanese into English, I was able to create a new translation this time by using Microsoft's translation software. There has been significant improvement in its capability, allowing smooth translation. However, there were some translations that did not match my intentions, and I have made corrections for those. Some parts of the content may be slightly outdated, but the translation was made based on the original Japanese paper as it was.

Since this is a paper about a delicate topic, it is unclear how much it has become easier to read or understand, but I hope that is the case.

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Preface

Where is the mind?

Have you ever heard the seemingly meaningless question, 'Where on earth is the mind?' Most probably, many of you are hearing it for the first time, and while you might feel a momentary strangeness at such a question, few would think seriously about it. The general view is likely, 'The mind has no substance, so no matter where you say it is, it's impossible to know.'

Certainly, the mind is different from matter, so it is natural that we cannot feel a sense of it no matter where it is said to be. However, if asked, 'Then does the mind not exist?' we inevitably must answer, 'It does.' This question, which may at first seem meaningless, strikes at the core of the nature of the mind.

To express its mysteriousness and depth, the term 'microcosm' is sometimes used. Regarding the mind as well, it is sometimes described as 'The mind is an unknown microcosm' or 'The mind is an inner microcosm.' As it is described as a microcosm, the

mind is understood as something that possesses a vast expanse. However, that vastness is of a type represented, for example, by the term 'unconscious' coined by Freud, and while the mind is considered to have a large expanse, it seems to be understood as something vague and lacking in concreteness, like peering into darkness or trying to grasp clouds. A slightly more concrete interpretation is that the human memory capacity is enormous, equivalent to several supercomputers, and this is only a reference to the physiological aspect of the mind.

Certainly, in the world of the mind, there are abstract and vague aspects expressed by words such as knowledge, emotion, and volition, but it is not composed solely of them. The world that spreads out before your eyes when you open them is also the world of your mind. For example, suppose you are in a room right now: the walls of the room, the furniture such as desks and bookshelves that you see when you move your gaze to the left or right, the ceiling when you look up, the floor you are standing on when you look down, and when you pull your gaze inward, the sight of your own body—all of these are part of the world of your mind and things within the world of your mind.

Of course, this is based on the premise that a room made of materials like concrete and wood exists, along with furniture in it, and your physical body exists. Based on that premise, the world that unfolds before your eyes is not the material world, but rather, an apparent material world, where the things present are not matters but apparent matters, and furthermore, the body you see before your eyes is not a physical body but an apparent body. In short, all of it is the world of the mind.

The world of the mind sometimes exists in a more concrete form, as it can be seen with the eyes or touched with the hands, and it has a great expanse worthy of being described as a ‘microcosm.’

Some philosophers have been aware, since before, of the nature of the world of the mind, and it seems that its mystery has served as a motivation for study. However, philosophers do not seem to have engaged in educational activities to explain the true nature of the world of the mind in an easily understandable way to people who are not specialists in philosophy. Or perhaps they have tried, but it seems that it was at a level where those who already understood it could comprehend it, while those who did not understand it could not comprehend. Considering that today the true nature of the world of the mind is not widely understood, it seems we cannot help but think this way.

The rapid development of natural science from the seventeenth century to the present is partly attributed to the idea that Descartes separated mind and matter, allowing

researchers to focus solely on the study of matter. Following this trend, mind and consciousness have been treated as taboo in the field of natural science, on the grounds that they are difficult to study scientifically.

However, with advances in neuroscience, there is a growing momentum to unravel the mysteries of the mind and consciousness from a scientific perspective. Nevertheless, the understanding of the mind and consciousness from a scientific standpoint is the same as the common knowledge, and a truly correct perception has not been achieved. If science is to explore the world of the mind, a correct understanding of the mind and consciousness is necessary, and for that, it is essential to first dismantle the common knowledge we currently have about the world of the mind and then reconstruct it anew.

Common knowledge about the world of the mind inherently contains internal contradictions as a natural consequence of the fact that it is mistaken. Because of these internal contradictions, phenomena arise that cannot be explained by common knowledge which may not be apparent at first glance but become clear upon careful analysis. Therefore, to deconstruct common knowledge regarding the world of the mind, it is necessary first to notice the strangeness hidden within what is assumed to be common knowledge. And by turning that awareness into a feeling of doubt toward common knowledge, it will lead to an inquiry that unravels the contradictions lurking within it. By following this sequence of steps, it should be possible to deconstruct common knowledge about the world of the mind and reconstruct new concepts.

Purpose of this paper

I would like to clearly explain the true nature of the world of the mind, often described as a microcosm, from a scientific perspective rather than a philosophical one. Therefore, we will proceed the story on the premise that the material world exists. No special prior knowledge is necessary at all. If you are willing to accept facts as facts, that is enough. Hints for uncovering the trick are hidden in everyday things, such as 'looking at a coffee cup.'

This paper is not merely something to read; it is meant for you to challenge yourself with this hard trick. Therefore, it may not be something you can read just for enjoyment, and it may require a certain amount of patience. I will guide you along the way. I have tried to make it so that by simply following the course of the story, you can understand it.

I have absolutely no intention of bringing in religion or morals. However, I believe that if you understand the true feature of the mind, your worldview will inevitably change, and your view of life will also change to some extent. You will understand how vast each person's inner world is, and as a result, I think you will once again feel the weight of each

existence and develop a sense of respect for it, and I hope that this will happen.

Chapter 1: It is difficult to question common knowledge

Section 1: The World of the Mind, Its true nature

From the Geocentric theory to the Heliocentric theory

It is said that modern natural science was established roughly between the 16th and 17th centuries. As for what people's view of nature was like before that, the Geocentric theory, which held that the Sun and stars revolve around the Earth once in a day, was believed. The Earth was also thought to be an immovable entity composed of a vast flat plane, and its edges were vertical cliffs, so it is said to have frightened sailors on long voyages.

However, the idea that the Earth might be a sphere, like the Moon and the Sun, seems to have existed early on, inspired by the sight of ships gradually appearing over the horizon. Around the 3rd century BCE, Eratosthenes, under the belief that the Earth is spherical, measured the altitude of the Sun at two locations in Egypt and calculated the Earth's circumference. It is well known that his value was quite accurate.

Copernicus proposed the Heliocentric theory in the mid-16th century, but the idea that the Earth revolves around the Sun was mocked by people at the time and was even regarded as a dangerous notion that contradicted Christian teachings, to the extent that his writings were treated as banned books. The Geocentric theory is said to have been proposed by Ptolemy around the 2nd century, and the idea that the Earth is immobile was consistent with common knowledge, which explains why it went unchallenged for such a long time. It is also said that at that time, only Galileo and Kepler supported Copernicus's Heliocentric theory.

It seems that the same could be said even in today's era. Setting aside the idea that the end of it is a vertical cliff, believing in the Geocentric theory causes no inconvenience in daily life. In daily life, it might be much more convenient to interpret the Sun as moving, rising from the eastern sea and setting beyond the western mountains, rather than interpreting it as appearing in the eastern sky because the Earth is rotating.

However, when it comes to correctly understanding the movement of celestial bodies, it is not the case that either theory would be correct. In fact, with the Geocentric theory, while the movement of the stars could be set aside, it was unable to satisfactorily explain the movements of the planets, and to make up for this contradiction, the idea of Epicycles had to be introduced, making the theory complicated.

Alternatively, contradictions also arise when considering the speed of motion. For example, if the Sun rotates once in a day and night, from the perspective of the Heliocentric theory, it only requires a rotation speed of 460 meters per second at the Earth's equator. However, from the perspective of the Geocentric theory, the Sun would have to move at a speed close to that of light. Moreover, if distant stars were to rotate once in a day and night under the Geocentric view, they would have to move at speeds far exceeding that of light.

To explain various facts related to the sky without contradiction, it was essential to transition from the Geocentric theory to the Heliocentric theory. Common knowledge is, after all, just common knowledge, and it is often only valid under the limited conditions of daily life.

Mind and Consciousness: An Approach from Science

There is a saying that 'The brain is the last frontier left to science.' In the world of biology and physiology, research on the brain is being actively conducted alongside the analysis of genetic information in DNA, the basic structure of which was clarified by J. Watson and F. Crick. The microelectrode method, in which tiny electrodes are inserted to examine the activity of nerve cells, has made a significant contribution to elucidating brain activity. For example, the research by D. Hubel and T. Wiesel on the visual cortex of cats using this method led to a fundamental revision of the previously held ideas about visual information processing.

Because of the limitations of the experimental method, the microelectrode technique is restricted to the brains of animals, but with the practical application of MRI (magnetic resonance imaging) in the 1980s, it became possible to examine human brain activity in real time. The dynamic connections of visual areas, auditory areas, memory areas, and integrative areas are gradually being revealed. There is a saying that science progresses by leaps and bounds, and it can be said that this field is showing progress exactly in line with that expression.

As research on the human brain progresses, it can be said that this is a natural outcome of the research process, studies have begun not only on the physiological aspects of the brain but also on areas that were considered until recently to be unsuitable for scientific investigation, such as the relationship between the brain and the mind, or the brain and consciousness. Pioneering works in this field include books such as 'The Mystery of the Mind' by physiologist W. Penfield and 'The Wonder of being Human ' by J. Eccles and Robinson. Their assertions take on a strongly dualistic tone, and as can be inferred from the titles of their works, they hold the position that modern science cannot discuss the

mind or consciousness.

In contrast, physicist R. Penrose, who has shown interest in this field since the end of the twentieth century, discusses the mind and consciousness from the standpoint of quantum mechanics through works such as 'The Emperor's New Mind' and 'Shadows of the Mind.' Since his ideas are still at the level of hypotheses, they naturally face much criticism, but there are also favorable viewpoints.

On the other hand, in the field of electronic engineering, research is being conducted on so-called artificial intelligence, which aims to give computers the advanced information processing abilities that humans possess. The story of the supercomputer named Deep Blue defeating a chess grandmaster in 1997 attracted public attention.

Although research on artificial intelligence temporarily stagnated afterward, it has seen remarkable development under a system called deep learning, which combines feature extraction functions modeled on the brain's neural networks with massive amounts of big data, achieving victories over masters in shogi and go, as well as significant results in fields such as autonomous driving and image recognition.

These systems are called specialized artificial intelligence because they are tailored to specific functions. For specialized artificial intelligence, it is necessary to prepare a vast amount of data for learning. In contrast, the development of a type of artificial intelligence that possesses autonomy, collects information by itself for problem-solving, and performs reasoning is also being pursued, and this is called general artificial intelligence. Although it is still in its early stages, some researchers have concerns that artificial intelligence might come to have its own will, and if that happens, whether humans would be able to control it, raising the fear that it could become an existence that threatens the survival of humanity.

Science and Philosophy

Traditionally, the mind and consciousness are areas discussed by philosophy. Psychology, which takes the mind as its subject of study, also gives the impression of discussing the mind and consciousness. Certainly, that seems to have been the case in the era when psychology was a branch of philosophy, but since the early 20th century, when it became independent from philosophy and took a scientific standpoint, psychology has, in reality, focused solely on studying the functions of the mind and has regarded dealing with consciousness as taboo, for the reason that consciousness itself cannot be scientifically treated.

Regarding the interpretation of the mind and consciousness, there is a significant gap between philosophers, who are pioneers in this field, and natural scientists, who are

newcomers. In the first place, interpretations of the mind and consciousness are diverse, to the extent that it is said there are as many interpretations as there are researchers.

The thoughts of scientists on the mind and consciousness can generally be said to almost coincide with the common knowledge, which I will talk about shortly. In contrast, the views of philosophers on the mind and consciousness are completely different from common knowledge, and when scientists encounter such interpretations, they are often greatly perplexed, or as is common when something is too far from one's own ideas, tend to ignore it as meaningless.

It is not an exaggeration to say that the differences in interpretation regarding the mind and consciousness of both parties can be summarized in how we interpret the world that is seen before our eyes, that is, the world we see when we open our eyes. In other words, the vast majority of scientists interpret the world unfolding before their eyes as a material world, whereas philosophers, though it is difficult to say all philosophers, interpret it as the world of the mind, or, to put it another way, as an apparent material world.

It seems that debates about the mind and consciousness sometimes occur between scientists and philosophers, but it is said that there is invariably an insurmountable gap in their understanding of the mind and consciousness, and their discussions fail to align. A clear example of this discrepancy, which I will repeat, is that scientists interpret the world spreading out before their eyes as the material world, whereas philosophers interpret it as the world of the mind. This gap appears to be insurmountable and impossible to bridge.

Indeed, in recent years, there have appeared natural scientists who show an understanding that the world spreading before our eyes is an apparent material world. However, many of them still interpret it as the material world. Also, because psychologists study the mind, it is often thought that their way of understanding the mind and consciousness is closer to that of philosophers than that of natural scientists. But, as I mentioned earlier, while that may have been the case in times when the boundary between psychology and philosophy was not clear, once psychology became more consciously oriented toward its scientific stance, many psychologists began to understand psychological phenomena from the standpoint of natural science, and today, in fact, there is no real difference from the views of natural scientists.

Through years of research, physiologists have come to possess extensive knowledge about the physiological aspects of the brain. Psychologists have acquired a considerable amount of knowledge about the functions of the mind through experiments and surveys. However, in terms of understanding the nature of the mind and consciousness, it seems to me, perhaps presumptuously, that philosophers currently surpass scientists.

One of these can be seen in the difference in motivations that led to the beginning of

research on the mind and consciousness. Many scientists enter research fascinated by the complexity of brain functions, composed of a vast number of neurons said to be 15 billion or 30 billion, and the skillful information processing seen in sensations, perception, recognition, and memory. When it comes to the mind and consciousness, they generally start their research based on common knowledge.

In response to this, philosophers often enter the study of the mind and consciousness by considering the contradictions that arise from perceiving the world seen before their eyes as a material world, for example, the contradiction of color being on the surface of matter, the contradiction of tactile sensations existing at the tips of the body's fingers, or the contradiction of sound existing in space, and through the strangeness of existence, they already at this stage touch upon an aspect of the true nature of the mind and consciousness that differs from common knowledge, realizing its strangeness.

I mentioned that the differences in the ideas of scientists and philosophers about the mind and consciousness are clearly reflected in their interpretations of the world seen before their eyes, and I would like to explain what their interpretations are from the perspectives of the mind, body, and the external world. First, I will explain the interpretation that scientists stand on as common knowledge, and then I will explain the philosopher's interpretation.

(1) Interpretation of the mind, body, and external world as common knowledge

In our daily lives, we are conscious of our own mind and body, which clearly differ in nature from a mere physical object, and we live within the vast external world that surrounds us. Even without a precise definition provided by science or philosophy, we have a good sense of approximately where the mind is, where the body begins and ends, and where the external world starts—essentially understanding the certain boundaries that exist between them. Therefore, we can delineate the boundaries between the mind, body, and the external world without feeling much doubt.

Mind

First, let's talk about the mind. The content indicated by the word 'mind' is extremely vague, but at its core, it could be said to be the part in which self-awareness, that is, consciousness of oneself, exists.

In the mind, various activities take place that are expressed by such words; knowledge, emotion, and will. For example, the thinking and decision-making seen when considering and deciding on a route for motorbike touring using a map, and the emotions experienced

when running through mountain roads in the pleasant breeze of fresh greenery, are all activities that occur in what is called the mind.

They are all abstract things that cannot be seen or touched with hands, but even though they are abstract, if asked, 'Then does the mind not exist?' no one would answer that it does not exist. Their form of existence is different from that of matter, but the mind certainly exists.

So, where is the mind generally thought to exist? Here, the question of 'where' is not about issues like the mind-body problem or the mind-brain problem, such as which part of the brain the mind arises from or in which part of the brain it exists. Rather, it is a very common-sense question: where can the mind be located within the external world surrounding oneself, and in relation to one's own body, where is it considered to be positioned?

As a trial, set a scene where you are standing on a high ground by the calm seaside in early spring, spending a relaxing moment while feeling the spring breeze, and place yourself in that scene, reflecting on the question of where your mind exists.

It would be good to try closing your eyes. When you close your eyes, your vision is blocked, and you cannot see the outside world. The various situations that were previously bathed in light suddenly change, transforming into a bright, light gray world. Nevertheless, you can still get a sense of the outside world through the sound of the waves, the scent of the sea, and the breeze on your cheeks. Additionally, slight movements of the eyeballs, the nasal passage sensing the scent of the sea, and faint movements around the mouth allow you to know the positions of the eyes, nose, and mouth, as well as, in an integrated way, the position of the face.

Considering the situation in this way, isn't it natural to think that the mind is positioned inside the face, where we cannot directly look at it for ourselves? If we tentatively define the mind as consisting of thoughts, emotions, memories, and so on, it is difficult to specify a location since the mind does not have a form or shape, but we can still say that it is positioned inside the face. At the very least, the idea that the mind is at the fingertips or in the blue sky spread above us might be seen as metaphorical expressions in poetry or the like, but there are hardly any people who actually think that way.

The positioning of the mind in such a common-sense form, upon a little consideration, naturally brings various issues to light, but it can be said that the interpretation of the location of the mind as a common knowledge is like this.

Body (Physical body)

Next is the body. Unlike the mind, the body has a clear presence. The feet pressing

against the ground while standing on a high cliff by the sea, the hands raised over the eyes to shield the dazzling sunlight—these parts of the body located at the front, such as the feet and hands, as well as the chest and abdomen, can be observed by looking at them. On the other hand, the back and face cannot be seen directly unless you use a mirror, but even those parts can be known through the information obtained from sensory organs present on the surface of the face.

We can also infer what is happening inside the body through the series of processes of food intake, digestion, and excretion, as well as through cardiopulmonary functions such as breathing and heart activity.

The mind and body have a close relationship. The mind receives information from the outside world through sensory organs located on and inside the body, and based on that information, it interacts with the outside world through effectors. For example, the arms that can grasp things as the mind orders, the legs to move to where one wants to go, the face that turns to focus on what one wants to see or hear, the eyes that receive information in response to light, and the ears that receive information in response to sound—these sensory organs and effectors-equipped body can be said to play the role of bridging the mind and the outside world. Biologist R. Dawkins described 'the organism is a vehicle for DNA.' If borrow that expression, one could perhaps say, 'the body is a vehicle for the mind.'

The mind, considered as the integration of knowledge, emotion, and will, is not material, whereas the body, as it is called the physical body, is an entity composed of matter. Therefore, while it shows properties different from the mind, it is something that constantly accompanies oneself, as in 'my body,' and even though it is made of matter, it differs in nature from the external world that will be discussed next.

The external world (The outside world)

Outside the body, there exists an expansive realm called the external world. The body has a volume of at most about 80 liters, but the external world envelops this body and displays a vast expanse around it. As before, let's imagine the scene of standing on a gentle seaside hill in early spring, looking out over the external world surrounding oneself.

Let's feel the refreshing spring breeze on your cheeks and try looking into the distance. There, the slightly curved horizon separates the sky from the sea. Under the spring sunlight, the sea appears a deep ultramarine, showing subtle variations in color depending on the location. The open sea looks like a uniform flat surface, but as your gaze comes closer, even the calm sea shows gentle undulations, and on the shore, you can see the white crests of the waves.

The sky has a hazy light blue characteristic of spring, and a contrail stretches in a straight line through its center, with a jet reflecting silver light at its tip. It evokes an impression of infinite expanse toward the universe, which is said to span 13 billion light-years.

From the feet to the beach, there is a steep sandy slope, where coastal plants put down deep roots in the poor sandy soil and bloom small yellow flowers. At the water's edge, an older man is enjoying playing ball with a small child who seems to be his grandchild.

All of these are the external world, what is called the material world.

(2) Interpretations that philosophy presents of the world spreading out before our eyes

I tried to express what the three domains commonly considered as mind, body, and external world are like, and the boundaries of these three domains can be quite clearly distinguished by a definite line. Moreover, this kind of distinction is widely accepted as common knowledge, and except for a very small number of people, it is unlikely that anyone would have doubts about it. In fact, we live our daily lives by interpreting the mind, body, and external world in this way, and it causes no inconvenience whatsoever.

For example, when you go to where an elderly person and a child are playing at the water's edge and try to play along with them, there is the will of the mind to approach them, there are bodily movements based on that will, and there is the external world, such as the steep sandy slope where your feet can easily be caught. The series of interactions among the mind, body, and external world involved in this action are all reasonable.

However, the interpretations indicated by philosophy are different from this, though not necessarily all philosophers would agree. In other words, dividing the mind, body, and external world in this way is mistaken, and the boundaries shown there are, so to speak, only apparent boundaries. They insist that both one's own body and the external world surrounding one's body are, just like the parts one feels to be the mind, entirely part of the world of the mind.

I think the same. Indeed, in the early spring, there are various things that decorate the tranquil seaside: seawater with a specific gravity of 1.03, primarily composed of water and sodium chloride; air consisting of about 80% nitrogen and 20% oxygen; sandy beaches made up of finely crushed quartz and feldspar; and contrails that have reached the dew point, forming tiny water droplets. The material world, which follows the laws of physics, certainly exists. Likewise, the body as a physical entity certainly exists, consisting of the skeleton that serves as its framework, muscles and tendons built on top of it, blood vessels that transport nutrients to cells and remove waste, sensory nerves that transmit signals

from receptors placed throughout the body to the central nervous system, and motor nerves that convey commands from the central nervous system to the muscles.

However, the world that now spreads out before your eyes—the sky and sea woven with contrasts of light blue and ultramarine, the breeze that brings a pleasant sensation to your cheeks and carries the unmistakable scent of the tide, different from the town's air, the elderly person waving to you as you start down the steep sandy slope toward the beach, the child running toward you—all of this external world is not the material world itself, but the apparent material world. Moreover, the body you see before your eyes, which you can move at will if you wish, is not the body as a physical entity, but the apparent body. The boundary drawn between the external world, the body, and the mind is an apparent boundary, and the external world, the body, and of course the mind, are all part of the same world of the mind. If other people happen to be present there, they will see almost the same scene as you, but the world you are seeing right now is your own, uniquely personal world of the mind. Just as the relaxed feeling your mind experiences when you encounter the gentle scenery of early spring is an event in your own, uniquely personal world of the mind, the world you are seeing now is an event in your mind's world and is a world that belongs solely to you.

You may think this is an absurd story. It may be hard to believe that the mind encompasses such a vast space. However, whether we should consider this vast space as being contained within the brain, which has a volume of only about 1.5 liters, is something I cannot definitively say. That said, even the brain, when considered at the level of molecules and atoms, has an immense extent, so while some may object to thinking of it as being inside the brain, it does not seem problematic to consider that it is generated by the brain.

In fact, I think it becomes easier to understand if we think about virtual reality. By seeing the images displayed on the two small screens set inside the goggles with each eye respectively, a vast world unfolds before our eyes. It is an undeniable fact that this vast world is created by the information that enters the eyes, is sent to the brain, and processed there. This phenomenon called virtual reality plays an important role in dispelling our incorrect assumptions. We will discuss this again in Section 4 of Chapter 3.

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Now, why does such a misunderstanding arise, that is, why do we think of the world spreading out before our eyes as the material world, and think of the body we see before our eyes as a physical body? The truth is that our brains construct the external world, including our own bodies, within the world of the mind. And this constructed world is made in such a way that it perfectly synchronizes with the events of the material world.

Therefore, even if we consider the world spreading out before our eyes as the material world, or, think of our body as a physical body and behave accordingly, no inconvenience occurs. The world of the mind created by the brain even deceives the person themselves; it can be called, so to speak, a hard trick set up by the brain.

The reasoning will be explained step by step from here on.

A hard trick

Philosophers, while understanding that the true nature of the mind and consciousness is different from common knowledge, have not engaged in the kind of educational activities that convey this to many people. Of course, it might just be that I am unaware of such efforts, but considering the current situation, in which the true nature of the mind and consciousness is not widely understood, it does not seem that sufficient educational activities have been carried out, nor does it seem that they have been successful. It seems that philosophers up to now have shown the results of what the mind and consciousness are like but have not provided easy-to-understand explanations of why this is so.

The reason why this has not been done so far can be partly explained by the fact that it is extremely difficult to explain it in simple terms. Regarding the mind and consciousness, tricks are set up by the brain, and moreover, they are set up doubly or triply, so the world constructed by the brain is so skillfully made that one cannot question it.

When living on the immensely large sphere called the Earth, it is difficult to notice its rotational motion even though everything on it is moving at high speed, and it's the same thing here. Because the world constructed by the brain, in which the apparent physical body is within the apparent material world, is so skillfully organized, we interpret ourselves as being separate from our mind, the body, and the external world, putting us in a situation where we cannot have a correct understanding.

I think even philosophers who understand the true nature of the mind and consciousness were the same at the beginning of their thinking. First, they questioned the view of the world seen before their eyes as a material world, and only after long years of contemplation, they arrived at the conclusion that it is the apparent material world, it is not as if they easily reached the correct understanding by following a single thread.

Strategy of Philosophy

Another reason seems to be that the methodological problem of philosophy, which has existed since the time of Plato and Aristotle—that philosophy is a discipline that abolishes all assumptions and premises to inquire into the fundamental principles of all things—acts as a constraint. Indeed, I think the research attitude of doubting everything that is

doubtful in order to analyze things is correct, but on the other hand, I cannot help but say that it is a research method fraught with problems. It is said that Descartes, after doubting everything, arrived at the conclusion 'I think, therefore I am.' Indeed, one can doubt endlessly and reach a conclusion by thoroughly doubting, and that is fine. The same applies to science. However, when it comes to the stage of how to chart the course beyond the conclusion reached through doubt, the position of abolishing all assumptions and premises now seems to become a constraint in turn.

Science does not aim to be perfect from the beginning; it sets assumptions and premises and then tries to start research from there. When attempting to elucidate unknown phenomena, a model is first constructed as a hypothesis, which is then tested to see whether it can adequately explain real-world phenomena. When it does not work, the hypothesis is revised, and this procedure is repeatedly employed.

As a concrete example of this method, it is good to consider the concepts of atoms and molecules. In order to elucidate the world of tiny substances that cannot be seen with the eye or felt by hand, the concepts of atoms and molecules were introduced as hypotheses, and through them, an attempt was made to explain the composition of matter. The historical background of this is documented in middle school and high school science textbooks. While there are opinions that the method of trying to explain phenomena using concepts that cannot be directly perceived, such as atoms, molecules, and elementary particles, is problematic, the accumulation of hypotheses by many scientists has led to today's understanding and has been successful in understanding the laws of nature.

One of the reasons why natural science has made great progress seems to lie in such a methodology. Even if it is impossible to understand everything in a logically coherent way, it is important to adopt the attitude of setting hypotheses and premises and first clarifying the parts that can be understood.

Policy of this paper

In beginning the exploration of the true nature of the mind, we set one premise. That is to acknowledge the existence of the material world. In other words, the premise is that the material world exists whether there are conscious beings like us humans. Descartes said, 'I think, therefore I am,' but here we proceed on the assumption that the material world exists prior to thinking.

Based on this premise, we will start by understanding the world that spreads out before our eyes. In other words, the tricks set by the brain are complex, and to uncover them, we must overcome several hurdles. I must say that it is difficult to explain the true nature of the world of the mind in completely from the beginning. Therefore, I would like to start

with an explanation that the world unfolding before our eyes is a world different from the material world and use the fact as a clue to connect to an explanation of the world of the mind. Once we can understand that the world seen before our eyes is not the material world, it becomes somewhat easier to understand the true nature of the world of the mind.

From Common Knowledge to Understanding

Nowadays, even elementary school students know about the heliocentric theory, but it is probably almost impossible to truly feel what the heliocentric theory implies. For example, the rotation speed of the Earth around its axis is not slow like when a person is walking. Near the equator, it reaches 460 meters per second. Furthermore, the speed at which the Earth revolves around the Sun reaches 30 kilometers per second. There is an expression called 'Spaceship Earth,' and considering that the speed at which a rocket escapes the Earth is about 11 kilometers per second, that name becomes strangely convincing.

The Earth is rotating from west to east at a speed comparable to the speed of sound due to its rotation, but it is impossible to feel that in our daily lives. Except during an earthquake, on this stable land that does not move even slightly, there is no way we could possibly sense it. One reason for that, perhaps, lies in the fact that the Earth is far too enormous from the perspective of our sensory world.

The same thing seems to be true about the world of our mind. The mind, the apparent body, and the apparent external world are constructed so orderly that one seems to be immersed in the world one has built oneself, and because the constructed world is in harmony with the material world, it is not surprising that we do not notice the trick. However, no matter how well-constructed the world of the mind is, if we observe carefully, there are frays here and there. Using those as clues, we can see through the trick and unravel misunderstandings.

In daily life, interpreting the mind, body, and external world from common knowledge is more convenient. However, when we try to clarify the mind and consciousness from a scientific standpoint, the current common-knowledge interpretations cannot lead us to a new stage. About 350 years ago, there was a major change in our understanding of the world surrounding us, namely the Earth and celestial bodies, and we moved from the common-knowledge geocentric view to the heliocentric understanding. Similarly, I believe that it is now time to move away from common-knowledge interpretations of the mind and consciousness and towards a correct understanding.

Chapter 1

Section 2 Questions are the gateway to exploration

From Doubt to Inquiry

It was in 1953 that Watson and Crick discovered that DNA has a double helix structure, but behind this was Wilkins' X-ray diffraction of DNA and Chargaff's analysis of DNA base composition. X-ray diffraction photographs predicted that DNA has a helical structure, and analysis of base composition showed that the amounts of the four bases that make up DNA—adenine and thymine, and guanine and cytosine—are equal, respectively. The mystery was why the amounts of adenine and thymine, and guanine and cytosine, are equal.

Watson focused on this point and noticed that when considering the hydrogen bonds between bases, adenine and thymine, and guanine and cytosine pair properly. Then, through theoretical verification by Crick, it was revealed that DNA takes a double helix structure, clarifying the mechanism of heredity. Behind the great discoveries in history, there is always a feeling of wonder when confronted with a phenomenon and a sense of questioning why it is so.

Indeed, even in the most trivial matters of daily life, behind new discoveries there is always a sense of wonder and a feeling of questioning why. If an unusually long line forms at a familiar street corner, one naturally feels curious. A sense of 'I wonder what this is?' arises, and it leads to a desire to go to the front of the line to find out what it is for or to ask the people waiting in line.

In any matter, a spirit of inquiry does not arise where there is no sense of wonder or feeling of doubt. We are about to examine the true nature of the world of the mind, but if one does not feel any doubt about the common interpretations of the mind, body, and the external world, the desire to investigate this issue will not arise.

The interpretations of the mind, body, and the external world that one has been familiar with for many years have become so solid that there is no room for doubt. Whether one can understand the true nature of the world of the mind depends on whether one can feel doubt about these interpretations by common knowledge.

How easily one feels doubt

Behind the feeling of wonder and doubt when faced with a certain phenomenon, there are usually circumstances such as the phenomenon of being unfamiliar to oneself or being impossible to explain with the knowledge one possesses.

Even if we simply say, 'I feel doubt,' the ease with which one feels doubt varies depending on the matter. The ease of feeling doubt does not simply correspond to the ease of solving the problem, but for convenience, I would like to consider the difficulty of questioning common knowledge by categorizing it into the following four levels.

Level 1: A type of immediately doubted

The first type is a phenomenon that, once witnessed, one notices its strangeness without anyone pointing it out and quickly begins to feel a sense of doubt.

Solar eclipse

As an example of level 1, we can cite the phenomenon of a solar eclipse. As you know, a solar eclipse occurs when the Sun, Moon, and Earth align in a straight line, and the Sun is blocked by the Moon. Since the Moon orbits around the Earth once a day, the positions of the Sun, Moon, and Earth line up every day. However, because the Moon's orbital plane is tilted relative to the Earth's orbital plane, solar eclipses do not occur so frequently. A total solar eclipse, in which the entire Sun is obscured by the Moon, is even rarer and can only be observed for a very short time in a very small area of the Earth.

A total solar eclipse, in which the entire sun is hidden by the moon and midday suddenly changes into a dimness resembling twilight, seems to be extremely mysterious. When it occurs in a distant foreign land, witnessing it requires a considerable amount of money and time, yet the fact that many people visit without hesitation shows just how profound its mystery is. Even in modern times, when people understand the science behind it, it continues to captivate their hearts. Therefore, it is not surprising that in the distant past, when people did not understand the reasoning, it was perceived as an eerie phenomenon signaling the end of the world rather than merely something wondrous.

Moon illusion

Like a solar eclipse, this is a phenomenon related to celestial bodies, but as another example for Level 1, let's introduce a phenomenon called the 'moon illusion'.

The moon illusion refers to the phenomenon where the full moon appears larger when it has just risen on the horizon. Sometimes, it can appear so dramatically large that one might think a werewolf enchanted by the full moon could emerge from the shadows of the trees. Thinking it is amazing, people pull out their cameras to take pictures, but unfortunately, it doesn't appear larger in the photos. It will only appear as large as when photographed at its highest point in the sky, that is, when it is directly overhead.

Even if you have never heard the term 'moon illusion,' I think many people have actually experienced it. You can have the same experience with the sun setting in the western sky at dusk. It is said that the amount of this illusion, that is, how large the moon appears on the horizon, is greater in young children and decreases as one becomes an adult.

Fig.1-1(a)

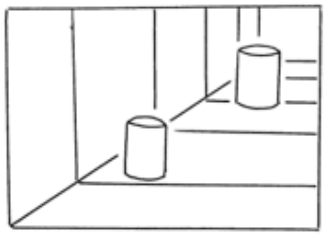
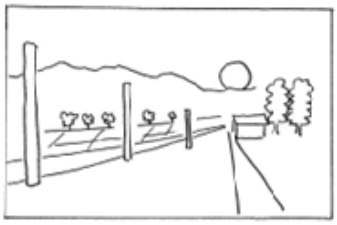


Fig.1-1(b)



A solar eclipse is a physical phenomenon, whereas the moon illusion is a psychological phenomenon. The reason why the moon appears larger on the horizon is still not clear. As shown in Figure 1.1(a), in situations with a sense of perspective, there is a rule that 'Things that are farther away appear larger.' In fact, although the two cylinders are the same size, the cylinder that appears farther away looks larger. It is widely interpreted that the moon illusion is a phenomenon related to this. In other words, as shown in Figure 1.1(b), because there are various objects along the way to the horizon, it feels farther than the sky overhead where there is nothing, and as a result, the moon on the horizon appears larger.

Phenomena that immediately provoke doubt, such as solar eclipses or moon illusion, often seem to be extraordinary occurrences that we do not experience in our daily lives.

Level 2: One immediately feels doubt when pointed out by others

The second type is, even when witnessing such a phenomenon, they do not notice the mystery hidden within it by themselves, but when it is pointed out by others, they can understand and find it puzzling, thinking, 'I see, now that you mention it, that's true.'

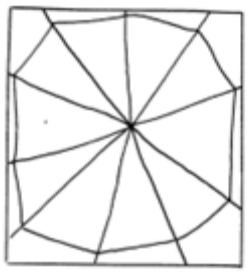
Spider web

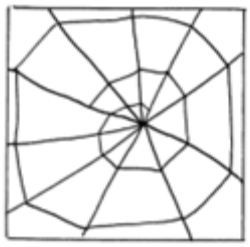
For example, let's take the case of a 'spider web.' Spiders use sticky thread to build their webs and sustain themselves by capturing insects and other small creatures. They are not particularly liked as creatures, given the way they set traps and eerily manipulate their eight long legs, but one cannot help being captivated by the ingenuity of their web-building. The skill with which they attach threads at widely spaced points and spread them out in a regular radial pattern is so remarkable that one inevitably exclaims, 'How impressive!' It is easy to dismiss it all as instinct, and indeed, the desire to build a web is instinctual, but the technique of constructing the web is surely the result of highly developed intelligence.

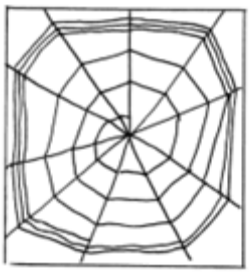
The wonder of spider webs that I want to point out here is, 'Spiders catch insects with

their sticky webs, but why don't they themselves get trapped in their own webs?' Haven't you ever had such a question? The stickiness of spider webs, which we usually take for granted, becomes puzzling when the mysterious relationship between the web and the spider is pointed out, and we can easily understand the background questions involved.

Fig.1-2







On the rear part of a spider, there are six bumps called spinnerets, and at the tips of these bumps are many tubes that produce thread, allowing the spider to produce several types of thread with different uses.

Figures 1-2 shows the process of building a nest. First, after constructing the rough outer frame, threads are stretched radially from the center in all directions. Next, threads are laid in a spiral pattern from the center outward.

These are called scaffold threads and are not sticky. Once the scaffold threads are laid, sticky horizontal threads are then carefully laid from the outside toward the center, following the scaffold threads. At this time, depending on the species of spider, it is astonishing that they may remove the scaffold threads one by one while laying the horizontal threads.

The outer frame of the web, the scaffolding threads, and the radial threads are not sticky, and only the final spiral thread is sticky. There doesn't seem to be a consensus yet on why spiders don't get caught in their own webs, but it is thought that this is because they move along the vertical threads and because a special oil secreted from the soles of their feet protects them from being trapped in their own web.

This type of phenomenon is not unusual or novel, but we do not usually notice the strangeness hidden within it. However, when someone points it out, there is no difficulty in understanding that strangeness.

Level 3: Even when pointed out by others, one cannot immediately understand why it is strange.

The third type is like Level 2 in that even if one witnesses the phenomenon, they do not notice anything strange on their own, but even if someone points it out, they cannot immediately understand why it is strange.

Falling of an object

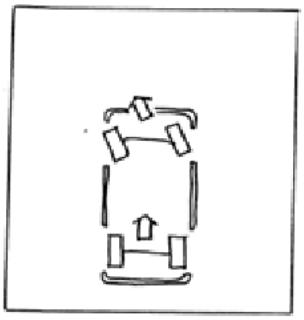
For example, what about the phenomenon of an ‘object falling’? It is said that Isaac Newton came up with the law of universal gravitation when he saw an apple fall from a tree. Setting aside the truth of that story, an object falling from top to bottom is an everyday phenomenon, and unless a heavy apple were rising from the bottom to the top, hardly anyone would find it strange that it falls from top to bottom. Furthermore, even if the question "Why do objects fall?" is raised, hardly anyone would find it strange. This is because there is a reason backed by common knowledge, namely, "It falls because it is heavy."

The reasoning that objects fall because they are heavy is in line with common knowledge and is not incorrect. However, it does not explain why heavy objects fall, and it also tends to lead to the assumption that heavier objects fall faster. If you have ever witnessed in a junior high science experiment a stone and a feather falling at the same speed inside a glass tube from which the air has been removed to create a near vacuum, you would realize the precariousness of the reasoning that objects fall because they are heavy.

Newton explained that the reason objects fall is because there is a gravitational force acting between objects. While we cannot simply assume that everything is resolved by using the concept of gravity, it is likely Newton's extraordinary brilliance that he noticed the strangeness of objects falling and questioned it.

Handle and Car Movement

Fig.1-3



As another example of Level 3, how about the phenomenon 'When you turn the steering wheel, the car undergoes rotational motion'? It is a phenomenon we are accustomed to seeing every day and probably never question. When you turn the steering wheel, the direction of the front wheels change, and accordingly, the car changes direction; this is very ordinary and even elementary school children understand the reasoning. You probably won't immediately think of anything mysterious about it.

However, if we take a closer look at this phenomenon, we can see that it is indeed a strange phenomenon. Figures 1-3 show the state where the front wheels are turned, changing their orientation. If the car is moved in this state, it will perform a rotational movement to the left. However, even though the front wheels are pointing to the left, the front wheels merely try to move straight in the direction they are pointing, and the rear

wheels also only try to move straight in the direction they are pointing. When looking at the front and rear wheels separately, there is nothing in either that causes the car to perform a rotational movement. As indicated by the arrows, the front wheels are just trying to move in the direction they are pointing, and the rear wheels are simply trying to move in the direction they are pointing as well.

In fact, when the front and rear wheels try to move in different directions, they interfere with each other, and the tires of the front and rear wheels will slip slightly outward. As a result of this slipping movement, the car can change direction. It may seem surprising to say that the tires slip, but if the tires did not slip, rotational movement would not occur.

In four-wheel-drive vehicles, driving force is transmitted to both the front and rear wheels. As a result, tire grips are strengthened, allowing the vehicle to drive stably on slippery surfaces such as snowy roads. However, in the early development of four-wheel-drive vehicles, when attempting to make a small-radius turn by turning the steering wheel sharply, a phenomenon would occur in which the speed would drop, and the vehicle would not run properly. This is called the tight-corner braking phenomenon. In four-wheel-drive vehicles, because the front and rear wheel grips are too strong, the tires do not slip moderately, preventing proper rotational motion, and causing the speed to decrease.

Level 3 phenomena, like Level 2 phenomena, are phenomena that we are accustomed to seeing in everyday life. However, unlike Level 2 phenomena, the issues hidden behind them are not easily understood. The reason they are hard to understand is that there is reasoning based on common knowledge to support these phenomena. In other words, reasoning that aligns with common knowledge, such as ‘objects fall because they are heavy’ or ‘a car turns because the front wheels change direction,’ is provided. While this reasoning does not allow us to truly understand the essence of the phenomena, it is not incorrect, and therefore we are unable to notice the problems hidden behind them.

Level 4 More difficult than level 3, backed up by incorrect reasoning

Level 4 is even more troublesome than level 3. Like level 3, level 4 is the type that cannot immediately be understood why something is strange even when pointed out by others and has reasoning that seems to explain the phenomenon. However, unlike level 3, in this case, the reasoning is nothing more than a misconception and is incorrect.

There are many things in the world that are called magic tricks or illusions. The tricks hidden in them often cleverly make use of the viewer's assumptions, that is, incorrect reasoning. When one sees a magic trick, it immediately seems mysterious, so from that point of view, it might not fit a level 4 case. However, the trick itself is designed so that even if someone points it out, the mystery cannot be understood, and incorrect reasoning

that obscures the mystery is provided, which is convenient for a level 4 explanation. So, let's look at an example of a magic trick using playing cards.

Trump card guessing trick

The Trump card guessing trick that I am going to show you about from now on is a basic one, but even though it is basic, the trick that is involved is clever. I will explain the procedure the magician performs when performing the trick for you using Figures 1- 4, so please refer to the figures and try Figure out the trick of magic.

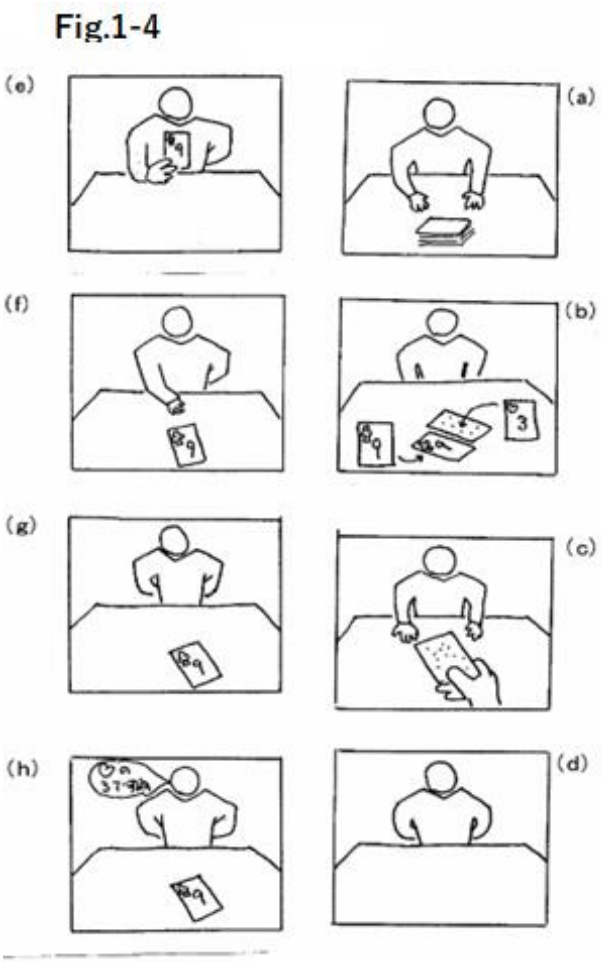


Figure1.4(a): First, the magician gives you, the audience member, a deck of cards and asks you to choose one card that you want to guess. Then, you are asked to choose another card, which can be any card, and place the two cards together with the numbered sides facing each other, so that the card you want them to guess is on top, and hand them to the magician.

Figure 1.4(b): There, you choose the 3 of Hearts as the card you want to be guessed, and the 9 of Clubs as the one you do not, and then you overlap the two.

Figure 1.4(c): And then, you hand it to the magician.

Figure 1.4(d): When the magician receives the cards, he moves both hands behind his back and makes a gesture as if examining what the card is.

Figure 1.4(e): After that, he holds the bottom card in his right hand and displays it in front of you.

Figure 1.4(f): And then, saying “This is not the card, isn't it.” he emphasizes it, and puts the card onto the table.

Figure 1.4(g): Once again, the magician moves his right hand behind him and makes a gesture as if tracing the surface of the cards with both hands.

Figure 1.4(h): Then, with a seemingly pretentious turn of phrase, he remarkably declares, “That's the three of hearts.”

In this card trick, the card is not tampered with, and no props such as mirrors are used at all. From the series of actions shown in Figures 1.4, it seems that the card you want guessed remains in the magician's left hand, which was moved behind his back, so the only opportunity for the magician to see the card's number would be the very moment the card is handed to him (Figure 1.4(c)). However, no matter how many times the magician performs it, it does not appear that he is peaking at that moment. In fact, the magician does not look at the card then. There is only one chance for the magician to see the card's number. Do you understand? Take a moment to think about it.

Revelation of the trick will be given on page 28. Please check it and then move on to the next section.

It is difficult to question common knowledge related to the world of the mind.

The discussion about the common knowledge understanding of mind, body, and the external world in Chapter 1, Section 1, is precisely a Level 4 problem. We believe that the world spreading before our eyes is the material world, that the objects we see are material things themselves, and that our own body seen before our eyes is our physical body, and we live thinking this way, without any apparent inconvenience arising from this way of thinking.

Moreover, there are various arguments prepared to support the common-knowledge interpretation of the mind, body, and the external world. For example, the reason that the object before our eyes feel heavy and hard when held, or that we can move our own body before our eyes by our own will, and so on.

However, those arguments are flawed arguments. And it is very difficult to notice the flaws in those arguments. It is the same as how difficult it is to see through mistaken reasoning that is nothing more than an assumption, such as 'The card is held in the left hand behind the back.'

However, even though there seems to be no inconvenience on the surface, that certainly does not mean there is none at all. If one considers it carefully, various counterexamples sufficient to reveal flaws can be found for the proposition that 'The world spreading out before our eyes is the material world.' However, the reality is that even these counterexamples are so commonplace that they are understood as unquestionable, and as a result, it is often not easy to grasp why they are counterexamples in the first place.

There are various mysterious phenomena in the world, but perhaps it is in the

phenomena that we do not notice as mysterious that true mystery is hidden.

Try to see whether you notice the strangeness

The discussion about the world unfolding before our eyes that we are about to analyze involves Level 4 phenomena. The key point is whether you feel doubt when the problems hidden in these phenomena are pointed out. A detailed analysis of the problems will be conducted from Chapter 3, but for starters, try to see if you feel doubt when faced with questions like the following.

Question 1: Why do objects seen before our eyes have color?

How about the question, "Why do the objects seen before our eyes have color?" Even if people can see colors in the objects seen before their eyes, there are probably very few who find this strange. This is likely because they have a preconceived notion that the material world is a colorful world. However, surprisingly, color does not exist in the material world. You might think, "But the objects seen before my eyes do have color," yet color is not inherent to the materials themselves.

It might be easier to understand if you think at the level of atoms and molecules. Atoms and molecules themselves are not colored. Also, in the material world, what is transmitted from objects to us is only electromagnetic waves. Matter reflects electromagnetic waves of specific wavelengths, and it is only after these electromagnetic waves reach the retina and are processed by the brain that color is produced.

Electromagnetic waves do not have a direct relationship with color itself. It is the question, 'If the world seen before our eyes is the material world, and the objects we see before our eyes are matter, then why do the colors produced by the brain decorate the surfaces of the objects we see?'

Here, I deliberately used the term 'electromagnetic waves' instead of 'light' because the word 'light' is closely associated with colors, such as ‘red light’ or ‘blue light’, and this is to avoid such preconceived notions. If we rephrase it as 'red electromagnetic waves' or 'blue electromagnetic waves,' I think you can understand the situation.

Question 2: Why do we feel smoothness at the fingertips?

How about the question, 'Why do we feel smoothness at the fingertips?' When you trace the surface of a smooth table with your finger, you experience a slippery sensation at the fingertip. I suppose the answer you would get is, 'Of course, since there are sensory organ

at the fingertips.'

However, the question arises: 'Touch is something that occurs only when signals from the fingertips are transmitted to the brain, so why is the touch that occurs in the brain felt at the tip of the physical finger?' If we pay closer attention, we notice that the smooth sensation is felt not at the fingertip, but on the surface of the inorganic table.

Summary of this section

In anything, the desire to explore does not arise where there is no sense of doubt. Since plausible reasoning of common knowledge is prepared for the mind, body, and the external world, it is not easy to feel doubt towards them. However, whether one can feel doubt becomes the first barrier to exploring the world of the mind.

Fig.1-5

Reveal of the trick

Let's reveal the trick. In Figure 1.4(e), the magician showed you the unwanted lower card of the two stacked cards, but at this time, the magician does not have the card you want him to guess in his left hand which is behind his back. As shown in Figure 1.5, when showing you the unwanted card, he is secretly holding the card in his right palm and reading it.

The trick of this card magic is that he behaves as if he is holding the card in his left hand, placed behind his back. Even if someone were to point out, 'Isn't his left hand of his back suspicious?', they probably wouldn't find it strange. This is because there is a common-sense reasoning that 'The card is held in the left hand of his back,' but in the end, that reasoning is just a mistaken assumption.

Chapter 2: The Exploration of 'the act of looking'

Section 1: Representing two worlds with pictures

Two pictures representing two worlds

In Chapter 1, Section 1; 'The world of the mind, its true nature,' the policy of this paper was stated as taking the premise that 'The material world exists' and, based on it, 'begin with an understanding of the world spreading out before our eyes.'

In other words, this stands on the premise that the material world exists prior to, and independently of, whether or not beings capable of higher mental activities like humans, and under this premise, it clarifies that the world spreading out before our eyes, that is, the world that appears vividly three-dimensional when we open our eyes and instantly disappears when we close them, is a different world from the material world, and it aims to use this as a clue to explore the true nature of the world of the mind.

Expressing anything in pictures makes things easier to understand. Even directions to a house you are visiting for the first time become much clearer when you are given a map from the station rather than an explanation in words. Representing concepts such as 'the world unfolding before our eyes' or 'the material world' in pictures should also help with understanding. Therefore, at the beginning of the discussion, I would like to first establish two types of pictures: one representing 'the world unfolding before our eyes' and the other representing 'the material world.'

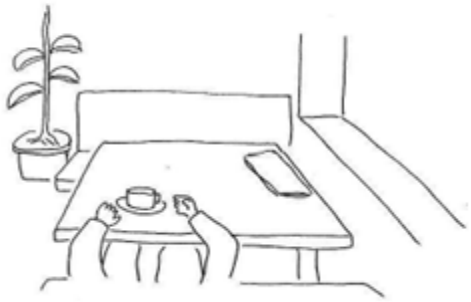
Most of you will probably feel a sense of doubt here. According to common knowledge, the world spreading out before our eyes is itself the material world, and from that standpoint, the proposal to define two pictures might seem strange, or even meaningless. You might think, 'Since the world seen before our eyes is the material world, there is no need to distinguish between two worlds, nor is it something that can be distinguished. Whether representing the world seen before our eyes or the material world, all that needs to be done is to depict the scene before our eyes as it is.'

Certainly, from the standpoint of common knowledge, it is natural to have such a thought, but since we are trying to clarify that 'The world seen before our eyes is a world different from the material world,' I would like to establish a picture that can distinguish between the two, or at least a picture that, even if we cannot say it clearly, allows us to distinguish between them.

Expressing 'the world spreading out before our eyes' in a picture

First, please take a look at Figure 2-1. From what is arranged on the picture, I think you can tell that this depicts a corner of a café. Right at the front is a simply constructed table, and on it are a coffee cup and a newspaper folded in quarters, placed beside it, either already read or about to be read.

Fig.2-1 The world seeen before our eyes



It's the usual scene of an ordinary café that could be found anywhere, and there's nothing unusual about it. However, in addition to that, this picture depicts what appears to be parts of the arms and knees of the person sitting at this seat, both on top of and below the table. Seeing the arms and knees might give a somewhat strange impression, but judging from their appearance, it's clear that this picture is drawn through the eyes of the person sitting in this seat, portraying the scene spreading out before his own eyes.

You hardly ever see pictures composed in this way, but if you consider that they depict the same scenes we usually see through our own eyes, you could say that they are pictures with the most familiar composition. I think you will understand this well if you try to overlap yourself at the figure of this painting.

Up until now, I have repeatedly used the following 4 phrases,

1. the ‘world seen before our eyes,'
2. the ‘world before our eyes,'

These two expressions are contractions of the following sentence.

the ‘world which is seen before our eyes,'

or

3. the ‘world spreading out before our eyes,'
4. the ‘world unfolding before our eyes.'

These have same meaning. It is the world that is seen before our eyes, or mine. When you open your eyelids, it spreads there three dimensional and in rich colors, when you shift your gaze, it continues to show new expansions, and when you close your eyelids, it becomes instantly invisible. It is a scene unique to you or me, a scene that cannot be replaced by anyone else.

In this way, when you or I observe the external world, we will redefine the world visible to you or me as such expression. And the 'pictures that represent such a world’ will be annotated at the top of the picture with 'the world seen before our eyes,' as shown in Figure 2.1.

Some people may have questions about the usage of 'before'. Please think of it as representing ‘space,’ not ‘time.’ For example, please think of it as being used in the same sense as 'in front of'.

Setting aside the debate over whether the world spreading out before our eyes is the

world of the mind or the material world as indicated by common knowledge, I believe there is no disagreement that the world seen before our eyes can be expressed in this way.

Expressing 'the material world' through pictures

When expressing things in a picture, it is necessary to decide 'what' and 'how' to depict them, but when representing the world spreading before our eyes, as discussed in the previous section, there is no room for choice. Regarding 'what,' we will draw various objects that we see in front of us, and regarding 'how,' we will depict them according to perspective as they appear. There is no other way.

In contrast, when representing the material world, although "what" is predetermined, "how to depict it" is not determined. In other words, as can be understood from the previous discussion, since we are trying to use a drawing to explain that the world spreading out before our eyes is different from the material world, in terms of "what," to put it in a somewhat roundabout way, we depict as material the same objects that are visible before our eyes.

On the other hand, regarding the point of 'how to draw,' it is necessary to further consider it from two aspects: 'the angle of drawing' and 'the method of drawing.' For example, in the case of 'the method for depicting the world spreading out before one's eyes,' since it is drawn based on the scene projected onto the person's retina, the 'angle of drawing' corresponds to drawing from the position of that person's eyes. Also, since the scene seen by the eyes forms an image by converging to a point through a convex lens, the 'method of drawing' follows the rules of perspective.

In this way, using the 'method of representing the world spreading out before one's eyes' means drawing according to perspective from the position of that person's eyes. The reason for using pictures, as I mentioned earlier, is to explain that the world spreading out before our eyes is different from the material world. From that perspective, it is more convenient to depict the material world using a method different from the 'method of representing the world spreading out before one's eyes.' In other words, it is advantageous for distinguishing the two to depict the material world from an angle different from the position of that person's eyes and in a form different from perspective.

Fig.2-2(a) The material world

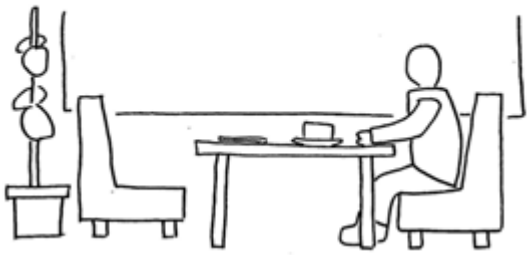
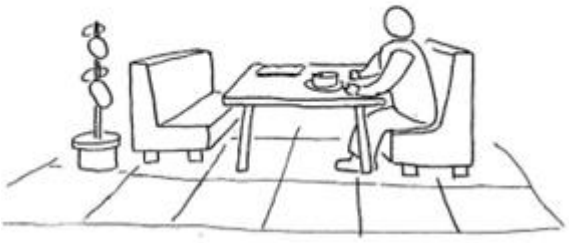


Figure 2.2(a) shows a way of representing the material world that differs from the method of "depicting the world spreading out before our eyes." It depicts the person looking at the coffee cup that is in Figure 2.1, along with the coffee cup and the table, from a direct side view without using perspective. It is a style like to a side view in a blueprint.

Fig.2-2(b) The material world



Even if we were to draw this from the same horizontal perspective, if we try to draw it a bit more realistically following the rules of perspective, it will look like Figure 2.2(b), which is a picture drawn through the eyes of a certain observer. In fact, although the observer's body is not depicted in this drawing, if we bring the viewpoint closer to the foreground, as shown in Figure 2.2(c), part of the observer's body will appear on the picture.

Fig,2-2(c) The material world

The act of depicting the material world in a painting naturally involves human intervention. Once humans perceive the material world and then proceed to represent it in a picture, it is drawn through a sort of filter, meaning it is expressed through someone's perspective. Figure 2-2(a) was drawn with the intention of eliminating as many of these elements as possible, aiming to represent the material world with a sketch resembling a blueprint. From now on, paintings depicting the material world will be labeled at the top with a note saying, 'the material world.'

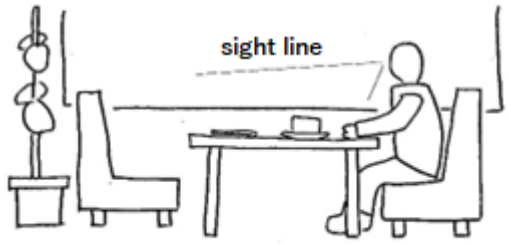
Now, regarding 'What happens if we depict the material world in the same way we represent the world spreading out before our eyes,' this is the core part of the discussion in this section. It will be discussed in the next item.

The reason for being particular about methods of expression

You may wonder why there is such an insistence on the way the world that spreads out before our eyes and the material world are represented. This is because we are going to explain that the world spreading out before our eyes is a different world from the material world, and at the stage of that explanation, it is necessary to establish a depiction that can distinguish between the two or at least have a depiction for distinction even if they cannot be clearly distinguished.

It is inherently difficult to discern that two worlds are different worlds, but one of the reasons is that the two worlds are depicted using similar methods of expression. Furthermore, the problem is not with the way of representing the world spreading out before our eyes, but rather that there is no accurate method of expression for representing the material world.

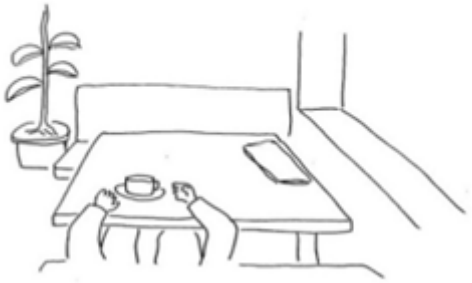
Fig.2-3(a) The material world



You might be thinking, 'What are you talking about?' You might think, 'The world spreading out before our eyes is the material world, so it's natural that the two cannot be distinguished, and it's natural that there is no way to express the distinction.' But the problem lies there. Let me try to explain that point.

Figure 2-3(a) is the same as Figure 2-2(a), and, as decided in the previous section, it is a picture representing the material world. The scene is drawn from a side view. The people depicted here, along with the coffee cup, newspaper, and table, represent objects as material substances. Focusing now on his person's eyes, the area enclosed by the two half-lines represents the world that spreads before that person, so it can also be expressed as the world that unfolds before one's eyes. In other words, it is possible to define the ‘world seen before one's eyes’ even in the material world

Fig.2-3(b) The material world



Furthermore, let's suppose we draw the material world from the position of the person's eyes according to the rules of perspective. Then, as shown in Figure 2-3(b), we would obtain a picture that is the same as Figure 2-1, which represents the world spreading out before a person's eyes as defined in the previous section. Of course, Figure 2-1 is a scene obtained through the act of looking, through this person's eyes, whereas Figure 2-3(b) is a scene of the material world drawn from the position of the person's eyes, and the two are different things.

There are various reasons why people tend to think that 'The world spreading out before our eyes is the material world,' but one of them lies in the act of superimposing the picture in Figure 2-3(b), which represents the material world, onto the picture in Figure 2-1, which represents the world seen before our eyes, and interpreting the two as being the same. Indeed, at first glance, the two pictures appear to be the same, but their meanings are not the same. Analyzing them while considering the conditions present in these two pictures, it reveals that they are completely different images. In other words, we can understand that the two worlds are different worlds. We will discuss this from Chapter 3 onward.

Now, as a way of representing the material world, we showed a picture with a blueprint-like touch as shown in Figure 2.3(a), but for the sake of the discussion, we sometimes deliberately use a picture like Figure 2.3(b), drawn in perspective from the position of a person's eyes. In that case, it will be sure to write a note at the top of the picture saying the 'material world' to avoid confusion with Figure 2.1, which represents the 'world seen before our eyes.'

The same goes for describing the material world in writing. When expressing the world spreading out before our eyes, we used something like 'the world before our eyes,' but when describing the material world, we say something like 'the world before us.'

For a concrete example, we use expressions such as the following.

1. the 'coffee cup before us,'
2. the 'coffee cup seen before us,' or
3. the 'coffee cup in front of us,'

and in all cases, they are used when referring to a coffee cup as matter that exists in the material world.

Actually, a strange material world

think there is hardly any objection to the idea that two worlds of different natures exist: the material world and the world of the mind. In fact, these two worlds are not something special that must be sought out somewhere to be found. The material world exists around us, and the world of the mind exists with ourselves.

From the perspective of very general common-knowledge interpretations concerning the material world and the world of the mind, if we consider which is more difficult to represent, it would be easier to depict the material world and more difficult to depict the world of the mind. Indeed, according to common knowledge, the world spreading out before our eyes is interpreted as the material world itself, so to represent the material world, all one needs to do is to simply draw the scene before them or explain it in words.

For example, if it is a corner of a bustling downtown area, we just need to depict in a picture the world that exists before us with three-dimensional depth: the sidewalk paved with geometric tiles, street trees with fresh green leaves, people walking by in stylish clothes, and the glitter of shop windows reflecting the cityscape. Around three, children start to draw the shapes and appearances of people close to them, such as their parents, the cars or stuffed animals they are interested in, as well as houses and trees, and the scenes depicted there directly represent the material world.

In contrast, the world of the mind is an abstract realm that, according to common interpretations, is expressed in terms such as knowledge, emotion, and will, so it is not easy to depict in pictures or words. For example, it is the kind of thing represented in Freud's psychoanalytic explanations, with the mind described as a three-layered structure of id, ego, and superego; in other words, it is extremely vague and abstract, like peering into a dark well, and gives only the impression of being something elusive.

However, when we think carefully about the material world, we realize that it is a strange world different from common knowledge. As is written in junior high and high school science textbooks, matter is made up of atoms and molecules, and at the center of an atom is the nucleus, with electrons existing around it. What is noteworthy here is that while the diameter of an atom is on the order of 10^{-8} cmthe diameter of the nucleus is only on the order of 10^{-13}～10^{-12}cm. If we compare the size of an atom to the National Stadium, the nucleus would be no more than the size of a golf ball placed at the center of the stadium.

In other words, atoms are mostly empty space. Various cosmic rays constantly fall on the Earth from space, passing through our bodies, but because of this empty space, the probability of cosmic rays colliding with the atoms that make up our bodies is astonishingly small.

Therefore, to represent the material world, it is necessary to draw a picture full of gaps

rather than using a blueprint-like representation method as shown in Figure 2-2(a) earlier. However, one might object, saying, 'There is no need to do so. The fine structure of the material world is beyond the resolving power of the eye, so it cannot be seen.' This is merely a matter of 'It just cannot be seen,' but from the standpoint of common knowledge, which considers the world spreading out before our eyes to be the material world, this becomes a strange argument and falls into self-contradiction. Explaining why it becomes self-contradictory requires some preliminary knowledge, so this will be addressed again in Section 3 of Chapter 3, under the heading ' The duality of the object seen before our eyes'

Summary of this section

The two worlds represented by the two pictures, namely the world seen before our eyes and the material world, are different from each other. One is the world of the mind, and the other is the material world, as its name suggests. If one can discern the difference between the two, one will be able to understand the true nature of the world of the mind.

Chapter 2

Section 2: Three elements of the ‘act of looking’

Three elements of the act of looking

On a daily life, the act of looking is carried out quite naturally, but the act of looking is not simply about knowing the existence of an object. Behind it, there is a high-level exchange of information between various fields related to the act of looking.

This can also be inferred from the way words are used. Even with the same word 'to look,' 'looking at a clock' means to read the time, 'looking at a map' means to read the features of the terrain, 'looking at someone's expression' means to read the person's psychological state, and 'looking at a book' means to read the content of the text. It is said that about 30% of the neocortex is involved in processing the visual information associated with the act of looking, which clearly shows that the act of looking is carried out in connection with various fields.

In analyzing the act of looking, we will proceed with the discussion by defining the act of looking as consisting of the following three elements.

The first point is that in the material world that spreads outside our own body, there exists the object of the act of looking. We will call this the 'object of looking.' As a matter of course, this is material. In the example given earlier, this would be a clock, a map, a face, or a book. If the 'object of looking' did not exist in the material world, it would be like seeing a dream with no substance, or like experiencing a hallucination by some chance.

The second point is that there exists a body that is performing the act of looking. Here, the term 'body' refers to the part that begins by receiving information from the external world through the eyes, which is then carried to the cerebrum for processing, resulting in certain physiological and physical states. For lack of a better phrase, we will call this the 'body of looking.' This is the body as a physical entity, and moreover, the body as a material object. Even if the 'body of looking' did not exist, the object would certainly continue to exist there, but the act of looking would not occur. It is precisely because there is a body that processes information from the external world that the act of looking takes place.

The third point is that there is some kind of result brought about by the act of looking. We will call this the 'result of looking.' Interpreting what this means is difficult, but it expresses that through the act of looking, one can obtain non-material phenomena (psychological phenomena) that are different from the physiological or physical phenomena of the cerebrum. For example, referring to the previous examples, in general interpretations, it would be the time, information contained in topographic maps, the psychological state of another person, or the contents of a text. Even though it is called a general interpretation, there is no doubt that these are part of the 'result of looking.'

It can be said that the act of looking is complete once these three elements are in place. There is an object in the external world (the object of looking), light reflected from it is received by the eyes and converted into electrical signals by the retina, which are then transmitted to the brain where the information is processed (the body of looking), and a result regarding the object is obtained (the result of looking). Among these three elements, the interpretation of the 'result of looking' is the most difficult problem, and it will be around this interpretation that the following discussion will unfold.

However, since the words representing these three elements are unfamiliar, you might feel somewhat awkward. This feeling is probably especially strong regarding the expression ‘the body of looking.’ Here, the body refers to the physical body without including the mind or consciousness, so the expression ‘looking’ might not be appropriate. It could simply be called ‘the body,’ but the functions of the body include various activities, such as hearing, speaking, and touching, in addition to ‘looking.’ To indicate that it is performing the act of looking among these activities, I chose to express it in this way. ‘The object of looking’ could also simply be called ‘the object,’ but I expressed it in this way for

the same reason. These terms will appear frequently from now on. It may be bothersome, but I hope you will become accustomed to them.

Now then, let's next examine how these three elements that constitute the act of looking are interpreted in the pictures representing the material world defined in the previous section and the world spreading out before our eyes.

The three elements of the ‘act of looking’ in the 'material world'

Fig.2-4

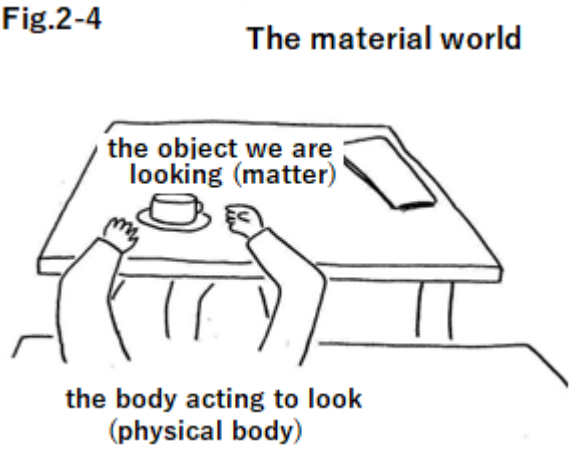


Figure 2.4 illustrates a person looking at a coffee cup placed on a table. As noted at the top of the picture with 'the material world,' the table, the coffee cup, and the newspaper depicted here are all objects as matter. Additionally, the person sitting at this table, which might seem obvious, is depicted as their physical body.

Let's try to find the three elements that accompany the act of 'looking at a coffee cup', the ‘object of looking (material),' the ‘body of looking (physical body),' and the ‘result of looking (psychological phenomenon)', in the pictures in Figures 2-4. For the person depicted here, the ‘object of looking' is the coffee cup, and the 'body of looking' is this person himself. The object being seen exists on one side, and on the other side, there is the body that is looking at it. This is a simple matter.

So, what is the third 'result of looking'? If the person sitting at this table is a humanoid robot, then a CCD camera would be built into its eyes, the information would be processed by a connected computer, and if an output such as a 'coffee cup' is obtained from several choices, that would be considered the ‘result of looking.' However, in the case of a human, it is not that simple.

I think there are various interpretations of the ‘result of looking.' However, in the case of humans, I believe there is almost no disagreement on the point that consciousness accompanies the final stage of the act of looking. In fact, as seen in the previous example, in general interpretations, it could be the time, information incorporated into a topographic map, the psychological state of the other person, or the content of a text, and all of these are all that have been made conscious.

Information from the outside world is processed in the cerebrum, but although we do not know how this connects with consciousness, since consciousness is, so to speak,

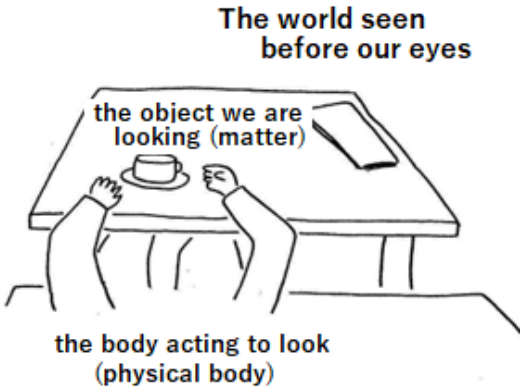
something that occurs in the mind of the person depicted here, the 'result of looking' does not appear in this picture, which represents the material world. This is obvious, but it is a point that must be noted.

The three elements of the ‘act of looking’ in the ‘world seen before our eyes’

Figures 2.5(a) and (b) both represent the world seen before our eyes. They depict a person's hand and part of a knee, a table and a coffee cup, as well as a newspaper; the objects depicted are the same as in Figure 2.4, but their meaning differs. While Figure 2.4 depicts the material world, Figures 2.5(a) and (b) portray the scene as seen through the eyes of the person to whom the hand and knee in the picture belong.

The interpretation in this paper regarding the world seen before our eyes is fundamentally different from the general interpretation. Therefore, in Figure 2-5(a), the general interpretation will be explained, and in Figure 2-5(b), the interpretation according to this paper will be explained.

Fig.2-5(a) General Interpretation



(1) General interpretation

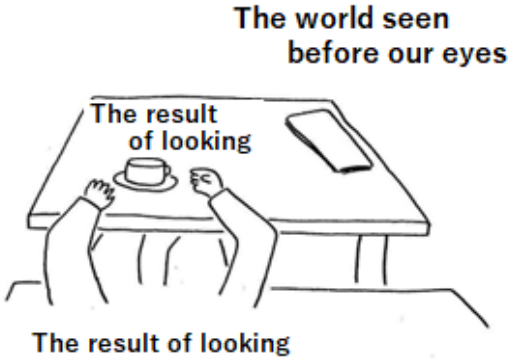
First, let's consider the general interpretation, that is, the position that the world spreading out before our eyes is the material world. It may be easier to understand if you place yourself in the person shown in Figure 2-5(a). First, the ‘object of looking (matter)’ refers to the objects visible in front of you. These can be the table where you rest your arms, a coffee cup giving off a rich aroma, or the newspaper placed nearby. On the other hand, the ‘body of looking (physical body)" is your own body depicted here. Only the hands and knees are shown here, but when you overlap you with this depiction, it represents your own body.

Up to this point, it would be easy to understand. And that is only natural. This is because we interpret the world seen before our eyes as the material world, and we are merely repeating the same analysis that was conducted in the previous section on the material world. It's just that the perspective is different, so the arrangement of the objects is simply different. You might think, 'What a meaningless thing,' but please bear and continue reading the paper.

So, what does the 'result of looking (psychological phenomenon)' become? As I

mentioned earlier, under a general interpretation, the 'result of looking' is a vague image in the mind or knowledge about the object, such as the time obtained by looking at a clock or the other person's psychological state obtained by looking at their face. Therefore, from the standpoint of thinking that the world seen before our eyes is the material world, just like in the case of Figure 2.4 mentioned earlier, the 'result of looking' also does not appear in Figure 2.5(a).

Fig.2-5(b) Interpretation of this paper



(2) Interpretation in this paper

Now, what about the interpretation in this paper? It is completely different from the general interpretation I just mentioned. The world seen before our eyes is a world different from the material world; furthermore, it is interpreted as the world of the mind. Therefore, all the objects seen before our eyes are the ‘results of looking' brought about by the act of looking.

In other words, as shown in Figure 2.5(b), the coffee cup seen before your eyes is not the ‘object of looking (material)’ but the ‘result of looking (psychological phenomenon),’ and the hands and knees seen before your eyes are not part of the ‘body of looking (physical body),’ but these too are ‘results of looking (psychological phenomena).’ Just as the relaxed feeling in facing the coffee cup is an event in the world of the mind brought about by the coffee, the coffee cup seen before your eyes and the hands and knees that are part of your body are also ‘results of looking’ obtained through the act of looking and are events in the world of the mind.

So, the question arises, where are the ‘object of looking (material)’ and the ‘body of looking (physical body)’? Since we interpret the ‘object of looking’ and the ‘body of looking’ as material, and the world seen before our eyes as a world different from the material world, they do not appear in this picture.

You might think, 'Is this idealism?' However, that is not the case. As I mentioned in Chapter 1, Section 1, the discussion has been conducted on the premise that the material world exists. Even when proceeding on that premise, the conclusion reached is that the world spreading out before our eyes is not the material world, but the world of the mind.

Alternatively, you might think, 'How is it possible to see if neither the ‘object of looking’ nor the ‘body of looking’ exists?' However, since both the 'object of looking' and the 'body of looking' are material, they do not appear in Figure 2.5(b), which represents the world

seen before our eyes, but they certainly exist in the material world. In fact, they exist in Figure 2.4, which depicts the material world.

The true appearance of the world seen before our eyes is hidden by a hard trick, and it is not something that can be easily seen through. By taking several steps from now on, I intend to gradually reveal its true feature.

The object seen before our eyes has dual aspects.

Language is deeply connected with psychological activity. We cannot directly know the contents of the minds or consciousness of others from the outside, nor can a person directly convey the contents of their own mind or consciousness to others. To express the contents of our own mind or consciousness, we rely on the help of language, and as a result, language sometimes captures the essence of the mind and consciousness before our understanding.

As I will discuss again later in Chapter 3, Section 3, the object seen before our eyes is generally interpreted in common understanding as the 'object of looking (a material thing)', however, sometimes, without realizing it, it can also be interpreted, as in this discussion, as the 'result of looking (a psychological phenomenon).' In other words, the object seen before our eyes possesses a duality that combines the two elements of the act of looking, and this can be inferred from the language we use.

Regarding the act of looking, there are two ways to express it: 'to look at ～' and '～ is seen.' The expression 'to look at ～' can be said to emphasize the physical action of looking, such as directing one's gaze at the object and focusing on it in trying to form an image on the center of the retina. It can be understood that, from the meaning of directing one's gaze at the object and focusing on it, the object before our eyes is interpreted as the ‘object of looking.' For example, when one says, 'I am looking at a coffee cup,' it can be said to represent the physical action of directing one's gaze at the coffee cup as a material object, and the coffee cup seen before our eyes is interpreted as 'the object of looking.'

On the other hand, the expression 'can see ~' implies that a result was obtained through the ‘act of looking,’ in other words, it carries the nuance of 'as a result of the act of looking,’ it became possible to see the object. Therefore, it can be said to express the 'result of looking.' For example, when saying 'I can see the coffee cup,' it means that an image of the coffee cup was obtained through the ‘act of looking,’ and at this time, the coffee cup seen before our eyes is interpreted as the 'result of looking.'

The expressions "to look at ~" and "~ can be seen," which we use casually, seem to interpret the object before our eyes sometimes as the "object of looking " and sometimes as the "result of looking," and language, preceding our understanding, seems to keenly

perceive the essence of the world seen before our eyes.

Summary of this section

The tricks hidden in the world seen before our eyes are so ingenious that careful attention is necessary to see through them. The act of looking consists of three elements: the ‘object of looking,' the ‘body of looking,' and the ‘result of looking.' The first two are material, while the last one is not a physical phenomenon but a psychological one.

From Chapter 3 onwards, the discussion will proceed using these three elements and the two diagrams mentioned in the previous section. Please pay close attention to which element the current topic pertains to, and which world it is about.

Chapter 3: The Deconstruction of common knowledge about the Mind

Section 1: Is the object seen before our eyes matter?

Introduction

I should clarify here again the difference in how we express the world seen before our eyes versus the material world. I've explained the former in P31 and the latter in P35, but for example, the former is represented as the 'world before our eyes,' and the latter as the 'world before us.' I hope you keep this in mind as you continue reading.

Are the objects seen before our eyes matter?

We live in the material world, which could be called the real world, accompanied by our mind and the body that is inseparable from that mind.

One Sunday afternoon, I left the house to drink coffee at my usual café to change my mood. In the quiet residential area, familiar sights of houses, trees, and signs spread out before me. Since it was Sunday afternoon, I passed by families, perhaps going shopping. When I reached the busier street, cars went back and forth, and the sounds became noisier. I opened the café door, which had its sunshade down, and a clanging cowbell rang, welcoming me with the owner's voice saying, 'Welcome.' I took a seat by the window and ordered my usual Blue Mountain coffee. Stretching out my arm, I took a sports newspaper from the magazine rack and skimmed through the results of yesterday's high school baseball games.

In this way, I live in the material world while maintaining a close relationship with the

body as a physical entity, and this is an undeniable fact. Up until now, the discussion has proceeded on the premise that the material world exists.

What must be raised at all costs under this premise is that the world seen before our eyes is not the material world, the objects seen before our eyes are not material, and the body we see before our eyes is not a physical body. This understanding becomes the starting point for unraveling the question, 'Where is the mind?'

Taking the recent story as an example, houses, trees, signboards, bus streets, cafés, and newspapers all exist as matter, and families, the café owner, and myself exist each with their own physical body, and the material world that encompasses all these certainly exists. However, the houses, trees, signboards, bus streets, cafés, menus, and newspapers that you or I see now are all apparent matters, and the bodies of the families, the café owner, and myself are all apparent bodies, all of which are created by the brain.

In everyday life, even if you think of the world seen before our eyes as the material world, and consider your own body seen before our eyes as a physical body, you feel no contradiction. It is the same as feeling no contradiction in thinking that the sun rises from the eastern sky, makes a complete circle, and sets beyond the western mountains.

However, the purpose of this paper is to try to understand the true nature of the world of the mind. To do so, it is necessary to understand that the world seen before our eyes is not the material world but the apparent material world, and using this as a foothold, we can move toward an understanding of the world of the mind. First, as the initial step, it is necessary to question the common belief that 'The object seen before our eyes is matter.' Without the presence of a feeling of doubt, the motivation to explore will not arise.

Now, let's talk about the object in front of your eyes, or it could also be said the object seen before your eyes, and I want to show that, if you think of this as a substance it causes a contradiction, so that you all can feel some doubt.

Spot the difference puzzle

Fig.3-1(a)

Figure 3-1(a),(b) shows a puzzle known as 'spot the difference,' which is often seen in magazines. In this puzzle, the copy of the original picture has parts that differ from the original, and the task is to find these differences. Since this is a puzzle, the two pictures are very similar, and finding the differences can be quite a challenging task.

Fig.3-1(b)

Since a spot-the-difference puzzle is precisely a puzzle, there are always differences between the two pictures. A common method for finding the differences is to divide the two pictures into several parts and compare them alternately. However, if you can overlay the two pictures and view them through each other, it would likely be easier to spot the differences. If the two pictures are the same, they should match perfectly, and if there are differences, discrepancies should be found between them.

Whether the world seen before our eyes is the material world as common knowledge indicates, or a different world distinct from the material world, can be clarified by superimposing two pictures representing the material world and the world seen before our eyes.

Incidentally, in Figure 3·1, there is a difference in the head of the parrot perched on the perch. 'Was it too easy?'

Physical properties corresponding to color

Colors are what add vibrancy to the world before our eyes. Normally, we do not pay much attention to the impact that colors have, but sometimes we are surprised by the significance of their existence. For example, when watching an old black-and-white movie on television, we do not particularly feel a sense of discomfort while watching it, but as soon as it switches to a commercial, we are amazed by the richness that colors bring to the images. Similarly, the freshness of young leaves in early summer, a rainbow that appears in the clear sky after a sudden shower, or mountains dyed entirely in vermilion or yellow provide people with relaxation and inspiration.

The physical properties corresponding to color can be represented by the wavelength of electromagnetic waves. Those with wavelengths from about 380 to 770 nm are called visible light. Electromagnetic waves with shorter wavelengths than those are called ultraviolet rays, while those with longer wavelengths are called infrared rays.

When electromagnetic waves hit a substance, the substance has the property of absorbing electromagnetic waves and reflecting specific electromagnetic waves. The object seen before our eyes has its own inherent color, but the reflected electromagnetic waves are not directly related to the color itself, although they have an indirect connection. For example, green plants, as their name suggests, appear green, because the leaves of green plants absorb electromagnetic waves with wavelengths ranging from 440 nm (blue-

violet) to 660 nm (red) and reflect electromagnetic waves with wavelengths around 550 nm (green to yellow).

In this way, colors are closely related to the wavelengths of electromagnetic waves, but colors themselves do not exist in the material world. The colors described as blazing red, deep-sea ultramarine, or bright yellow green do not exist anywhere in the material world. Color itself is a psychological phenomenon, created after when electromagnetic waves reach the retina, are converted into electrical signals, and reach the brain.

What should be noted here is that the word 'light' originally has a close connection with color. In other words, we have the preconceived notion that light itself is color, such as red light, blue light, and green light. However, light is an electromagnetic wave, essentially inorganic, and has no direct relationship with color. If we try to rephrase them as red electromagnetic waves, blue electromagnetic waves, or green electromagnetic waves, I think we can understand the special nature of the word 'light.' Of course, electromagnetic waves are unrelated to color. There is no way that red electromagnetic waves propagate in the material world, for example.

Let's try to overlay two worlds concerning color

Fig. 3-2(a) The material world

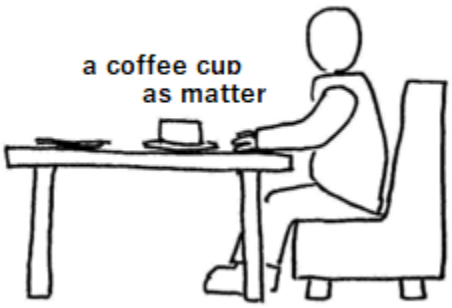


Fig.3-2(b) The material world

Now, please look at the three pictures shown in Figure 3.2. Each of them depicts a coffee cup and a person gazing at it. Figures 3.2(a) and (b) illustrate the material world, while Figure 3.2(c) depicts the world seen before the person's eyes. Figure 3.2(a) shows the material world from the side, and Figure 3.2(b) is drawn with perspective from the same angle as Figure 3.2(c) to make it easier to overlay.

What I want you to focus on in these pictures is the color. As you can understand from the previous discussion, color is a psychological phenomenon, not a physical one. The world seen before our eyes is as colorful as we normally see it, so naturally, the coffee cup depicted in Figure 3.2(c) is colored. On the other hand, color itself does not exist in the material world, so the coffee cups in

Fig.3-2(c) The world seen before our eyes

Figures 3.2(a) and (b) are not colored.

If the coffee cup seen before our eyes as shown in Figure 3.2(c) were a coffee cup as a physical object, it would match the coffee cup as a physical object shown in Figure 3.2(b), and the two pictures should be able to be overlaid. 'But what about in reality?' The two cannot be overlaid. The coffee cup depicted in the world seen before our eyes has color, while the coffee cup in the material world as the physical objects does not have color. In other words, the coffee cup seen before our eyes is not a physical object. Furthermore, the world seen before our eyes, including the coffee cup and the table, is not the physical world.

By the way, figure 3.2(c) should originally have color applied to all objects, not just the coffee cup, but to focus on the coffee cup, color is applied only to the coffee cup.

Two types of reactions

With just this explanation, were you convinced that 'That's right, the coffee cup seen before my eyes is not a coffee cup as a physical object'' Or, even if you did not be fully convinced, did you think that 'I have begun to feel doubts about interpreting the coffee cup seen before my eyes as a physical coffee cup'? If you were convinced, so much better, but even if not, if you felt some doubt, then my initial goal has been accomplished.

What we are discussing here is not a simple matter, so even if you feel some doubts, it is not something that you can easily accept. Feeling doubt may give rise to new questions, or you may experience a vague sense of unease. However, these doubts and points of unease will be explained step by step from here on, and through that process, they can be resolved.

However, I think most people did not feel any doubts, and not only did they not feel doubts, but regarding my explanation like this, they probably felt compelled to give various opinions, thinking, 'What a ridiculous thing, enough of this childish nonsense.'

As for the former comment, 'I did feel some doubt, but at the same time I began to feel new doubts,' I will comment on it later; for now, let us first provide additional explanation regarding the latter rebuttal, 'What a ridiculous thing.'

Supplementary explanation in response to the rebuttal that 'Such an explanation is completely incorrect'

Let's proceed with the discussion in a dialogue format, treating statements from the perspective of 'The world seen before our eyes is the material world, and the coffee cup seen before our eyes is matter' as ‘Rebuttal’, and statements from the perspective of 'The world seen before our eyes is not the material world, and the coffee cup seen before our eyes is not matter' as ‘Responses.’

Rebuttal: The argument uses a strange line of reasoning, but the fundamental problem is in dividing the world into two. The world seen before our eyes is the material world itself, and the problem lies in claiming that it is different from the material world. It is said that the two worlds do not overlap, but if you say that the world seen before our eyes is not the material world, then where exactly is the material world?

Response: Certainly, the counterargument 'Where on earth is the material world?' is natural. However, for now, we are proceeding with the discussion by reconsidering whether the world seen before our eyes is truly the material world, and whether thinking of it as the material world leads to any contradictions.

If we think of the world seen before our eyes as the material world, there are various contradictory examples, one of which is the problem of color. As explained in the section 'Physical properties corresponding to color,' colors themselves, such as fiery red or ultramarine like the deep sea, are psychological phenomena and only arise after brain activity; colors themselves do not exist in the material world. The fact that we can perceive these colors at the objects seen before our eyes should be evidence that the world seen before our eyes is not the material world.

Rebuttal: It is argued that color does not exist in the material world, and as evidence, it is said that colors themselves, such as fiery red or deep-sea ultramarine, do not exist in the material world. However, just as there is the phenomenon of flame color reactions, lithium shows red when burning, and copper shows green. This should serve as evidence that substances possess the property of color.

Response: That is not correct. The flame color reaction occurs when the electrons that make up an atom gain thermal energy from combustion and enter an excited state, moving to outer electron orbitals. However, this state is inherently unstable, so the electrons return to their original energy level orbitals. At that time, they emit electromagnetic waves of characteristic wavelengths. It is true that there is a relationship between the wavelength of these electromagnetic waves and color, but it is not that the electrons emitting the electromagnetic waves have color, nor that the electromagnetic waves themselves have

color. Color is a psychological phenomenon and only arises in conjunction with brain activity.

Rebuttal: Although electromagnetic waves and color do not have a direct relationship, it is acknowledged that there is an indirect relationship. Even if color is produced at the level of the brain, could it not be considered that the color is reflected on the object seen before our eyes, coloring the surface of the material?

Response: Now, I ask. Even if we assume that the world seen before our eyes is the material world, how can colors generated by brain activity color the objects seen before our eyes? Even if we try to reproduce colors with our eyes closed, we cannot imagine colors as vivid as those that color the objects seen before our eyes. Colors are integrated with the objects seen before our eyes.

Rebuttal: There is the idea of projection. When an object is placed between a light source and a screen, the form of that object appears on the screen. This idea can also be applied to color. If we liken the object placed in front of the light source to a psychological phenomenon, the screen can be likened to the material world. The color itself does not exist on the surface of a matter, but through projection, the properties of color appear on the surface of the matter. In other words, the psychological phenomenon of color is projected onto the material world, and even if color can be observed on the surface of a matter, no contradiction arises.

Response: Using the concept of projection does not solve any problems. If we consider the occurrence of color as a process of 'external world → intake of stimulus → occurrence of color,' then would it be 'external world → intake of stimulus → occurrence of color → projection of color back to the external world'?

The concept of projection implies that there is, so to speak, a remote interaction between the material world and the world of the mind. So, what is the interaction that exists between the material world and the world of the mind? Using the term projection without clarifying its mechanism is nothing more than a substitution for the problem. Here and now, we must advance the discussion based on a body of facts, rather than stating hypotheses.

Rebuttal: Let's change the perspective and object not to the color itself, but from the viewpoint of 'being invisible.' If you close your eyes, the object seen before your eyes becomes invisible, doesn't it? That is because by closing the eyelids, stimulus from the outside world no longer enters. Therefore, the object seen before your eyes is a material thing, and the world seen before our eyes should be the material world.

Response: Indeed, that is correct; if you close your eyelids, information from the outside world will no longer enter. If this is understood as pertaining to the material world, there

is nothing mistaken about it. The idea of "being unable to see" is a high hurdle that hinders understanding the true features of the world seen before our eyes. To resolve this, we must wait for discussion from Section 2 of Chapter 3 onward. Additionally, questions, objections, and even perplexities about color should become clear during that process.

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In this way, the Response shows that color can be perceived on the surface of the object seen before our eyes and use that as a breakthrough to lead the discussion to the point that the object seen before our eyes is not matter, and the world seen before our eyes is not the material world.

In contrast, the opposing side does not want to give up the idea that the world seen before our eyes is the material world. Therefore, to avoid the contradiction of a psychological phenomenon like color being on the surface of matter, they are trying to overcome the difficulty by using the trump card of projection.

We usually think that color is a property that accompanies the surface of the object seen before our eyes and cannot be separated from the object seen before our eyes. However, by being aware that the object seen before our eyes is a material thing, or by once again realizing that color is a phenomenon that arises in the mind, it seems that we come to feel that color is a phenomenon separated from the object seen before our eyes. This feeling becomes even stronger when it is converted into words, such as vermilion, and although color is a phenomenon inseparable from the object seen before our eyes, it seems that accepting this fact becomes difficult.

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What is projection?

Let's briefly touch on the concept of ‘projection’ here. When looking at clouds floating in the sky, they sometimes appear to resemble various things. For example, they may look like foods such as ice cream or hamburgers, or small animals like dogs or cats. As can be understood from the words meaning 'to cast a shadow,' projection is the idea that one's own psychological state—such as being hungry or planning to get a pet soon—is cast onto the clouds, influencing how they are interpreted.

The word 'projection' is a convenient term. It can be said to be a word that allows us to deal with both physical and psychological phenomena without referring to the mutual relationship between them. That said, this does not mean that such an interpretation is correct. It is merely a convenient device to avoid immediate difficulties.

An explanation for the impression, 'I felt a sense of doubt, but at the same time began to feel a new doubt.'

Rebuttal: Color does not exist in the material world. While it is indeed questionable to consider the object seen before our eyes as material simply because we can perceive color on its surface, that does not mean we can easily accept the idea that the object seen before our eyes is not material. The reason is that if we think that way, new questions arise. Listing those questions, they are as follows.

Question 1: The Existence of Sensation

Let's take as an example Figure 3.2(c), which represents the world seen before our eyes. A coffee cup seen before our eyes feels heavy when we lift it and gives a sense of hardness and warmth when we touch it. If the coffee cup seen before our eyes is not a material object, such sensations should not occur. In fact, no matter how realistic a dream is, a dream without substance does not produce sensations, does it?

Question 2: The 'object of looking'

The coffee cup seen before my eyes is the object that 'I am here, and I am looking.' Therefore, if we try to fit it into the scheme from, Section 2 — the 'object of looking' (matter) →the 'body of looking' (physical body) → the 'result of looking' (psychological phenomenon) — my body actually exists right seen before my eyes, and since I am looking with that body, the coffee cup seen before my eyes is an 'object of looking,' and therefore, we cannot help but say it is matter. As was mentioned in the previous 'rebuttal,' it disappears when I close my eyes, doesn't it?

Question 3: Objects exist outside the body

Related to 'Question 2,' since 'I am here, and am looking', the coffee cup seen before my eyes must be outside of my body. My body is a physical body, and the world beyond my body, including my body, is the material world. Since the coffee cup seen before my eyes is outside of my body, it must belong to the material world. Therefore, I have no choice but to say that the coffee cup before my eyes is matter.

Because of these questions, I cannot deny the idea that 'the object seen before my eyes is matter.'

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It is certainly natural to have such questions. In particular, the argument that 'I am here, and I am looking,' is one of the hardest tricks set up by the brain, and it is not easy to see

through it. However, even the most cleverly engineered tricks always have a flaw. If you find that weak point, these three questions can be resolved logically. In the following section, I will explain these three points of doubt.

The problem is the case in which people feel no doubt that color, which is a psychological phenomenon, is attached to the object seen before our eyes, and is how to make such people feel doubt. Without feeling doubt, the desire to inquire will not arise.

In the following sections, we will continue discussing various cases when considering the object seen before our eyes as a material thing, it leads to contradictions. At that stage, you might feel puzzled and think, 'I see, that's strange.' I hope you will be patient and continue reading for a little while longer.

Summary of this section

To deny the proposition 'The object seen before our eyes is a material thing,' it is sufficient to present a single counterexample. As that counterexample, the fact that 'The object seen before our eyes has color' was taken. Color is a psychological phenomenon, and from the fact that this color is associated with the object seen before our eyes, the conclusion that 'the object seen before our eyes is not a material thing' is drawn.

Chapter 3

Section 2: Can the existence of sensation serve as proof that it is matter?

Des the existence of sensation suggests the existence of matter?

Matter is considered to be something that contrasts with the mind and consciousness. If asked, 'What is the image of matter?' one would likely respond, 'It has shape and size, and brings sensations such as weight, hardness, and warmth.' In other words, it is said to have a substance, with its own specific shape and size; when touched it is hard, when held it is heavy, and one can feel warmth or coldness.

In response to that, if asked, 'What is your image of the mind or consciousness?' I think the answer would be, 'Something without shape or size, a non-substantial thing that cannot be seen or touched.'

For example, let's say there is a coffee cup on the table seen before your eyes. The coffee cup is cylindrical, has a handle, and has its characteristic shape. And its

surface is colored. Unlike a coffee cup in a dream or imagination, if you hold it, you can feel its weight, and you can also sense the hardness unique to ceramic. Furthermore, if it contains hot coffee, you can feel its warmth and perceive the distinct aroma of coffee. No matter how realistic a dream about coffee might be, you cannot get this level of sensation, and even if you mentally wish to drink your usual coffee at your usual café in the afternoon, you cannot imagine coffee this vividly.

People who think that the object seen before their eyes is a material thing would likely consider the characteristics associated with these coffee cups—such as shape, size, weight, hardness, warmth, and aroma, that is, the various sensory aspects of the coffee cup—as evidence that the coffee cup seen before their eyes is a material object. They would reason that something that is not material could not possess properties such as shape, size, weight, hardness, warmth, or aroma, and thus develop the logic that the coffee cup seen before their eyes is material.

Certainly, there are physical properties that guide things like weight, hardness, warmth, and aroma. Weight is proportional to the mass of the object. Hardness is determined by the structure of the molecules that make up the object. Warmth is determined by the thermal energy that the object possesses. And aroma is determined by the chemical components of coffee. Therefore, it would be correct to conclude that the existence of sensations suggests the existence of matter.

Physical properties are not sensation

However, what must be noted here is that while it is true that those physical properties correspond to each of our senses, it does not mean that physical properties are equivalent to sensations. No matter the mass of a kettle filled with water, the sensation of weight that can be felt from the palm to the arm when holding it is a psychological property. No matter what the atomic or molecular structure of iron or sponge is, the sensation of hardness or softness that can be felt when grasping it is a psychological property. No matter the level of thermal energy of the molecules that make up the object, the sensation of warmth felt in the palm is a psychological property. Likewise, no matter what chemical components coffee contains, the roasted aroma itself is a psychological property.

The fact that the coffee cup seen before our eyes possesses psychological properties such as hardness, weight, warmth, and aroma suggests that a coffee cup as a physical object exists, but it does not serve as proof that the coffee cup itself is a physical object. The very existence of these sensations along with the coffee cup seen before our eyes should, conversely, serve as proof that the coffee cup seen before our eyes is

not a physical object.

To repeat, a coffee cup as a material object certainly exists. A porcelain coffee cup filled with Brazilian coffee certainly exists. Once it is placed on a table, even if you leave it momentarily for some reason, the coffee cup continues to exist on the table. However, the coffee cup seen before your eyes exuding a pleasant aroma, giving you a sense of weight and warmth when you hold it, and providing comfort when you drink from it, cannot be called a coffee cup as a material object because it exists together with these psychological properties.

Compare two pictures

Fig.3-3(a) The material world

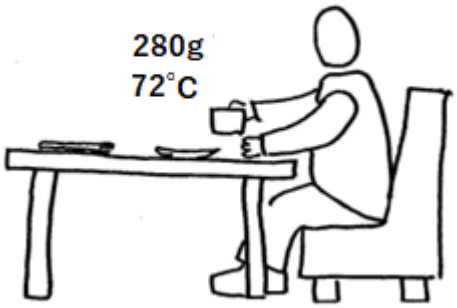
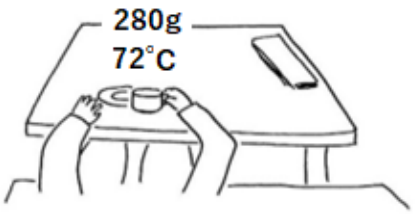


Fig.3-3(b) The material world



To investigate whether the world seen before our eyes is the material world as common knowledge indicates, or a different world from the material world, in the previous section we compared two pictures representing the two worlds in terms of color. Here, let us again try comparing the two pictures, this time in terms of sensation.

Please look at Figure 3.3. It depicts a person faced with coffee, reaching out to the coffee cup to take a sip. Both Figures 3.3(a) and 3.3(b) represent the material world; Figure 3.3(a) is drawn from a side view, while Figure 3.3(b) is drawn from the position of that person's eyes. Since these pictures represent the material world, the mass of the coffee cup is indicated in grams, and the thermal energy of the coffee is shown in terms of temperature. Sensation is a psychological phenomenon and not a physical one, so no sensations are depicted anywhere in these diagrams that represent the material world.

Fig.3-3(c) The world seen before our eyes

On the other hand, Figure 3.3(c) represents the world seen before our eyes, a world in which sensations exist just as we experience them in daily life. However, since it is not possible to directly depict sensations in the drawing, the 'hardness' of the ceramic felt at the fingertips holding the handle of a coffee cup, the 'weight' felt in the fingertips and wrist, and the 'warmth' transmitted to the fingertips are noted in words on the drawing.

Let's try overlapping and comparing the two images in Figures 3.3(b) and (c). "Will they overlap?" They will not overlap. In one world, sensation does not exist, and in the other world, sensation does exist. When you reach out to a coffee cup and are about to take a sip of coffee, which of the images does the coffee cup you are seeing and experiencing match?

Try picking up a coffee cup. The moment your fingers touch the handle of the coffee cup, you should be able to feel the hardness of the ceramic and the warmth of the coffee inside. The coffee cup seen before your eyes matches the coffee cup depicted in the world spread seen before your eyes in Figure 3.3(c). Therefore, the coffee cup seen before your eyes is not material, and the world spread out before your eyes, where that coffee cup exists, is not the material world.

The rebuttal that senses are projected onto the material world

As in the case of the color problem in the previous section, from the standpoint that the world seen before our eyes is the material world, the concept of projection is introduced, and objections are raised.

Rebuttal: It is true that sensation itself is a psychological phenomenon and not a physical phenomenon. However, sensation is a property associated with matter, and without the existence of matter, sensation cannot arise. Since various sensations arise because a coffee cup exists, the coffee cup seen before our eyes is matter.

Response: As I mentioned earlier, the existence of sensation suggests the existence of matter. That is indisputable. The coffee cup, as a material that brings about sensations such as hardness, weight, and warmth, certainly exists. However, the coffee cup as matter is not the same as the coffee cup right seen before our eyes. Otherwise, matter and sensation, which are heterogeneous, would coexist in the same world. Can matter and sensation, which are heterogeneous, coexist in the same

world?

Rebuttal: It is not that the sensation of color arises in our minds; rather, just as color is associated with the surface of an object, sensations such as hardness are also associated with objects. We should consider that the world seen before our eyes is the material world, and that the coexistence of the heterogeneous things of matter and sensation is made possible by sensations being projected onto it.

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From the standpoint of the main argument (Response), it is argued that the world in which sensations, which are psychological traits, exist cannot be the material world. In contrast, from the opposing standpoint (Rebuttal), the claim is repeatedly made that the world seen before our eyes is fundamentally the material world, and that sensations are projected onto it.

A strange world where sensations are mixed

If we suppose that the world seen before our eyes is the material world, we would have to consider that sensations, which are psychological phenomena, mix into the material world. As was the case with the problem of color discussed in the previous section, various phenomena that cannot be explained would arise. Let's take a look at two more examples.

(1) The sensation of the tip of a pencil

Let me tell you an example where a sensation arises at the tip of a pencil. It's easy to experience, so please give it a try.

First, try running your finger along the smooth surface of a table. Naturally, you will feel a slick sensation on your fingertip. Since there are sensory receptors in your fingertips, this is probably something that seems very natural to you. Now, next, hold a pencil in your hand and try running the tip of the pencil along the same surface of the table in the same way. Where do you feel the slick sensation? You would feel it is at the tip of the pencil, just like when you ran your finger along it.

When you traced it with your finger, you probably didn't find it strange because sensory receptors are present at your fingertips, but you might have had a surprising impression when a smooth feeling occurred at the tip of the pencil. This is because there are no sensory receptors at the tip of a pencil, and in this kind of movement, there is no rubbing motion occurring at the fingertips holding the pencil.

The fact that a similar smooth sensation appeared at their tips when rubbed with fingertips and when rubbed with a pencil suggests that the smoothness is not based

on the sensory receptors in the fingertips, but rather on the ability to move the hand and arm smoothly. On closer observation, it might even feel as though this smooth sensation occurs on the surface of the table, rather than at the tips of the fingers or the pencil.

Whether that smooth sensation occurs at the tip of the pencil or on the surface of the table, it results in the strange phenomenon of sensations being mixed in the material world. From the standpoint of considering the table or pencil seen before your eyes as matter, how would you explain this phenomenon? As with the colors in the previous section or the sensations related to the coffee cup just now, would you have to repeatedly resort to the explanation of projection?

(2) The sensation inside the mirror

Next, let's talk about an example where a sensation arises in the mirror. This also can be easily experienced.

This may seem sudden, but first, try touching your cheek with your hand. Naturally, you will feel a sensation on your cheek where you touch it. Since both your hand and cheek have sensory receptors, there should be no doubt about this. Next, try touching your cheek with your hand again while looking in a mirror. If you overthink it, it might not work well, but this time, you may have felt a tactile sensation on the cheek reflected in the mirror. This means that a sensation has arisen in a world within the mirror, the world that does not actually exist.

In psychology, this is called ‘visual dominance.’ It is the principle that when vision and touch coexist, the position perceived by vision takes precedence. In the current example, since the hand is touching the cheek, the sense of touch should be felt at that part of the cheek. However, because the face is reflected in the mirror, the position of the cheek in the mirror becomes dominant, and the sense of touch is felt on the cheek reflected in the mirror.

When vision and hearing exist simultaneously, vision tends to dominate. When listening to television audio through earphones, the voices of the characters should be heard from the earphones, but when watching the screen of the television they seem to come from the mouths of the characters on the screen. This is also an example of the dominance of vision over hearing.

These phenomena are indeed given the name 'the superiority of vision,' but as long as we consider the world seen before our eyes to be a material world, they remain strange phenomena full of contradictions. However, if we accept that the world seen before our eyes is not the material world, then these seemingly strange phenomena

are no longer strange at all. To reach this understanding, there are still several steps we must take.

Summary of this section

Sensation arises based on physical properties. Therefore, it can be said that the existence of sensation suggests the existence of matter. However, the physical properties that cause sensation are strict physical phenomena, not psychological phenomena. The fact that sensation exists in the world seen before our eyes means that the world seen before our eyes is not the material world.

Chapter 3
Section 3: Is the object seen before our eyes the 'object of looking'?

The trick: 'I am here, and I am looking'

The biggest reason supporting the common knowledge that 'the world seen before our eyes is the material world, and the objects seen before our eyes are material' is probably the thought, 'I am here, and I am looking.' For example, this can be well understood even by considering the simple act of taking a sip of coffee.

First, the desire to drink coffee arises in your mind. Then, you shift your gaze from the newspaper you were reading to the coffee cup on the table and reach for the handle. You apply pressure with your fingers to grip the handle according to the weight of the coffee cup. Then you bring the coffee cup to your mouth, check if the coffee is not too hot, and take a sip.

The thought of 'I am here, and I am looking at it' accompanies all this series of actions. However, unlike when walking step by step along a treacherous mountain path, where one must carefully check each step, one does not become particularly conscious of their own actions here, and they are partly automated; yet certain key points are still consciously acknowledged. The coffee cup seen before your eyes is considered as ‘the object that I am here, and I am looking at,' and ‘the object that I am here, and I am interacting with.' Under this thought, the coffee cup seen before your eyes is regarded as a material coffee cup.

Please refer to Figure 3.4(a). This depicts the scene I just described in the material world, with the viewpoint taken from the side. Indeed, in the material world, there exists your physical body and a coffee cup as matter. Your physical hand reaches for the coffee cup to drink coffee, the coffee cup is brought to your mouth, and a sip of coffee is taken—this series of physical actions occurs. That is an indisputable fact. There exists the coffee cup as the 'object of looking' and your body as the 'body of looking.'

Fig.3-4(a) The material world

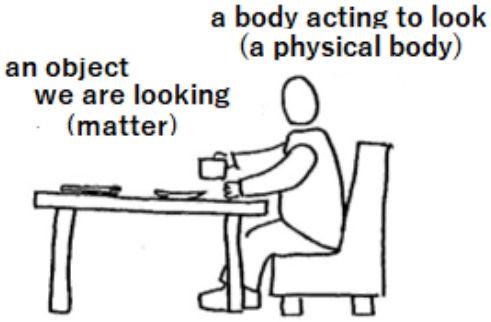
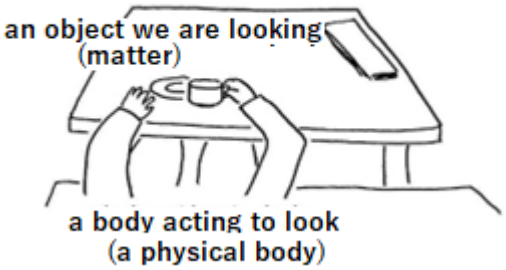


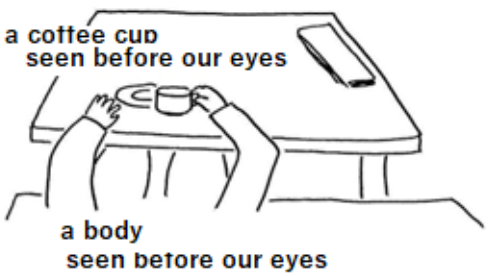
Fig.3-4(b) The material world



Next, let's consider Figures 3.4(b). Like Figure 3.4(a), this also represents the material world, but it is drawn from the position of your eyes, following the rules of perspective. In this case as well, the same can be said as for Figure 3.4(a). There is your hand as your physical body in the material world, and there is a coffee cup as matter. Your physical hand grasps the coffee cup, the cup is brought to your mouth, and a sip of coffee is taken—a series of physical actions occurs. There exists the coffee cup as matter, that is, the 'object of looking,' and your physical body, that is, the 'body of looking.'

The thought 'I am here, and I am looking' prevents us from seeing through the true nature of the world of the mind, but the reason for this gradually becomes clear in the discussion following this section. For now, let's briefly explain, using Figures 3.4, the mechanism, so to speak, hidden in the thought 'I am here, and I am looking'.

Fig.3-4(c) The world seen before our eyes



Next, let's consider Figure 3.4(c), which depicts the world seen before your eyes. Figure 3.3(c) this time, unlike Figure 3.2(c) in Section 1 of Chapter 3, no colors are added. Therefore, it is exactly the same as Figure 3.4(b). In Figure 3.4(c) as well, the act of drinking coffee generates exactly the same events as in Figure 3.4(b): your hand reaches for the coffee cup seen before your

eyes, the cup is brought to your mouth, and a sip of coffee is taken—a series of actions unfold there.

In this way, in any of these cases, we can observe the series of actions of drinking coffee. And each of them represents the state that is occurring, so there is no mistake. However, the scenario that correctly expresses the meaning of the words 'I am here, and I am looking' is that of Figure 3.4(c), not Figure 3.4(b). At this stage, without any detailed explanation, it will of course be hard to understand, but the mechanism behind the words 'I am here, and I am looking' lies exactly here.

In other words, because the series of actions unfolding in the world seen before our eyes in Figure 3-4(c) seems to be exactly the same as the series of movements occurring in the material world of Figure 3-4(b), we end up superimposing 'ourselves' not onto the person in Figure 3-4(c), but onto the person in Figure 3-4(b). On top of that, by using the reasoning 'I am here, and I am looking,' we come to think that the body seen before our eyes is a physical body, and that the world outside the body, including our body itself, belongs to the material world. Therefore, we come to hold the view that the coffee cup seen before our eyes is the 'object of looking (material)' that belongs to the material world.

As I have mentioned repeatedly, the world seen before our eyes is not the material world. One of the reasons that prevents us from discerning that the two are different worlds is the fact that Figures 3.4(b) and 3.4(c) are drawn using the same method of representation. Figure 3.4(b), which reflects the notion of what the material world is like, overlaid with Figure 3.4(c), which is the world seen before our eyes. And because it seems that the two matches, we end up thinking that the world seen before our eyes is the material world.

In order to show that the two are different worlds, Chapter 3, Section 1 examined color. In this section, to break down the trick of 'I am here, and I am looking' I would like to explain, through the analysis of the phenomenon of double image, that the object seen before our eyes is not the 'object of looking,' but the 'result of looking.'

A double image

Our eyes are positioned side by side on the front of the face. Therefore, when looking at a specific object, we direct the orientation of both eyes, that is, our gaze, toward that object. Aligning the gaze of both eyes to a single point is called "convergence," and as a result, the object forms images at the centers of the retinas of both eyes, allowing us to see it as a single image.

The images on the left and right retinas match perfectly only in a very limited part

at the center of the retina. Even just a little away from the center, the images on the left and right retinas do not match. Try holding a three-dimensional object like an eraser in front of you and alternately view it with each eye. You can observe the difference in the images.

As long as the disparity between the images seen by the left and right eyes is small, that disparity serves as a cue for perceiving the object in three dimensions. Figure 3-5(a) shows the images seen by the left and right eyes when looking down on a square pyramid. The position of the apex appears slightly shifted between the two eyes.

Fig. 3-5

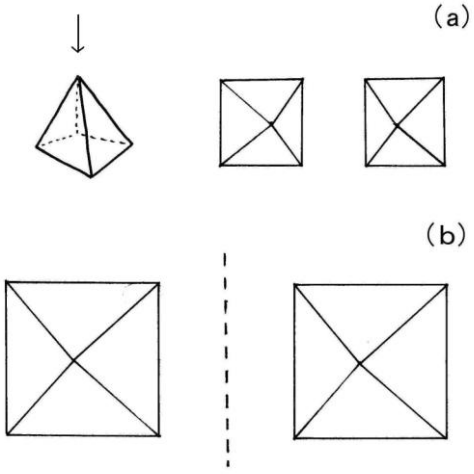


Figure 3.5(b) is a redrawn version to allow experiencing stereoscopy. Place a mirror at the dotted part of the figure with the reflective surface facing left, then view the right figure with the right eye and the left figure reflected in the mirror with the left eye and adjust so that they overlap. Then, a three-dimensional shape that looks like a square pyramid seen from directly above will appear.

If you reverse the orientation of the mirror and try to view the left figure with your left eye and the right figure reflected in the mirror with your right eye, you will now see a three-dimensional figure as if you are looking down from above an inverted square pyramid. In this way, as long as the displacement between the left and right images is small, it serves as a cue when viewing objects stereoscopically.

When the misalignment becomes large, it becomes difficult to see the images from the left and right as a single image, and instead, the images appear doubled. Try bringing your gaze closer in, into what is called a cross-eyed state. The object in front of your eyes, which had appeared as one until then, will appear as two. In the act of looking at, our awareness is normally focused only on a very limited central part of the visual field, so we rarely notice this, but slightly away from the center of the visual field, a double image is always occurring.

The contradiction of a double image

Now that you have some preliminary knowledge about a double image, let's explain that the object seen before your eyes is not the 'object of looking' but the 'result of looking'.

Fig.3-6(a) The materila world

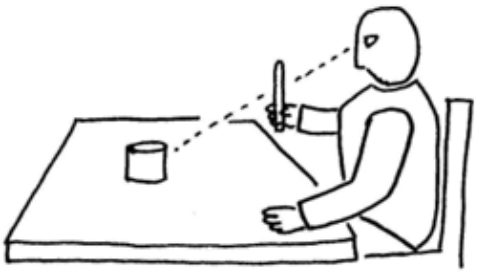
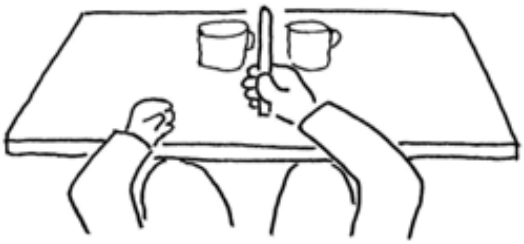


Figure 3.6(a) represents the material world. As shown in this figure, try holding a pencil in front of you with a coffee cup of the table as the background, and focus your gaze on that pencil.

Then, as illustrated in the diagram of the world seen before your eyes in Figure 3.6(b), you will see a single pencil clearly against a background of two slightly out-of-focus, blurry coffee cups. You might think, 'Isn't that obvious?' but the issue lies in how the pencil that you see there is being interpreted.

Let me make it clear again; this is a story about the pencil you see in the world seen before your eyes.

Fig.3-6(b) The world seen before our eyes



In general interpretation, it would be understood as a pencil made of matter that exists in the material world. Indeed, if one wishes to tilt it by one's own will, it can be tilted, and if one wishes to move it back and forth, it can be moved, so it would be interpreted as a real pencil that is not an illusion or image. Applying the schema of the act of looking—that is, 'the object of looking (matter) → the body of looking (physical body) → the result of looking (psychological phenomenon)'—it would be interpreted as a pencil as 'the object of looking.'

Fig.3-6(c) The world seen before our eyes

Let's tentatively accept that interpretation and move on. This time, instead of the pencil, try directing your gaze to the coffee cup on the table. Then, as shown in the illustration representing the world seen before your eyes in Figure 3.6(c), the pencil that you could clearly see before, will appear as a slightly blurred a double image in front of the coffee cup.

Now, a problem arises. In the common interpretation, the pencil that was seen as one when first looked at it is interpreted as a real pencil made of matter, or as the 'object of looking.' But then, when the gaze shifts to the coffee cup behind, how are

the two pencils that appear as a double image interpreted? Could it be interpreted that only the pencil that appeared as one is the real pencil, and the two slightly blurred pencils are merely images?

However, can such reasoning really be valid? In fact, if you return your gaze to the pencil, the two vague pencils you saw earlier become a single pencil. If we assume that the pencil that appeared as one is a real pencil, then moving your gaze will not make that real pencil disappear anywhere. When it becomes two pencils, which one would be considered the real pencil? We must not overlook the fact that the pencil that appears as one and as two are both in the same space before our eyes.

The object seen before our eyes is the 'result of looking'

When it comes to what causes a double image in the act of looking, there would be no disagreement in thinking that it is based on the image formed on the retina. For example, if a double image is seen as in Figure 3-6(c), closing the left eye and looking only with the right eye should make one see a pencil on the left side of the coffee cup, and closing the right eye and looking only with the left eye should make one see a pencil on the right side of the coffee cup. These two images combined to appear as a double image.

Even if an image is formed on the retina, that alone does not mean that a double image is seen. The image on the retina is converted into electrical signals, which are transmitted to the central nervous system, and only then does it occur. It happens at the final stage of information processing in the central part of the cerebrum. If we apply it to the schema of the ‘act of looking’; 'object of looking’ → body of looking’ → ‘result of looking'; it corresponds to the 'result of looking (psychological phenomenon)' rather than the 'object of looking (material)'. In other words, a double image is the 'result of looking'.

Fig.3-6(d) The material world

In fact, if we try to represent the material world not from the perspective shown in Figure 3.6(a) but from the observer's eye position, it appears as in Figure 3.6(d). Whether the focus is on the pencil or the coffee cup, there is just one pencil and one coffee cup, and no double image exists.

If a double image is the 'result of looking,' then a single image should also be the 'result of looking.' In fact, when it appears as two, if you start directing your gaze

toward the pencil, the two pencils gradually come closer together and eventually become one. The reasoning that when there are two, it is the pencil as an image as a 'result of looking,' and when there is one, it is the actual pencil as the 'object of looking,' does not hold.

Alternatively, try closing one eye when you see a double image. It should appear as one. The reasoning that the two pencils seen with both eyes are 'image' as the 'result of looking,' and the one pencil seen with one eye is the 'object of looking", and the 'actual pencil,' does not hold.

The 'result of looking' is generally considered to be something like a vague image in the mind. For example, it is interpreted as something vague like the image that comes to mind when you hear the word 'apple' or the faint image you have in your mind immediately after closing your eyes while looking at a coffee cup. However, the 'result of looking' obtained through the 'act of looking' is not such a vague image; rather, the coffee cup itself that is visible in front of your eyes is the 'result of looking.' The 'result of looking' exists within the world that spreads out before your eyes as the outcome of the 'act of looking.'

It is easy to understand if we think about stereoscopic vision. 3D images are explained as being perceived in three dimensions because two different images for the left and right eyes are sent to and processed by the brain. That is certainly true, but as can be experienced using a mirror in Figure 3.5(b), what appears three-dimensional is the image right in front of our eyes, and it is by no means something seen so-called inside our mind.

The duality of the object seen before our eyes

This was briefly touched upon in Chapter 2, Section 2, but the object in front of our eyes is generally considered, under common interpretation, to be the 'object of looking.' However, without realizing it, we sometimes interpret it as the 'result of looking,' meaning that the interpretation of the object seen before our eyes has a dual aspect.

In the act of looking, as with other verbs related to perception, there are both transitive verbs like 'to look at~' and intransitive verbs like '~ is visible' or 'can be seen'. The term 'to look at~' tends to be used when one is strongly aware of one's own existence and is looking at something outside one's body. In other words, it is 'I am here, and I am looking,' which involves a distinction between the 'body of looking' and the 'object of looking.'

On the other hand, the phrase '~ is visible' or 'can be seen' tends to be used in the

sense that one has little awareness of looking at the object, that is, one has little awareness of being involved in the ‘act of looking,’ and that the object exists there because of a result of the ‘act of looking.’ In other words, it indicates that the object exists there as a result of the ‘act of looking,’ and from this, it can be interpreted that the object before one's eyes is understood as the 'result of looking.'

For example, the expression 'looking at a coffee cup' is interpreted as the coffee cup in front of one’s eyes being the 'object of looking' (material) in the material world, whereas the expression 'the coffee cup is visible' can be said to be interpreted as the coffee cup in front of one’s eyes being the 'result of looking' (psychological phenomenon).

The story about the pencil seen before your eyes, which I discussed in the previous section in relation to a double image, can precisely be applied to this example. When it appears as one, it is understood as the pencil existing in the material world as the 'object of looking,' and that ‘I am looking at that pencil.’ On the other hand, when it appears slightly blurry and as two, it is understood as the pencils as the 'result of looking' in the form of images, and that these are what are being visible to me.

At times it is interpreted as 'being looking at,' and at other times as 'being seen,' and by being used interchangeably without the two interpretations being consciously recognized, it is probably structured so that the common knowledge that the world seen before our eyes is the material world does not collapse.

However, confusion can arise when the object seen before our eyes is sometimes interpreted as the 'object of looking' and sometimes as the 'result of looking.' As an example, let's introduce the issues of the 'Inverted retinal image' and ‘Is it impossible to see?'.

*

Inverted retinal image

Because our eyes are made up of convex lenses, the external world is projected upside down on the retina. This raises the question: 'Since the act of looking is based on the retinal image, the external world should appear upside down. However, we see the external world upright. Why is it that we can see the external world upright even though it is projected upside down on the retina?' This is the problem of the ' Inverted retinal image.'

This question seems to raise doubts for relatively more people compared to the issue discussed in Chapter 3, Section 1, about 'color.' While the problem of color is something too commonplace, the problem of the 'inverted retinal image' might be simply because it is not often heard of.

The answer to this question must wait for the considerations about the body that will be addressed in the next section. Therefore, we will take it up again and explain it in detail in the next section, but in any case, one part of the reason behind such a question lies in viewing the object seen before our eyes not as the general interpretation of the ‘object of looking,' but as the ‘result of looking'

In fact, if you interpret the world seen before your eyes as the material world, and consider the object seen before your eyes as the commonly interpreted the 'object of looking,' then the 'object you are looking' is inherently upright relative to your body, and the retinal image is merely its inverted version, so you would not feel any doubt, nor should any logical problem arise. The reason doubts arise is that you are perceiving the object in front of your eyes, not according to the common interpretation, but unconsciously as the 'result of looking.' In other words, the doubt arises from the thought, 'If the object seen before my eyes is the ‘result of looking,’ then why is it not inverted?' However, it is correct to interpret the object seen before your eyes as the 'result of looking.'

*

Is it impossible to see the fine structure?

In Section 1 of Chapter 2, under the heading 'Actually, a strange material world,' there was the opinion that 'Since matter is composed of fine particles such as atoms and molecules, in order to represent the material world, one needs to draw a picture full of gaps.' In response, a counterargument arises, saying, 'That is not necessary. The fine structure of the material world exceeds the resolution of the eye, so it is impossible to see it.' However, we discussed that this is a strange logic when expressed from the standpoint of common knowledge, which considers the world seen before our eyes as the material world, and it leads to a self-contradiction.

The statement 'It is impossible to see' contains a contradiction in that it considers the object in front of our eyes as both the ‘object of looking' and the ‘result of looking.' In other words, this statement is made from the standpoint that the object seen before our eyes is material, and we should think of the object seen before our eyes as the ' object of looking.' However, the expression 'It is impossible to see' means 'as a result of the act of looking, the fine structure could not be seen,' which should imply that the object seen before our eyes is the 'result of looking.'

For example, let's say you are observing the stomata on the underside of a plant leaf with a microscope. By increasing the magnification of the microscope, you can see the details of the stomata, but this is due to a change in the image of the subject obtained at the eyepiece caused by the combination of lenses in the microscope, and

when one says that 'I can see the fine structures,' they are referring to that state. However, regardless of the magnification of the microscope, there is no change in the plant leaf itself, which exists in the material world.

The same applies when we observe objects with the naked eye. The statement 'Atoms and molecules cannot be seen because they exceed the resolution of the eye' originates from the collection of information about the object through the eye's convex lens and retina, and the result of processing in the central nervous system, which leads to 'not being able to see.' This implies that the object seen before our eyes is the 'result of looking.' In other words, the reason we cannot see it lies on the human side, and the material world remains in the same state regardless of the resolution of our eyes. To represent the material world, there is no choice but to depict it as a state full of gaps.

The statement 'It cannot be seen' is made from the standpoint of viewing the object seen before our eyes as the ‘object of looking,' but at the same time, we also consider the object as the ‘result of looking.' In this case as well, it can be observed that the object seen before our eyes is interpreted in a twofold manner without realizing it. Of course, interpreting the object seen before our eyes as the ‘result of looking' is a correct interpretation.

*

You might feel a sense of unease with the conclusion that the object seen before your eyes is the 'result of look' and one reason for this could be that we habitually and skillfully differentiate between two verbs. In other words, sometimes we think 'I am looking at,' and other times we think 'it is visible to me,' in order to avoid contradictions in our interpretation of the object seen before our eyes. It should not be forgotten that both the verb 'to look at ~' and the verb 'to be visible ~' are used for the same object seen before our eyes.

The thing seen before our eyes is apparent matter, and the world seen before our eyes is the apparent material world.

From the analysis of a double image, we arrived at the conclusion that the pencil seen before our eyes is the 'result of looking.' This is not limited to pencils or coffee cups. Everything we see before our eyes—the table, the floor beneath our feet, the wall we see when we look up, and the ceiling when we look even higher—are the 'results of looking.' Furthermore, when we direct our gaze outside the window, the cityscape, the land, and the sky that spread there are all also the 'results of looking.'

The 'result of looking' is obtained at the final stage of the ‘act of looking,’ where

information from the external world carried in the form of light is converted into electrical signals in the retina and transmitted to the central nervous system. So, it is a psychological phenomenon. The objects that appear continuously before our eyes as we direct our gaze are generally thought, according to common knowledge, to be matter, but they are not material. In other words, they are what could be called ‘apparent matter.’

Of course, you might argue that the objects seen before your eyes, since they produce sensations such as weight, hardness, and warmth when held, are matter because they are accompanied by these sensations. However, as discussed in the previous section, the existence of sensations may suggest the existence of matter, but the existence of sensations does not mean that they are matter.

The world seen before our eyes is composed of these apparent substances, so it is not the material world, but so to speak, the ‘apparent material world.’ I have continued to say that the world seen before our eyes is different from the material world, and this is derived from the fact that the objects seen before our eyes are the 'result of looking.'

Common knowledge about what matter is like, or common knowledge about what the material world is like, is merely common knowledge; it is the result obtained through acts such as seeing, hearing, or touching matter and the material world, and it is not the matter or the material world itself.

In fact, the worldview presented by modern physics is almost completely different from common knowledge, but that can naturally be said to be the case. The material world that we recognize as common knowledge is merely one aspect of the material world, captured through visible light and within the resolution range of our eyes.

However, it is probably not something that you can immediately accept that ‘the object seen before your eyes is the result of what you see and thus is apparent matter, and the world seen before your eyes, composed of these things, is the apparent world.’ ’Up until now, you have thought that the object seen before your eyes is matter, and that the world seen before your eyes is the material world, and even now, you probably still think so. Therefore, even if this reasoning is logically demonstrated through something as commonplace as a double image, it is understandable that you might not be convinced. You might feel that there must be some logical flaw somewhere and be inclined to search for the point of contradiction. I think that I would do the same if I were in your position.

However, the path to understanding the world of the mind begins with the fact that the objects seen before our eyes are the ‘results of looking.' It is necessary to recognize

logically obtained facts as facts and to repeatedly engage in the work of exploring their meaning without being constrained by common knowledge.

Even so, there will undoubtedly be thoughts that you cannot fully accept. Among all these instances of dissatisfaction, the greatest is probably the question regarding your own body seen before your eyes. It is the question: 'You say that the world spreading out before our eyes is the apparent material world, but my body seen before my eyes is a physical body. How can it be said that the apparent material world exists outside of my physical body?' I will talk about this in more detail in the next section.

Afterimage: Supplemental explanation

The previous explanation that the object seen before our eyes is not the ‘object of looking’ but the ‘result of looking’ is probably difficult to understand. However, the problem is extremely simple. I think there is no objection to the idea that "If an image is not formed on the retina, we cannot see." The question is how the image formed on the retina is connected to seeing. The common interpretation is probably that by forming an image on the retina, the object seen before our eyes becomes visible. That is, indeed, the correct interpretation. The cause is the image being formed on the retina, and the result is the object that is seen before our eyes.

For example, let's close your eyes and then try opening them. Naturally, a colorful world appears before your eyes. This is because an image of the outside world has been formed on the retina. An image is formed on the retina is the cause, the world you see in front of your eyes is the result of that. Using an eye exam as an example might also be helpful. In the case of nearsightedness, the Landolt ring appears blurry, and we cannot tell the direction of the gap. This is because the image formed on the retina is blurry, not because the eye chart itself is physically blurry.

I hope that the explanation so far has made you somewhat question the idea that the object you see before your eyes is the 'object of looking,' but I think it is difficult to accept that it is the 'result of looking.' The reason for this lies in the existence of one's own body. Leaving that explanation to the next section, here I would like to explain again, through the phenomenon of afterimages, that the object you see in front of your eyes is indeed the 'result of looking.'

Under bright light, prepare a white piece of paper on the desk in front of you and place a coin on it. Then, gaze at the coin for about 30 seconds. After that, look away from the coin. You should then be able to see a white circle against a black background. As you know, this is the afterimage you have obtained. For a test, try shifting your gaze from the desk to the wall of the room. Unlike before, you should be

able to see a much larger circle.

Here is a question. Is the afterimage of a coin that you see in front of your eyes the 'object you are looking at'? It is not. Once you shift your gaze, you are no longer looking at the coin. In other words, the 'object you are looking at' does not exist in the world seen before your eyes. Electrical signals from the retina as an afterimage continue to be transmitted to the central nervous system, and the afterimage of the coin in front of your eyes is based on that information. Therefore, the afterimage of the coin you see in front of your eyes is not the 'object of looking,' but rather the 'result of looking.'

As I mentioned earlier, the reason this problem feels unsatisfactory lies in one's own interpretation of the body. I will explain this in detail in the next section.

The collapse of logic called 'projection'

In order to explain that the world seen before our eyes is not the material world, in Chapter 3, Section 1, we discussed color, and in Chapter 3, Section 2, we discussed sensation. We pointed out the contradiction that 'If one says that the world seen before our eyes is the material world, then psychological phenomena such as color and sensation would exist in the material world.' In response to this, from the standpoint of considering the world seen before our eyes as the material world, the counterargument was made that 'Psychological phenomena such as color and sensation are projected onto the material world.'

I think similar objections would also be raised regarding a double image. In response to the point, 'If you say that the world seen before your eyes is the material world, wouldn't that mean that the psychological phenomenon of a double image also exists in the material world?', the counterargument would likely be, 'The psychological phenomenon of a double image is projected onto the material world.'

Indeed, since color is a property attached to objects and sensation is a property based on the physical body, the logic that psychological phenomena such as color and sensation are projected onto the material world may not be correct, but it might be a natural thought.

For example, let's take a coffee cup. Color is a property associated with the coffee cup, while sensations such as weight and hardness are properties based on the body, and both the original coffee cup and body exist in the world seen before your eyes. Therefore, I think it is not unreasonable to have the thought that color and sensations are projected onto the coffee cup in front of your eyes.

However, this logic does not hold for a double image. Because if the world seen

before our eyes is the material world, and the double image, which is an image, is projected onto the material world, then the object as material that serves as the source of the image must exist in the world seen before our eyes.

Taking the pencil example from earlier, if they say that the two pencils are projections of an image into the material world, then the original single pencil as a material object should also exist in the world seen before our eyes, which those on the opposing side claim is the material world. But when we see two pencils, the one single pencil as a material object is nowhere to be found.

As was concluded in the previous section, the world seen before our eyes is an apparent material world. The counterargument that psychological phenomena such as color and sensation are projected onto the material world collapses. Now, it has become clear that the world seen before our eyes is not the material world.

Summary of this section

The object seen before our eyes is not the 'object of looking,' but the 'result of looking.' This serves as the starting point for unraveling the world of the mind. By logically following this fact, it leads to the conclusion that the object seen before our eyes is not 'matter' but 'apparent matter,' and the world that spreads out before our eyes, where these exist, is not the 'material world' but an 'apparent material world.'

Chapter 3

Section 4: Is the body seen before our eyes a physical body?

Consideration on the body

The thought, 'I am here, and I am looking,' is a formidable trick that prevents us from understanding the true nature of the world of the mind. If you focus on the action of 'I am looking,' from this arises the idea that the object in front of your eyes is the 'object of looking,' which in turn becomes the logic that supports common knowledge—that the object seen before our eyes is matter, and the world spreading out before our eyes is the material world.

On the other hand, when focusing on the existence of one's own body, as in 'I am here,' the idea of 'inside and outside the body' arises. In other words, from the fact that one's own body exists, the concept that there are two different realms—inside and outside the body—is derived. Under this idea, the reasoning that 'the body seen

before my eyes is a physical body, and the outside of that body, including the body itself, is the material world; the object seen before my eyes exists outside my body; therefore, the object seen before my eyes is matter' is derived. This, too, becomes the logic that supports the common knowledge that the objects seen before our eyes are matter and the world that spreads out seen before our eyes is the material world.

Of the two points concerning these tricks, the former, that is, the idea that 'the object seen before our eyes is the 'object of looking,' was refuted in the analysis in the previous section, and it became clear that it is the 'result of looking.' However, although it was refuted, the following question is likely to arise in relation to the latter idea of 'inside and outside the body.' Namely, 'You may say that the object seen before our eyes is not the 'object of looking' but the 'result of looking', but the 'result of looking' should occur in the mind. So why does something that occurs in the mind exist outside our body?'

This question, as well as the common notion that 'the outside of the body is the material world,' both originate from the idea of 'inside and outside the body.' In this section, I would like to think about one's own body and resolve misunderstandings related to the body.

Interpretation of one's own body

We are convinced that we have a body unique to ourselves. Indeed, that is true; the physical body undoubtedly exists. Its appearance varies from person to person in terms of height, weight, and facial features, but the underlying skeleton, muscles, nervous system, digestive system, respiratory system, and skin are common to all people, and such a physical body certainly exists.

Based on this biological body, people live in society by wearing clothes, arranging their hair, using language, and making facial expressions. Walking the path to the station is done with one's own legs, holding a card to the ticket gate is done with one's own hands, and waiting for the train on the platform is also done with one's own body. Having a physical body makes action in the material world possible and enables negotiation with others.

In this way, I have no intention whatsoever of denying that each person has a body as a unique physical entity. After all, we have been discussing this on the premise of acknowledging the existence of the material world prior to the existence of organisms engaged in conscious activities like humans. However, what must certainly be taken up as an issue under this premise is the interpretation of our own body seen before our eyes. In other words, the question is whether it is correct to interpret the body

we see before ourselves as a physical body.

There is a strong feeling in believing that the body we see before our eyes is a physical body. It can be controlled by our own will. We can go where we want to go, grab what we want to grab, see what we want to see, hear what we want to hear, and sometimes we get injured and feel pain, even to the point of bleeding. You might think there is no reason not to consider the body that exists so vividly as your own physical body. But is that really the case?

How is the existence of one's own physical body confirmed?

First, let's consider what facts the idea that there is a physical body unique to oneself is based on.

It is believed that we can confirm the existence of our body by seeing it with our own eyes. Indeed, we cannot directly see our own head or back, but the arms, legs, and the area from the chest to the abdomen are always within our field of vision.

Fig.3-7 The world seen before our eyes

Figure 3.7 depicts the world spreading out before your eyes. Please overlap yourself at the person and think about the situation. On the table in front of your eyes, there is a coffee cup, and on this side, your hands and knees sitting facing the table are shown. You can, of your own will, reach out to grab the coffee cup in front of your eyes and drink coffee. Alternatively, you can use your feet to leave the place if necessary. Since the hands and feet in front of your eyes move based on your own will, it is reasonable to consider the person as your own body. It can be said to be quite natural.

The existence of one's physical body is also thought to be confirmed through the senses. If you try closing your eyes, the body you have seen disappears. However, when you raise your arm, you can confirm the existence of your arm through its weight, and when you touch objects, you can confirm the existence of your hand along with the objects. You can understand the position of your face through the wind that hits it. By moving your head, you can perceive the existence of your head through the sensations at that moment. If you touch various parts of your body with your hands, unlike when touching objects, tactile sensations occur in both, allowing you to sense the existence of your body. By integrating all these elements, you confirm the

existence of your physical body.

Apparent body

It is thought that one's body as a physical entity can be known through the act of seeing and through the existence of sensations. Indeed, the fact that the body is visible suggests the existence of one's physical body, and the fact that sensations related to the body exist also suggest the existence of one's physical body. That is true. However, this does not mean that we can conclude that the body being seen, or the body feeling sensations, is the physical body.

In the previous section, we conducted an analysis of a double image. We discussed that the argument that a pencil held in front of our eyes is a real pencil when it appears as one, and an imagined pencil when it appears as two, does not work. The same analysis can also be applied to our own body that is visible in front of our eyes.

Please hold up one finger in front of your eyes and focus on it. You will see one finger. In terms of common understanding, this is interpreted as a finger that exists as a physical body. Now, try shifting your gaze back or forth. You will likely see two slightly blurred fingers. The argument that a single finger is a physical finger while two fingers are illusory fingers as images do not hold. Whether there is one finger or two, the finger you see in front of your eyes is not a finger as a 'physical object you are looking at,' but a finger as the 'result of looking (psychological phenomenon).'

Or try thinking about your own body as you see it in a dream. When you are walking through an unfamiliar street corner in a dream, you can certainly perceive your own body there, but it is not your physical body. The fact that you can see your own body suggests the existence of your physical body, but the body that you see is not your physical body.

Alternatively, the argument that 'because sensations exist, it is a physical body' does not apply either. As discussed in Chapter 3, Section 2, the existence of sensations suggests the existence of matter. Therefore, the fact that sensations related to the body, such as touch, exist does suggest the existence of a physical body. In fact, this is true, and a body as a physical body certainly exists, but the existence of sensations does not serve as proof that the body accompanying those sensations is a physical body.

Where does sensation arise? As discussed in Section 1 of Chapter 1, ‘Try to see whether you notice the strangeness,’ try tracing the surface of a desk with your finger. Naturally, you will feel a smooth sensation on the desk's surface and fingertips. Although there are sensory receptors at the fingertips, these receptors are merely

entry points that receive stimuli from the external world and transmit them to the central nervous system. Sensation does not arise in the sensory receptors themselves; it only arises when there is brain activity. That smooth sensation arises on the fingertips, but not only on the sides of the fingertips, but also occurs on the surface of the desk. And a similar smooth feeling also occurs when tracing the desk with a pencil.

For these reasons, the body seen before your eyes, which you believe to be your own physical body, is, as it were, an apparent body and not a physical body, just as the coffee cup seen before your eyes is an apparent object.

The person right in front of your eyes with whom you are having an animated conversation, the stranger wearing the trendy clothes you see on the street, or even the friend you haven't met in a while with whom you are shaking hands—all of them certainly have physical bodies. However, the bodies of these people that you see are the 'apparent bodies' as the 'results of looking.' Even that person's hand, which feels warmth and pressure when you grasp it, is entirely an 'apparent body.'

Questions that arise regarding the idea of the 'apparent body'

There is significant resistance to, and likely doubt about, thinking of one's own body seen before one's eyes not as a physical body but as an 'apparent body.' Questions such as 'But the body is actually visible right in front of my eyes,' or 'But sensations arise,' have already been explained, so I will avoid repeating them.

Any other doubt is, or perhaps it would be better to rephrase them as objections. one of them is, 'The mind accompanied by self-consciousness is inseparable from the body and always exists with its own body. Since this mind resides in the body seen before our eyes, this body is a physical body.'

This objection is related to the core part concerning the relationship between the 'mind' and the 'I.' Therefore, the response to this objection will be addressed anew in Sections 1 and 3 of Chapter 4. What can be briefly mentioned here is that the content expressed by the word 'mind' used here mainly pertains to knowledge, emotion, and will, which are what is commonly called the mind in everyday understanding. Indeed, this aspect concerning knowledge, emotion, and will is part of the mind, but it is only a component of the mind. And it is only positioned within the face of the apparent body, just as apparent hands, feet, and other parts are positioned on their respective locations in the apparent body.

Another objection is that 'In the material world, there exists a physical body. The body that we see before our eyes is synchronizing with the entire surrounding world.

Therefore, the body seen before our eyes is a physical body.'

Taking the act of grabbing the coffee cup seen before our eyes as an example, our hand reaches out to the coffee cup based on our own will, and we are holding it. The coffee cup is brought to our mouth, and we can take a sip of the delicious coffee.

In other words, 'Since the body and the coffee cup seen before our eyes perfectly correspond to the coffee cup as a matter and the physical body in the material world, the counterargument is that the body seen before our eyes is a physical body.'

The system that skillfully adjusts the relationship between the apparent body and the apparent material world is called a 'system of synchronization,' and this question can be resolved by explaining that system.

A system of synchronization

The mutual relationship between the material world and a physical body exists within it is also established between the apparent world seen before our eyes and the apparent body, but this is due to the functioning of the brain's information processing system. We will refer to this as the 'synchronization system,' or the 'system of synchronization'. It mainly operates to make the following two things hold true: it makes the apparent material world as if it were truly the material world, and the apparent body as if it were really a physical body.

The first point is that the physical body exists within the material world, and that the material world is immobile while the physical body moves within it. In fact, this mutual relationship is incorporated into the system of synchronization, where the apparent material world seen before our eyes contains our own apparent body, and the world that spreads out before our eyes is an immobile existence, within which the apparent body moves.

The world that spreads out before our eyes and the apparent body are constructed based on the retinal image. Therefore, every time we move our face, or every time we move our body, the external world projected onto the retina changes, so originally the world seen before our eyes should change rapidly in all directions. However, despite the movements of the physical body, the world seen before our eyes remains fixed and immovable, and the apparent body moves around within it.

Video cameras are equipped with image stabilization functions that prevent the footage from shaking due to hand movements. However, it becomes clear that the synchronization system in the brain, which supports the mutual relationship between the world spread out before our eyes and our apparent body, performs an amazingly superior role. Even if we move our head side to side, and it causes the

walls of a room to shift significantly on the retina, the walls in the world seen before our eyes continue to exist in their original positions. Without such a synchronization system, it would quickly become apparent that the world seen before our eyes is not the material world but an apparent material world.

The second is to match the positional relationships between substances in the material world with the positional relationships of those apparent substances in the world spread out before our eyes.

For example, in order to reach out to the coffee cup in front of your eyes and grab it without missing, the positional relationship between the coffee cup as a material object in the physical world and your arm as a physical body must exactly match the positional relationship between them in the world seen before your eyes. If they do not match, you will realize that the world seen before your eyes is not the material world.

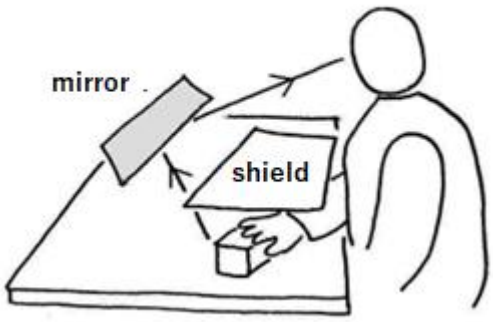
Of course, even the system of synchronization is not perfect. It can break down. For example, if you spin around ten times on the spot and then stop, you may feel unwell and be unable to maintain your posture, and the world seen before your eyes may seem to sway. This is due to a temporary disruption in the semicircular canals and vestibule that support the synchronization system, causing the system to malfunction.

However, experiencing this would not lead you to think that the world spreading out before your eyes is not the material world but only an apparent material world. It would probably be understood only to the extent of feeling dizzy, nauseous, and having the way you sees things slightly distorted. It happens as a result of the synchronization system being impaired and the external world not being accurately represented.

Examples of a system of synchronization being disrupted; the world inside a mirror

As a slightly more insightful example of something that disrupts the synchronization system, we can point to the movement of the body within a world reflected in a mirror. One might argue that the world reflected in the mirror is not the real world. But it is an interesting example of a case where the synchronization system becomes disturbed.

Fig.3-8 The material world



In restaurants and similar places, you may sometimes see entire walls covered with large mirrors. With the advancement of glass manufacturing technology, it has become possible to produce mirrors with minimal distortion. As a result, the scenes reflected in the mirrors have little distortion and can make you feel as if the space extends there. If your own reflection appears in it, you can tell that it is a mirror, but otherwise, it is difficult to distinguish.

By using a mirror, you can cause a disturbance in the system of synchronization. As shown in Figure 3-8, prevent yourself from looking at the object directly, and while looking at the reflection in the mirror, try, for example, reaching out to grasp the object, or moving it up and down, or side to side.

The world reflected in a mirror is also an apparent material world, but unlike a mere apparent world, the alignment with the material world is disturbed there. In other words, the spatial relationships in the mirror—up, down, left, and right—are the same as in real space, but the depth is reversed. Therefore, when observing an object directly, reaching out toward it brings your hand closer to it. However, under mirrored conditions, reaching out toward an object actually causes your hand to move away from it.

When the actions are simple, they can be performed based on memory, so it might be surprisingly easy to do. However, if you try to perform a complex movement, such as preparing something like an empty can, lifting it up, rotating it once, and then placing it horizontally on the table again, confusion suddenly arises.

In this way, you cannot skillfully manipulate objects in the world reflected in the mirror, because there is a disturbance in the synchronization system.

Mirror image flipped left and right

Since the topic of mirrors came up, as an aside, let's address the issue of the 'left-right reversed mirror image.' In other words, when you reflect yourself in a mirror, the image in the mirror maintains the correct up-and-down orientation, but if you raise your right hand, in the mirror it appears as if you are raising your left hand, and thus the left and right are reversed.

From the level of questions discussed in Section 2 of Chapter 1, it could be said that

this belongs to Level 2. It is a phenomenon that many people find strange when pointed out, even though we experience it frequently in daily life and do not notice its oddity ourselves.

In response to the question, 'Why do left and right get reversed even though the top and bottom relationship remains the same?', answers such as 'It's because the eyes are positioned side by side' or 'It's because the body is vertical relative to gravity' are sometimes given. To address the answer that it is because the eyes are positioned side by side, you can try closing one eye and looking. To address the answer that it is because gravity is involved, you can try lying on your side and looking in a mirror. Even then, the top and bottom relationship remains maintained, and the left and right are still reversed.

Thus, this mirror image problem has been concluded to be not a problem of geometrical optics, but a phenomenon that arises in the process of advanced information processing beyond the retina, and there are times when this is believed to be true. This may also be partly because mirrors have long been considered to possess mysterious powers, but this is by no means a mysterious phenomenon. Just as mirror images are not inverted vertically, in fact, they are not inverted in the hoizontal direction either. The inversion occurs only in the front-back direction.

Fig.3-9

(a) hold'R'in front of a mirror

(b) look at 'R' from the other side of a mirror

Let's try to transform the problem of mirror images into an easy-to-understand form. As shown in Figure 3.9(a), hold a cut-out letter 'R' in front of a mirror. Naturally, you will see the letter in the shape of 'R', and the mirror will also reflect the letter in the shape of 'R'. There is no inversion in any direction—up or down, left or right.

The reason we think it is reversed is that we try to look at the letter ‘R’ held up to the mirror from the other side of the mirror. In fact, as shown in Figure 3.9(b), if you move around to the other side of the mirror and look at the letter, the ‘R’ will appear reversed as ‘Я’. You consider that you have moved to the other side of the mirror and are looking at ‘yourself’ from there, so you end up believing that left and right are reversed.

The reason the other person raises their left hand is exactly the same as seeing the letter R from the back of a mirror. Alternatively, you can ask another person to stand

facing you and then ask the person to raise the same side hand as you when you raise your hand. So, if you raise your right hand, the person standing opposite you will raise his left hand. However, the correspondence of up–up, down–down, right–right, left–left is maintained between you and that person. If a mirror image truly reversed left and right, then when you raise your right hand, the image in the mirror would raise the hand on the left side from your perspective. The reason the other person raises their left hand is because it's just like looking at the letter 'R' from the back of a mirror, that is, 'Я'.

What changes in a mirror image is the depth relationship. In fact, as mentioned in the previous section, the mistakes made when looking in a mirror occur in the depth direction, and you can understand this if you think about using a comb.

In the apparent body, there is no boundary separating the inside and the outside.

Even in single-celled organisms like amoebas, the inside and outside of the organism are separated by a cell membrane, creating a distinct area as an individual. The same applies to humans. The physical body exists, and the inside and outside of the body are separated by the skin. The inside of the body is individual's space, a realm independent from the mere material world.

We have the thought that we possess a unique body and that it is through this body that we interact with the external world, as expressed in the phrase, 'I am here, and I am looking.' From this arises the concept of the 'inside and outside of the body,' leading to the idea that there are two distinct realms, inside and outside the body. Indeed, in the material world, the inside and outside of the body are clearly distinguished with the body itself as the boundary. This is an undeniable fact.

However, the 'body' referred to by the phrase 'I am here' in the expression 'I am here, and I am looking' is not the physical body in the material world. Although one believes they refer to the physical body, that is not actually the case; the 'body' being indicated there is the body that is visible before one's eyes, and one expresses 'I am here' in reference to the apparent body.

What I want to point out here is about the apparent body that we see before our eyes, and that there is no boundary separating the 'inside and outside of the body' concerning the apparent body. This is because both the apparent body and the apparent material world are the 'results of looking.' The former is the 'result of looking' obtained through the act of perceiving the physical body, and the latter is the 'result of looking' obtained through the act of perceiving the material world.

Although the meanings they signify are different, there is no qualitative difference in the existence of being the 'results of looking.'

If it is a physical body, it has a mechanism to maintain itself. Also, in the material world, various objects move according to the laws of physics. In this, there clearly exists a boundary that separates the 'inside and outside of the body.' On the other hand, the apparent body is the 'result of looking' of the physical body, and it does not possess the functions that the physical body has. One might argue that during surgery, if the abdomen is opened, organs like the stomach and intestines can be seen. However, these are certainly the 'results of looking' of those organs, but not the organs themselves.

After all, the body seen before your eyes is merely an 'apparent body,' and what lies outside of it is an 'apparent material world,' and neither is qualitatively different as the 'result of looking.' In other words, the boundaries indicated by the apparent body are merely apparent boundaries. For example, if there is a coffee cup seen before your eyes, and you reach out with your hand as an apparent body to grasp it, you can intertwine your fingers with the handle of the coffee cup precisely, and you can feel the hardness, weight, and warmth in your intertwined fingers, all thanks to a synchronization system. However, because of this, you might end up thinking that the body seen before your eyes is a physical body, and the world spread out before your eyes is a material world.

The body seen before our eyes is an apparent body, and since for an apparent body there is no boundary that separates the 'inside and outside of the body,' the following objections and questions that were mentioned at the beginning of this section are resolved.

That objection is, 'The body seen before my eyes is a physical body, and everything outside that body is the material world. The object seen before my eyes exists outside my body. Therefore, the object seen before my eyes is matter.' The other question is, 'You say that the object seen before my eyes is not the ‘object of looking’ but the ‘result of looking,’ but the ‘result of looking’ should occur in the mind. So why does something that arises in the mind exist outside my body?' Both are objections or questions derived from common knowledge that the body seen before our eyes is a physical body, and outside the physical body lies the material world.

Regarding the former objection, that idea is refuted by the realization that the body seen before our eyes is an apparent body. In other words, the body seen before our eyes is not a physical body but an apparent physical body, and the world outside the apparent body is also not a material world but an apparent material world. Therefore,

even if the object seen before our eyes exists outside the apparent body, that does not mean it is matter.

It is impossible to look at the 'results of looking'.

The expression 'I am here, and I am looking' is somewhat like to Descartes' phrase 'I think, therefore I am.' In fact, if you reverse the expression 'I am here, and I am looking,' it becomes 'I am looking, and I am here,' which can be interpreted as the existence of the 'I' that performs the act of looking. However, the meanings of the two are different. Descartes' phrase refers to the fundamental existence of the 'I.' On the other hand, the expression 'I am here, and I am looking' is a wrong reasoning that treats one's own body seen before their eyes as a physical body, and on that basis, asserts that the world spread out before their eyes is the material world.

Fig.3-10(a) The material world

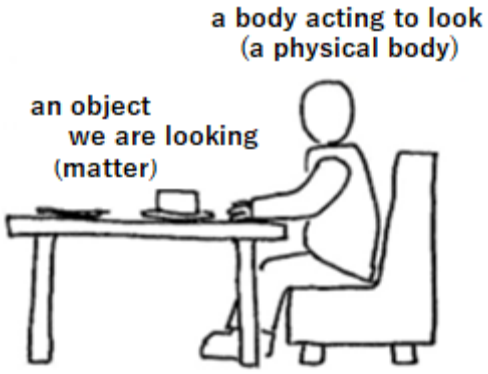
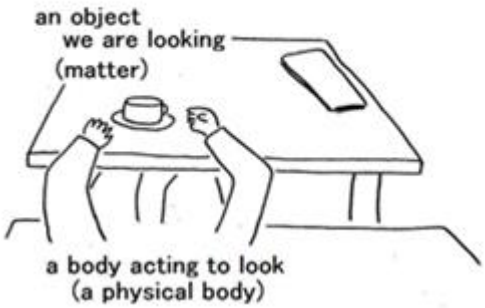


Fig.3-10(b) The material world



Now, let's use a diagram to consider the meaning of the expression 'I am here, and I am looking.' Figures 3.10 (a) and (b) represent the material world, showing the situation in which an observer' exists in the material world and he is looking at a coffee cup. When we try to interpret the expression 'I am here, and I am looking' in the material world,

It can be said that 'I have a physical body, and using that physical body, I am looking at a coffee cup.' In fact, in the material world, there exists a physical body as well as a coffee cup as a material object. Light reflected from the coffee cup reaches the eyes of the physical body, is converted into electrical signals on the retina, and is transmitted to the central system. In this process, there is unquestionably a relationship between the 'body of looking (physical body)' and the 'object of looking (material).' Therefore, the logic of 'I am here, and I am looking' poses no problem when used in the context of the material world.

However, what I want you to pay attention to here is that the expression 'I am here, and I am looking' is actually used to refer to the relationship between your body seen

before your eyes and the coffee cup seen before your eyes in the world that spreads before your eyes. In other words, what is expressed by the phrase 'I am here, and I am looking' is not about the material world, but about the world seen before your eyes, that is, about the apparent world.

From the previous section's conclusion that 'The object seen before our eyes is not the ‘object of looking, but the ‘result of looking,' and the fact derived in this section that 'the body seen before our eyes’ is not the ‘physical body,’ but an ‘apparent body,' an important fact can be drawn. That is, in the world seen before our eyes, the relationship between 'the body of looking (the physical body)' and 'the object of looking (the material)' does not exist. In other words, the relationship of 'I am here, and I am looking' does not hold.

Fig.3-10(c) The world seen before our eyes

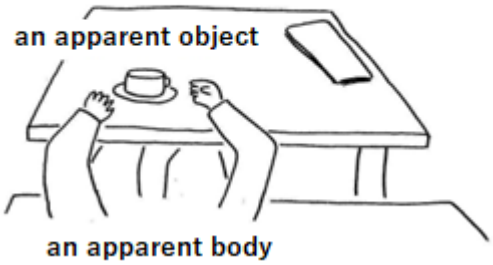


Figure 3.10(c) represents the world spreading out before your eyes. Try to imagine yourself in the person depicted here. According to common knowledge, the hands and knees you see before your eyes are parts of your physical body, the coffee cup in front of your eyes is interpreted as a material coffee cup, and it is understood that ‘I am looking at the coffee cup in front of my eyes.’ In other words, it is considered that ‘I am here, and I am looking.’ Put differently, the relationship between you and the coffee cup in front of your eyes is thought to be that of "the body of looking (physical body)" and "the object of looking (matter)."

However, that is not the case. Both are 'apparent body' and 'apparent matter,' and there is no relationship between 'the body of looking' and 'the object of looking' that accompanies the act of looking. In the first place, in the world that spreads out before your eyes, there is no such thing as light moving through space, and the phenomenon of light traveling from the coffee cup seen before your eyes to you does not occur.

However, you might argue, 'If we look at something bright like a light bulb, isn’t it dazzling?' But that is merely a sensation caused by strong light hitting the eyes of your physical body; it does not mean that strong light has hit the apparent your eyes In the world seen before your eyes, light does not originally exist, and it is impossible for light to transmit.

You may think that you are looking at the coffee cup seen before your eyes, but that is not the case. The coffee cup seen before your eyes is not the 'object of looking' but

the 'result of looking,' and it is impossible to further look at the 'result of looking.' The coffee cup seen before your eyes exists there as the 'result of looking.' In other words, although you think you are looking at it, you are not actually looking at it.

When you turn your gaze outside the window, you can see various objects such as houses, trees, and the sky before you, but you are not actually looking at those objects. They exist there because of the 'act of looking,' in other words, as the 'result of looking (psychological phenomenon).'

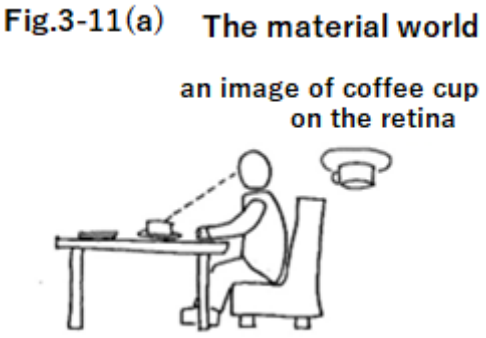
The thought " I am here, and I am looking" is a hard trick caused by the mistaken assumption that the body seen before our eyes is the physical body. In Chapter 4, Section 3, Why does the 'I' exist within the world of the mind?', I will discuss this. By assigning the thought of the 'I' to an apparent body, one may feel as if they are looking at the object before their eyes. While this may not be an appropriate expression, it can be said to be a clever trick that deceives even oneself.

Also, as will be discussed in Chapter 4, Section 2, the object seen before our eyes is the 'result of looking,' and from the fact that 'It is impossible to look at the 'result of looking',' a new important fact related to recognition is derived.

Answer to the 'inverted retinal image'

In the previous section, I talked about the problem of the 'inverted retinal image.' At that time, I explained that the reason people feel puzzled by this problem is that they interpret the object seen before their eyes not as the 'object of looking' but as the 'result of looking.' While this is certainly true, in fact, this problem also involves the interpretation of one's own body.

To resolve the question of 'Why doesn't the outside world appear upside down?', it is necessary to clarify what exactly is being compared. In other words, it is essential to make clear what is being interpreted as the 'result of looking' and what is being interpreted as the 'retinal image'.



Let's try explaining this point using the scenario where the person in the illustration of Figure 3.11 has doubts about the inverted retinal image. Figure 3.11(a) represents the material world, showing how a coffee cup forms an inverted image on this person's retina, and Figure 3.11(b) represents the world as it appears to this person seen before person's eyes at that time.

Fig.3-11(b) The world seen before our eyes

For this person, the 'result of looking' is the coffee cup that is actually visible in front of the person's eyes, as shown in Figure 3.11(b). Of course, the person themselves usually interprets the coffee cup seen before their eyes as the 'object of looking,' but in this case, they interpret it as the 'result of looking.' Since the object seen before their eyes is inherently the 'result of looking,' it can be said that their interpretation at this time is correct.

As for the 'retinal image,' for this person, the retinal image that should be compared is originally the retinal image in Figure 3.11(a). The person themselves also thinks so, but what this person considers to be their own body is not the physical body shown in Figure 3.11(a), but the apparent body shown in Figure 3.11(b). Of course, that apparent body is entirely different from the physical body.

They are under the impression that an inverted image is formed on the retina of the apparent body, which originally does not exist, and by comparing this imaginary retinal image with the upright coffee cup they see before their eyes, they are wondering why it does not be seen upside down.

The reason why people question the inverted retinal image is because they interpret the object seen before their eyes as the 'result of looking.' On the other hand, the cause lies in not realizing that their own body, which they see before their eyes, is also the 'result of looking' as an act of looking—in other words, it is an 'apparent body.'

It gets a bit complicated, but the reason why there is doubt about this issue is because they consider the object seen before their eyes as the 'result of looking.' That is a correct interpretation, but at the same time, they also think of it as the 'object of looking.' This is because this person believes that the world seen before their eyes is the material world, and there must exist an object that should form an inverted image on the retina of their apparent body, and that object must be upright.

The object that meets these conditions is the coffee cup seen before their eyes, as shown in Figure 3.11(b). The object seen before their eyes is considered both as the 'result of looking' and as the 'object of looking.' It shows that the object seen before their eyes is interpreted as having a dual nature.

The issue of the inverted retinal image is by no means a mysterious phenomenon. The body that we see before our eyes is not our physical body but an 'apparent body,'

and since the retina does not exist in that apparent body, it is naturally impossible for external objects to be projected onto it. In other words, the retinal image that should be compared with the objects we see before our eyes does not originally exist in the apparent body.

Summary of this section

The physical body certainly exists, but the body seen before our eyes is not the physical body, but an apparent physical body. The hard trick of 'I am here, and I am looking' originates from the assumption that this apparent body is a physical body.

Although one thinks, 'I am looking at the object in front of my eyes,' the object seen before our eyes is the 'result of looking,' and it is impossible to then look at the 'result of looking' more. The object seen before our eyes exists there as the 'result of looking.'

Chapter 4: The World of the Mind

Section 1: Where is the mind?

The process so far

The seemingly elusive question, 'Where is the mind?' is, in fact, a problem that can be answered in a concrete way, as you may have gradually realized from the discussion so far. The material world certainly exists. And within that material world, various objects composed of matter exist, as does your own body as a physical body. However, the world seen before your eyes, which is generally considered the material world, is not the material world, and the objects seen before your eyes are not matter. Moreover, your body seen before your eyes is not a physical body. All of these, as I will explain, are matters within the ‘world of your mind.’

The subtitle of this paper is ‘A hard trick set by the brain.’ In the realm of the mind, there are various things that can be called tricks, but the hardest among them is the preconception that ‘I am here, and I am looking.’ This preconception arises from an ‘apparent body’ created within the world seen before our eyes, and this preconception makes it difficult to grasp the true nature of the mind. To use the card trick discussed in Chapter 1, Section 2 as a metaphor, it is like to being caught in the preconception that a card is held in the left hand behind one’s back, preventing one from seeing through the trick.

However, there is a flaw in this hard trick. The fact that the ‘object seen before our

eyes' is not the 'object of looking, but the 'result of looking' provides a clue to unraveling the trick. In other words, the act of looking can be represented as a series of steps, the 'object of looking' (physical matter) → the 'body of looking' (physical body) → the 'result of looking' (psychological phenomenon)'. What is seen before our eyes, though commonly thought of as the 'object of looking,' is not that, but the 'result of looking.'

For example, if we take the 'act of looking at a coffee cup' as an example the 'object of looking' is the coffee cup as a matter existing in the material world, and the 'body of looking' is also the physical body in the material world. However, the 'result of looking' is the coffee cup that is seen before your eyes. Furthermore, although you think that you are 'looking at the coffee cup before your eyes,' this is not actually the case; the relationship between the 'body of looking' and the 'object of looking' does not hold between you and the coffee cup seen before your eyes. This is because the coffee cup seen before your eyes is the 'result of looking,' and it is impossible to look further at the 'result of looking.' The coffee cup seen before your eyes exists as the 'result of looking.'

The 'result of looking' is something obtained only after information from the external world is transmitted to the cerebrum and processed there, so it is not a physical phenomenon but a psychological phenomenon. The object you see before your eyes is not matter but 'apparent matter,' and the world that spreads before your eyes where these objects exist is not the 'material world' but the 'apparent material world.' Furthermore, the body you see before your eyes is not your physical body but an 'apparent physical body.' In other words, the objects seen before your eyes, the world spreading before your eyes, and the body you see before your eyes are all psychological phenomena. Therefore, if we clarify what the results of processing information from the external world are, we should be able to clarify the contours of the world of the mind.

The result of processing information from the external world

The information from the external world is transmitted to the cerebrum, and the results obtained by being processed there are not limited to the 'results of looking' obtained through the act of looking. The same can be said for other senses as well.

The result obtained through the act of listening is the very sound that is being heard right now. While the voices of people, the sound of car engines, the audio from a television, and the corresponding vibrations in the air certainly exist in the material world, the sounds we hear at this moment are not the air vibrations

themselves. The air vibrations that reach the ear follow a series of processes through the eardrum, ossicles, vestibular and tympanic ducts, basilar membrane, and the organ of Corti, where they are converted into electrical signals by the sensory cells of the organ of Corti, transmitted through the auditory nerve to the auditory areas of the cerebrum, and it is as a result of this processing that those sounds exist.

Also, the voices you are hearing now are not being heard by you; rather, the voices themselves, as they are being heard, are the result obtained through the act of hearing and exist in the location where they are heard. The voice exists at the person's mouth, just as the sound of a piano exists in the instrument itself, and the sound itself is positioned and exists in those locations. This is the same as the way an object seen before your eyes exists there, not that you are looking at it.

The same applies to sensations such as touch. The weight, hardness, warmth, and the aroma of coffee that you feel when you grasp a coffee cup are all the result of processing information from the external world, and they are psychological phenomena rather than physical phenomena. It is not that you feel weight, hardness, warmth, or aroma; rather, those sensations themselves exist in that part of the body as psychological phenomena.

Definitions of the words of ‘mind’ and ‘consciousness’

Up until now, I have used the words 'mind' and 'consciousness' without defining them at all, but before answering the question 'Where is the mind?', I would like to give a very simple definition of these words. I do not intend to go into depth. Since I do not originally have a sufficient understanding of the mind or consciousness, I want to settle for a level that can withstand the discussion of 'Where is the mind?'.

Before defining the words for mind and consciousness, we must consider the treatment of the mind as common knowledge. The mind as common knowledge can be said to refer to what is thought to be 'located inside the apparent body’s face and governs functions expressed by words such as intellect, emotion, and will.' However, as you can understand from the previous discussion, the true nature of the mind is almost completely different from the mind as common knowledge. Therefore, when referring to the ‘mind as common knowledge,’ it is necessary to make a distinction from the ‘mind in this discussion,’ and I would like to define that terminology here.

Expressing the ‘mind of common knowledge’ as the ‘apparent mind’ has the advantage of being easy to use as an extension of the term an ‘apparent body.’ In fact, as will be discussed in Chapter 4, Section 3, when considering the existence of the ‘I,’ it becomes clear that, in the same sense that the hand seen before our eyes is an

apparent hand, it is also appropriate to express the ‘mind of common knowledge’ as the ‘apparent mind.’ However, while the "apparent body" has a "physical body" and there is an object in the material world that corresponds to it one-on-one, when expressing the ‘mind of common knowledge’ as the "apparent mind," there is nothing in the material world that corresponds to it. Moreover, although the ‘mind as common knowledge’ is not the entire world of the mind itself, as will be discussed later, it is indeed, a part of the mind, and in that sense, I feel hesitant to use the expression an ’apparent mind.’

Therefore, in Section 3 of Chapter 4, although the term 'apparent mind' is sometimes used, from now on, we will proceed with the discussion by expressing the ‘mind of common knowledge’ as 'so-called mind', though somewhat awkward expression,

Content of being conscious

Defining consciousness itself is as difficult as trying to answer questions like 'What is matter?' or 'What is space?' Therefore, instead of defining consciousness itself, I would like to use the 'content of being conscious' as a substitute for the definition of consciousness. This is because words like consciousness or being conscious carry a strong image, as common knowledge suggests, of phenomena within the ‘so-called mind,’ often accompanied by a vague or hazy impression.

However, as can be understood from the previous discussion, the mind and consciousness can be defined in a more concrete form, at least in the world seen before our eyes. Therefore, rather than referring to the physiological mechanisms of the brain that produce it in the background of consciousness, I propose to substitute the definition of consciousness with the ‘content of being conscious.’

In addition to the term 'content of being conscious,' we will also use expressions such as 'things of being conscious' or 'matters of being conscious.' Please interpret them as having almost the same meaning.

So, what is meant by the ‘content of being conscious’ is, first of all, the results obtained through the sensory organs. In other words, what is seen, what is heard, what is felt, and so on.

‘What is being seen’ is an object that is seen before our eyes. For example, it could be the coffee cup seen to us when we look to drink coffee, the table seen before our eyes, or even the arm that we see at the corner of our visual field.

‘What is being heard’ is the very sound that is currently audible around us. It includes the faint rustling of our clothes when we reach out to grab the coffee cup

before our eyes, the sound of the ceramic scraping against the saucer when we lift the cup, and the sound when we swallow the coffee.

'What is being felt' are the sensations occurring on the surface and inside of the body. It is the weight, hardness, warmth felt at the fingertips holding the handle of a coffee cup, the very aroma of the coffee, and the actual taste of bitterness and sweetness when drinking the coffee.

Regarding vision and hearing, I referred to them as 'content of being conscious,' while for touch and the like, I referred to them as 'content of being felt.' This distinction was made because vision and hearing are, so to speak, remote phenomena that occur away from the body, whereas touch and similar sensations are, so to speak, proximal phenomena associated with the body.

Now, the examples mentioned so far are all cases where the original objects exist in the material world, but the 'contents of being conscious' further include what one is thinking, what one is considering, and emotions. For example, the vague image of an apple that comes to mind when hearing the word 'apple,' the faint numerical images that appear in the mind when doing mental arithmetic such as 5 + 8 = 13, or the relaxed feeling when facing a favorite coffee, and so on.

Things like 'what is being seen' and 'what is being heard' are matters outside the apparent body, while things like 'what is being felt,' 'what is being smelled,' and 'what is being tasted' are matters related to the apparent body. In contrast, 'what is being thought,' 'what is being considered,' and 'emotions' are matters that belong to the part of the 'so-called mind.'

When we talk about consciousness, we might have the impression that it is an extremely abstract thing, like trying to grasp a cloud. Indeed, as in the example above, things like the images that come to mind within the 'so-called mind' or emotions such as joy, anger, sorrow, and pleasure fall into that category. However, there are also many concrete things, like the objects we see before our eyes, the sounds we hear, or the weight, hardness, and warmth we feel.

The world of the mind

Now, next, I would like to briefly define the mind as well. When defining the mind, the biggest issue is whether to include the brain's information processing function as part of the mind. This is because, as common knowledge suggests, what the mind is thought to be is that there is the 'I,' and that the 'I' sees, hears, remembers, thinks, speaks, experiences, joy, and makes decisions. Such the 'I' consists of the body of the 'I' and the mind of the 'I', where the body of the 'I' is the physical body, and the mind

of the ‘I’ is a non-physical entity. In other words, the image of the mind in common knowledge strongly suggests that the mind is a non-physical phenomenon. Although it is thought to be closely related to the brain's information processing functions, there is a strong feeling that the mind should be considered separately from that.

It is certainly true that there is such a way of thinking, but when we delve deeper into the consideration of the mind, it is also true that if we do not include information processing by the brain, we cannot deal with what we call the mind. Functions of the mind include perception, memory, learning, thinking, language, emotions, volition, and so on, all of which are related to information processing by the brain.

For example, in the act of looking, the object seen before our eyes is the result of the act of looking, and it is clear that this is an immaterial phenomenon, but behind it exists the work of the brain processing information from the external world, and without that work, we cannot consider the act of looking. The same applies in the case of thinking; it is true that the content becomes conscious in the process of thinking, but it is an undeniable fact that information processing by the brain is at work behind it, which becomes clear if we consider cases of people who have suffered brain damage.

Psychology, the field of study that deals with this series of psychological phenomena, has historically not dealt directly with the mind or consciousness. It has treated the mind as a black box, attempting to elucidate the mechanisms of the mind from the relationship between stimuli at its input and responses at its output. This black box represents the information processing mechanism of the brain. Even though psychology is a discipline that deals with psychological phenomena, it has not dealt with the mind itself or consciousness itself, and the reason behind this is likely the belief that the mind and consciousness are abstract and vague and therefore cannot be objects of scientific study.

However, as you have understood from the previous discussion, the mind and consciousness are entirely different from common knowledge. It is true that there are abstract aspects expressed by words such as knowledge, emotion, and will, but it is also true that there are concrete aspects, like the objects we see before our eyes or the sounds we hear around us. Consideration of the non-material aspects of the mind and consciousness, which science has not dealt with until now, seems to be indispensable for the exploration of the world of the mind.

From these circumstances, it becomes clear that when defining the mind, attention must be paid to two points: 'information processing by the brain' and 'phenomena of being conscious' as the result of it. How these two aspects are treated leads to two

positions in defining the mind. In other words, one position treats only the latter as the mind, while the other treats both the former and the latter, collectively as the mind. Although it is not entirely impossible to consider a position that treats only the former as the mind, this position will be excluded here.

The narrow sense and the broad sense of the 'world of the mind'

From this perspective, we will define 'the mind in a narrow sense' as the world of the mind that deals only with conscious phenomena, which are manifestations of brain activity, without directly engaging in the brain's information processing. Therefore, it includes all the contents that are currently conscious, as just defined. In other words, it encompasses 'what is being seen,' 'what is being heard,' 'what is being felt,' and in addition to these, the 'contents of thought' and 'contents of thinking' that are currently conscious, as well as 'emotions.'

On the other hand, in addition to conscious phenomena, we will define ‘the world of the mind in a broad sense’ as including information processing by the brain.

Defining it with the term 'the world of the mind' rather than the 'mind' is because when we say 'mind,' we tend to be influenced by the common notion of the 'so-called mind,' and I want to avoid that.

This paper aims to provide an answer to the question, 'Where is the mind?' Ideally, a discussion that delves into information processing by the brain would be necessary, but here we will limit the discussion to the ‘world of the mind in a narrow sense’, meaning that which is currently being consciously experienced. Even so, it should still serve as an opportunity to fundamentally reconsider conventional common-knowledge ideas about the mind and consciousness.

Answer to 'Where is the mind?'

From the discussions so far, especially the discussion in Chapter 3, I believe you have already understood that the world of the mind is completely different from what is generally thought of. The main reason that the true nature of the mind is not understood can be said to lie in our interpretation of our own body. By assuming that the apparent body seen before our eyes is the physical body, the mind comes to be thought of as residing inside the face of the apparent body, and as a result, the mind is interpreted as an abstract and elusive entity. The thought 'I am here, and I am looking' succinctly reflects the situation.

Now, imagine that you are sitting at a table with a cup of coffee in front of you, and first, try closing your eyes. When you close your eyes, everything you could see

disappears, and the space in front of your eyes turns into a flat surface of light gray. Even so, you can still hear sounds from your surroundings. From the direction and distance of those sounds, you can sense the space around you. Additionally, from the sensations related to your head, arms, and other parts, you can perceive the approximate shape of your body.

On the other hand, in the part commonly referred to as the 'so-called mind,' you can sense something that is somewhat transient. When communicating with others, we speak words aloud, and while these words are called ‘external language,’ the words we use in our mind without speaking aloud are called ‘internal language.’ In the part of the 'so-called mind,' activities using internal language are carried out. Thoughts without a particular direction are expressed in the form of internal language, along with images that come to mind incidentally, and it can be said that the 'so-called mind' contains an abstract part of the mind represented by the words; knowledge, emotion, and will.

Now let's try opening your eyes. Then, the previously pale gray world suddenly transforms into a richly colorful world, and a vast world spreads out before your eyes. This is what has been expressed as the world seen before your eyes, the so-called 'the apparent material world.' The table, coffee cup, newspaper, walls, floor, and ceiling before your eyes—all of these are apparent matter and belong to the realm of the world of your mind. If you draw your gaze closer, you will see your own body, but this is the so-called 'apparent body,' which also belongs to the world of your mind. Since the ‘so-called mind’ is positioned inside the apparent face, it means that there is yet another mind inherent within the world of the mind, giving the appearance of a kind of nested structure.

When you are standing on a peaceful seaside hill in early spring, enjoying the breath of spring, I mentioned in Chapter 1, Section 1, that everything before your eyes is a matter of the world of your mind. The vast ocean, the clear sky, the contrail that draws a straight line across it, the easily crumbling sandy ground at your feet, as you begin to descend the slope toward the seaside, the elderly man and child waving to you and above all, yourself—everything exists within the world of your mind. The seagulls gracefully soaring above your head against the blue sky are flying within the world of your mind.

The world of the human mind is vast enough to be appropriately called a microcosm. In response to the question 'Where is the mind?'; it can be said that everything before your eyes, including yourself, is the 'world of the mind.'

The world of the mind, its emergence and disappearance

The world of the mind does not always exist. When we are awake and active, there is consciousness, and therefore the world of the mind exists. However, when we are asleep, except when dreaming, consciousness does not exist, and it cannot be said that the world of the mind exists. When we wake up, the world of the mind exists again. Therefore, the world of the mind repeatedly appears and disappears. However, even when we say it appears and disappears, it is probably not that something arises from nothing or that something returns to nothing.

Besides the appearance and disappearances of the entire world of the mind, appearance and disappearances also occur within the world of the mind. For example, the coffee cup seen before your eyes is said to become invisible when you close your eyelids. Indeed, in the material world, the light reflected from the 'object of looking (matter)' does not reach the retina because it is blocked by the eyelids of the 'body of looking (physical body)'. Therefore, if in the material world, the term 'becoming invisible' is used to refer to the blocking of light from the 'object of looking,' it is by no means incorrect.

However, the expression 'becoming invisible' is actually a term used in the context of the ‘world seen before our eyes.’ In other words, it is used to refer to the disappearance from view of 'apparent object,' which are the 'results of looking.' Therefore, it is not correct to use this expression to describe something ‘becoming invisible’ within the world of the mind. This is because the expression 'becoming invisible' means that something ‘can no longer be seen’ and is used to indicate that an 'apparent body' can no longer see an 'apparent object.'

As mentioned in Chapter 3, Section 4, it is impossible to further look at the ‘result of looking.' Using the expression that something becomes invisible within the world of the mind is incorrect; the proper way to put it is that the object seen before your eyes ‘disappears.’ Also, it is not that opening your eyelids allows you to see the object before your eyes; correctly, the object ‘appears’ before your eyes.

When you move your gaze within the material world, through the system of synchronization, your apparent gaze moves in the world seen before your eyes, and as a result, various apparent objects become visible before your eyes, while others become invisible. However, as I just mentioned, this is a phenomenon that should be called the appearance and disappearance of various apparent objects before your eyes. By tracing the threads of memory, you can recall various matters into the ‘so-called mind,’ and similarly, by moving your apparent gaze through the world seen before your eyes, it becomes possible to make various apparent objects appear within the

world of your mind.

Questions and Answers about the world of the mind

You must have felt various doubts about this kind of answer to the question, 'Where is the mind?' Among them, I would like to pick up the following three points and provide additional explanations.

(1) Why does the coffee cup before my eyes exist within the world of the mind?

According to common knowledge, which considers the ‘so-called mind' located inside the face of the apparent body and it is the entirety of the mind, it is understandable to feel dissatisfied with the answer given just now. That dissatisfaction can perhaps be summed up in one phrase: 'Why is the coffee cup before my eyes or the wall before my eyes considered as the existence within the world of my mind?' When we talk about the mind, we usually mean high-level mental activities expressed by words like knowledge, emotion, and will, which should not be equated with a coffee cup before my eyes or a wall just standing there.

If we explain it logically, it would be something like, 'The object seen before our eyes is the result of what we look at, and it belongs not to the material world but to the world of the mind,' which is just a rehash of what has been told so far. So instead of that kind of explanation, let's try to explain, from a different perspective, that a coffee cup or a wall is a psychological phenomenon and belongs to the world of the mind.

Are you familiar with an animal called a ferret (European polecat)? It is a creature with a curious and playful personality, and when you see a ferret taking a leisurely nap, you can't help but feel that it is cute. That feeling of cuteness arises in the 'so-called mind,' but at the same time, the ferret itself right before your eyes inherently possesses that charm. In other words, the ferret before your eyes is not just an inorganic, mere physical object, but has become a being imbued with emotion. The fact that emotions accompany the object seen before your eyes is precisely because the ferret seen before your eyes exists within the world of your mind. The same can be said for puppies, kittens, and of course, human children. There is an expression in Japanese 'Emotion is transferred,’ and it can be said that this word reflects the background of the phenomenon.

A knife drawn from its sheath has a unique presence that can be described as a sense of intimidation. The dully shining blade, the tip hiding sharpness, and the

sturdy back of the blade all convey a powerful impression to anyone who sees it. This presence is an emotion that arises in the ‘so-called mind’ of the observer, yet at the same time, the knife itself possesses that presence. It is precisely because the knife seen before your eyes is a psychological phenomenon experienced as a 'result of looking'.

Have you ever watched the sunrise? Although the sunrise occurs every single day, witnessing it from the summit of a mountain, amidst the magnificent scenery, gives a deep impression to the viewer. As the eastern sky lightens and golden rays are cast in all directions at the moment of sunrise, the scene has a divinity that seems akin to the creation of the world itself. This impression is an emotion within your ‘so-called mind,' but at the same time, there is a kind of divinity in the sunrise itself, and that is because the sun has risen into the ‘world of your mind.’

The slippery feeling you sense on the tip of the pencil seen before your eyes, which I discussed in Chapter 3, Section 2, and the tactile sensation you feel when touching your cheek reflected in the mirror before your eyes, can be understood as not being a mysterious phenomenon if you would realize that the world seen before your eyes is the world of the mind. Both the pencil seen before your eyes and the cheek reflected in the mirror are matters within the world of the mind, just like the sensation that arises on the tip of the pencil or the tactile feeling on the cheek in the mirror; they are phenomena of the same nature.

(2) Isn’t the ‘so-called mind' a special entity?

I think there is a strong sense that the ‘so-called mind' must be a special entity because it governs the domains of knowledge, emotion, and will. Indeed, what they represent involves higher-order psychological functions, and it is true that their content is special. However, this notion of 'special' refers to considering these functions including the brain's information processing. As mentioned in the section 'Definition of the words ‘mind and consciousness,' in this discussion, we take the position of dealing only with phenomena that have become conscious, without directly involving the brain's information processing. Therefore, from this standpoint, the ‘so-called mind' is qualitatively no different from the coffee cup seen before your eyes. From the perspective of existence, both the ‘so-called mind' and the coffee cup seen before your eyes are the same kind of existence.

In other words, the coffee cup seen before your eyes is positioned where it is as a result of processing information from the external world, and the ‘so-called mind’ is also merely positioned inside the apparent face. From the perspective that both the

coffee cup and knowledge, emotion, and will reflect the content of information processing, each is indeed a special existence, but in the psychological phenomena that manifest them, there is nothing that makes the ‘so-called mind’ a special existence distinct from the coffee cup seen before your eyes.

There is, naturally, a reason why the ‘so-called mind’ is positioned behind the face of the apparent body. This reflects the idea that the mind is the center that processes information, and this is manifested in the thought, ‘I am here, and I am looking.’ In other words, if we consider where it is most natural to position the 'I’ that is looking, it would be in the opposite direction of the line of sight. It becomes easier to understand if you think from your own perspective.

The external world that you see is based on the image on your retina, so the world that spreads before your eyes changes as your gaze moves. At that time, the reference point is the eye, and if you consider that the 'I’ that is looking exists behind the eyes, it makes sense. It can thus be thought that the ‘so-called mind’ came to be positioned behind the face of the apparent body. As the expression 'I am here, and I am looking' indicates, the ‘so-called mind’ comes to be localized where it is perceived that it is looking.

I have heard a story that in the past, it was believed that the mind is in the heart, but perhaps it was thought to govern the emotional parts among knowledge, emotion, and will. Indeed, there are expressions like 'my heart leaps with joy,' 'my heart is breaking,' or 'my heart is jumping out of my mouth,' all of which are related to emotions.

(3) Why does the ‘so-called mind' exist within the ‘world of the mind’?

What is commonly thought of as the mind in ordinary understanding is the ’so-called mind,' which differs from the mind in its true sense. That 'so-called mind' exists within the world of the mind, so to speak, a kind of nested doll. This raises the question: 'Why does the ‘so-called mind’ exist within the world of the mind?' To answer this question, we must wait for a response to the question, 'What is the ‘I’?' This is because it is not only the ‘so-called mind’ that exists immanently within the world of the mind. The apparent body and the apparent external world also exist immanently, meaning that the 'I' itself exists within the world of the mind. Therefore, this issue will be revisited and discussed in Section 3 of Chapter 4 under the topic, 'Why does the ‘I’ exist within the world of the mind?'

Summary of this section

The body seen before our eyes is an 'apparent body,' and the world that spreads out before our eyes is an 'apparent material world.' The answer to the question 'Where is the mind?' is that 'everything, including the body seen before our eyes and the world that expands before our eyes, is the world of the mind.' The ‘so-called mind,’ which is commonly believed to govern knowledge, emotion, and will, exists within the world of the mind along with the apparent body.

Chapter 4

Section 2: Existence and recognition in the world of the mind

The problem on ‘recognition’

We have been considering the question of 'Where is the mind?' but when talking about the mind, we cannot avoid the problem on ‘recognition.’ So far, we have mainly analyzed the act of looking, but the question remains as to what it means for the external world to be recognized through the act of looking.

For example, consider recognizing the presence of a coffee cup by looking at it. If it were a machine like a humanoid robot, it would process information from the external world and select a single option—the coffee cup—and that would be the result. But for a creature with conscious activity like a human, that cannot be the end. Information from the outside world is sent to the brain, where the information is processed, and as a result, a coffee cup appears before our eyes. The question arises of how the presence of the coffee cup seen before our eyes connects to recognition.

There is a phrase, 'Descartes' little man,' which mocks Descartes' dualism. Descartes seemed to think that information about the outside world obtained through the eyes was transported to the pineal gland, located in the center of the brain and shaped like a pinecone, where recognition occurs. However, just suggesting that information from the external world is transported to the pineal gland does not explain recognition, and criticism arose, saying, 'Wouldn't you need a person inside the brain to interpret the information from the outside world?' Considering the level of anatomy at that time, such reasoning was perhaps unavoidable, but even in the present day, as the workings of the brain are becoming clearer, the question 'What is recognition?' remains a mystery.

It does not necessarily provide a fundamental answer about recognition, but by taking one more step forward in the analysis of the act of looking that has been

carried out so far, we can reveal some interesting facts. This concerns the relationship between the 'result of looking' obtained through the act of looking and ‘recognition.’ In this analysis as well, the fact that the object seen before our eyes is not the ‘object of looking’ but the ‘result of looking' plays a major role.

The definition of the word, 'recognition'

I would like to first define the word 'recognition,' but I am not intending to have a deep philosophical discussion. The idea is simply to talk about recognition by dividing it into two levels: higher and lower, and to use the terms accordingly. In other words, I would like to proceed with the consideration that recognition can, for convenience, be thought of as having two levels. For example, recognizing a person's face and knowing who it is, looking at a clock and knowing what time it is, or understanding that the cup seen before one’s eyes is a vessel for drinking coffee are examples of 'higher-level recognition,' in which one understands what the object seen before their eyes is. On the other hand, 'lower-level recognition' refers to knowing that an object exists before one’s eyes, whether knowing what it is or not.

Here, we will deal only with lower-level recognition. In other words, we will limit our discussion to the level of recognition where one can understand that an object exists before one’s eyes. In terms of wording, we will use the three words: 'recognize,' 'understand,' and 'know.' The word 'recognize' is mainly used for higher-level recognition, 'know' for lower-level recognition, and 'understand' is often used for both. However, please consider that these three words are used almost synonymously.

The trick of 'I look at the object before my eyes, and I come to know of the existence.'

The thought of 'I am here, and I am looking' is a hard trick, and it makes it difficult to see through that the body seen before our eyes is an apparent body, and that the world spreading out before our eyes is an apparent material world.

On the other hand, regarding the recognition discussed here, the thought of, ‘I look at an object before my eyes, and I come to know the existence’ becomes a hard trick, making it difficult to discern the true nature of recognition. In other words, as can be understood from the expression 'I look at an object before my eyes, and I come to know the existence,' under common interpretations, it is considered that information about the object before our eyes is incorporated into the ‘so-called mind’ through the ‘act of looking,’ and it is there that recognition occurs. And, from the thought that information about the object before our eyes is incorporated into the ‘so-called mind’

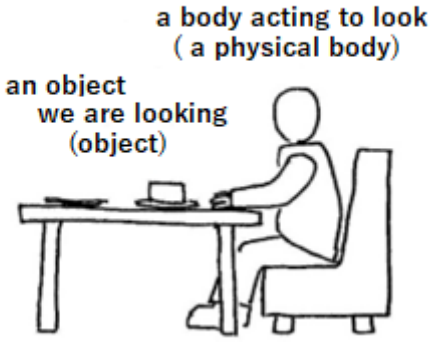
the impression emerges that recognition is something abstract.

However, although the mind has an abstract part expressed by such words as knowledge, emotion, and will, just as there is a part that exists in a concrete form, such as the coffee cup seen before our eyes, a psychological phenomenon, there is also a part that can be shown in a concrete form.

Let's think about the expression 'I look at the object before my eyes, and I come to know the existence.' This expression indicates that there are two steps: 'I look at the object before my eyes,' and 'I come to know its existence.' In other words, it means that only by looking can one come to know the existence of the object. You might think, 'How could we know its existence without even looking at it?' You might think it as obvious, but here lies a trick regarding recognition.

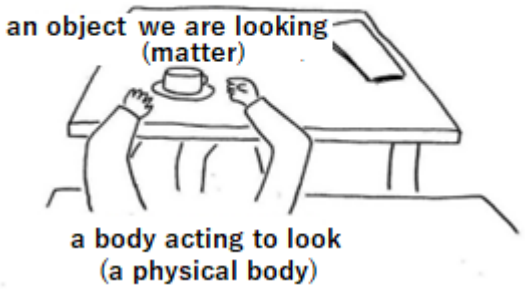
As a specific example, let's consider the case of looking at a coffee cup. In the schema of the ‘act of looking,’ 'There is a coffee cup (the object of looking), and when one directs one’s gaze at it, an image is formed on the retina by the light reflected from it, and this information is then transmitted to the central system (the body of looking), resulting in the coffee cup (the result of looking) being present before one’s eyes.'

Fig.4-1(a) The material world



Let's first consider this situation in the material world. Figures 4.1(a) and (b) represent the material world, respectively from the side and from the observer's eye position. Regarding the first step, 'I look at the object in front of me (in the material world),' light is transmitted from the coffee cup as matter to the physical body, and an image of the coffee cup is formed on the retina. Between the coffee cup and the body, there is a relationship between 'the object of looking (matter)' and 'the body of looking (physical body),' and this relationship can be defined as the 'act of looking.' This is an undeniable fact and there is no problem with it.

Fig.4-1(b) The material world



So, what does the next step mean, 'I come to know the existence'? Information from the retina is transmitted to the visual cortex in the occipital lobe of the cerebrum, and it has been found that it then follows two routes, ultimately being carried to the visual association areas in the frontal lobe. However, that alone does not mean 'I come to know the existence.' Descartes proposed that visual information from the external world is carried to the pineal gland. While the visual cortex and visual association areas are indeed regions responsible for processing visual information, from the standpoint of the recognition 'I come to know the existence,' it is merely a matter of saying that it is carried to the visual cortex and visual association areas instead of the pineal gland, and it cannot be said to explain recognition itself in any way.

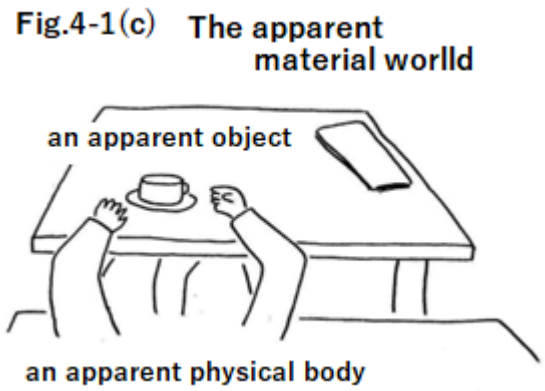
The act of 'looking at the object in front of me (in the material world),' that is, the process 'object of looking (material) → body of looking (flesh),' is an indispensable step, without it information from the external world cannot be received. However, the act of 'I am looking at the object in front of me (in the material world)' is not directly related to recognition itself. This is clear if we consider dreams. Even if the act of 'looking at the object' does not occur, it is possible to recognize objects within a dream.

In Section 4 of Chapter 3, we analyzed the mechanism of the trick hidden in the thought, 'I am here, and I am looking.' It is true that 'I exist in the material world (the existence of the physical body)' and that 'I am looking at in the material world (the transmission of information through light and electrical signals),' yet what the 'I' truly signifies in this thought should be the 'I' accompanied by the 'body of looking' in the world seen before our eyes. However, we mistakenly believe that this 'apparent body' is the 'physical body' in the material world. And we overlay the image of the material world, which reflects the thought that the material world is such, onto the world seen before our eyes. As a result, we end up holding the thought, 'I exist with my physical body, and because I am looking, the objects seen before my eyes are material.'

The thought of 'I look at the object before my eyes, and I come to know the existence' also has the same cause. By superimposing the material world on the world spreading out before our eyes, and under the idea that the two are the same, we think of the

'I' who is looking at the apparent object, and the 'I' who know the existence of that object, as the 'I' accompanied by a 'physical body' in the material world. However, in fact, the 'I' indicated by this expression should be the 'I' accompanied by an 'apparent body' in the world spreading out before our eyes.

Just as the thought 'I am here, and I am looking' is not a thought in the material world but a thought in the apparent material world spreading out before our eyes, realizing that the thought 'I look at the object before my eyes, and I come to know the existence' is also a thought in the world seen before our eyes is the key to seeing through the trick of recognition.



The 'trick on recognition'

Based on such an introductory discussion, let us next consider the expression 'I look at the object before my eyes, and I come to know the existence' in the world spread out before my eyes, as shown in Figure 4.1(c).

In common understanding, the coffee cup seen before our eyes is considered the 'object of looking (material),' and the body visible before our eyes is considered the 'body of looking (physical body),' and it is thought that a relationship of 'looking at the object before our eyes' can be defined. However, as already discussed in Chapter 3, Section 4, this is not actually the case.

In the world that spreads before our eyes, the relationship between the 'object of looking' and the 'body of looking' cannot be defined. This is because, in the world that spreads before our eyes, the coffee cup before our eyes is an 'apparent material,' and the body before our eyes is an 'apparent body,' and light does not travel from the 'apparent material' to the 'apparent body,' and the apparent body has no retina to begin with, so no image is formed on a non-existent retina.

Therefore, there is no relationship of the 'object of looking' and the 'body of looking' between them. In other words, the act of 'I am looking at the object before my eyes' cannot be defined in the world that spreads before our eyes. Nevertheless, the expression 'I look at the object before my eyes' is used, and there lies a trick about recognition.

Let's try explaining it with slightly different phrasing. We will continue discussing the world seen before our eyes in Figure 4-1(c). You think that you are looking at the

coffee cup before your eyes, and you also believe that by looking at the coffee cup before your eyes, you can recognize its existence.

However, in reality, that is not the case. What you consider to be your body is an 'apparent body,' and the coffee cup you think you are looking at is an 'apparent matter,' and there is no relationship of the ‘body of looking' and the ‘object of looking.' The coffee cup seen before your eyes exists there as the 'result of looking.' You are not actually looking at the coffee cup before your eyes. In fact, it is impossible to look at the 'result of looking' further. The fact that you can recognize the existence of the coffee cup even though you are not looking means that the coffee cup seen before your eyes is both existence and recognition at the same time.

‘Does a coffee cup exist before your eyes?’
Yes, it exists.’

‘Are you looking at the coffee cup?’
‘No, I'm not looking at.’

‘Can you know that there is a coffee cup before your eyes?’
‘Yes, I can.’

The fact that you can know the existence of a coffee cup even though you are not looking at it means that the coffee cup seen before your eyes is, at the same time, both existence and recognition.

The thought that 'I am looking at the object before my eyes' is what causes us to misperceive the essence of recognition.

The recognition at a lower level may differ from that at a higher level, but at least in recognition at the lower level, there is no recognition like 'I look at the object before my eyes, and I come to know the existence'; rather, 'the fact that an object exists before our eyes is simultaneously recognition.' This could also be rephrased in reverse. In other words, ' Recognition is simultaneously Existence.' Of course, the meaning of existence in the world of the mind is likely different from that in the material world.

If we use the word 'consciousness' here, it is not clear whether becoming conscious is a necessary condition for knowing, but we can say that becoming conscious is a sufficient condition for knowing.

The world of the mind from the perspective of recognition

There is no such recognition in which 'I look at the object before my eyes, and I come to know the existence'; rather, what is seen before our eyes is recognition itself. In other words, the fact that it exists before our eyes is recognition itself. It is easy to imagine that the same applies to other senses such as sound and touch.

The sound you are hearing now is not 'I hear the sound and thus I come to know the existence'; rather, the sound itself exists at that position, and at the same time, it is also recognition. The tone produced by the piano performance is an existence of that very tone itself, and simultaneously, it is your recognition. You are not hearing the sound what you hear, nor are you recognizing the sound you hear; the sound you are hearing right now itself is existence and recognition. Just as the impression you receive from listening to a piano performance occurs in your 'so-called mind,' the very tone of that piano is itself an existence and recognition within the world of your mind.

The same applies to touch. It is not that 'I feel the touch and thereby know its existence,' but rather, the touch itself exists in the apparent body, or the part that comes into contact with the apparent body, and at the same time, it is recognition.

There is a thought that recognition arises from information taken in from the external world (the material world) into the mind. While it is true, the problem lies in overlaying the external world onto the world seen before our eyes. The expression 'I look at the object before my eyes, and I come to know the existence' succinctly illustrates this issue. Recognition occurs within what is ‘so-called mind,' and it is often thought that information from the 'apparent material world' must first be taken into this 'so-called mind.' However, in reality, that is not the case. To exist in the world that spreads out before our eyes is simultaneously recognition.

The common-knowledge idea that recognition arises from information from the apparent external world being incorporated into the ‘so-called mind’ is also reflected in the way we use language. For objects outside the 'apparent body' in the world spread out before our eyes, expressions such as 'I look at the object in front me and I come to know the existence' or 'I hear the sounds around me and come to know their existence' are used, indicating that information from the apparent external world is first incorporated into the ‘so-called mind.’

However, regarding emotions, which are originally considered phenomena within the mind, one might say 'I see that the other person is sad and know their sadness,' but it is not expressed as 'I feel my own sadness and know my own sadness.' This is probably because sadness is considered an event within the ‘so-called mind,’ and there is no need to incorporate it into the mind again.

There is a common-knowledge thought that emotions such as joy and sorrow are themselves a form of recognition, but there is no common-knowledge idea that the coffee cup seen before our eyes itself is recognition. Considering that the world spreading out before our eyes is the world of the mind, it should not be particularly strange that the existence of objects in the world seen before our eyes is at the same time a form of recognition.

Summary of this section

There is no such thing as 'I look at the object before my eyes and come to know its existence.' In the first place, it is impossible to further look at the object seen before our eyes, and the fact that an object exists before our eyes is simultaneously recognition. Considering that the world spreading out before our eyes is the world of the mind, the fact that an object exists before our eyes can be said to already meet the conditions of recognition, at least at a lower level of recognition.

Chapter 4

Section 3: What am the ‘I’?

The existence of the 'I'

There are various reasons why people become interested in the mind, but ultimately, it may be because they are concerned with the question, "What am the ‘I’?" From the time we become conscious, we feel ourselves as a unique existence, irreplaceable by anything else, and yet, even though it is about ourselves, it is a question that is difficult to answer.

By taking one more step in the exploration of the world of the mind that we have been conducting, it is not that we will obtain a complete answer to the question 'What am the ‘I’?', but we can reveal interesting facts when considering this problem. Just as the true nature of the mind is fundamentally different from the image of the mind considered as common knowledge, it becomes clear that the 'I' expressed in the phrase 'What am the ‘I’?' is entirely different from the 'I' considered by common knowledge.

Now, let us think about the existence of the 'I.' The 'I' expressed in the question 'What am the ‘I’?' must be understood as an existence that always accompanies a body. In fact, this can be understood by thinking about oneself, and it can also be understood when thinking about others. The 'I' is considered an existence that

combines 'my mind' and 'my body,'

If there is no 'my mind' and only 'my body' exists, it can be said that the person is in a state like a vegetative state, and that person themselves would not have the sense of 'my body.' On the other hand, if there is no 'my body' and only 'my mind' exists, it would become something like a supernatural phenomenon, which goes beyond the scope of this paper that is based on a scientific standpoint.

Therefore, the 'I' refers to an entity that possesses both mind and body, can be expressed in the following diagram.

The 'I' = 'my mind' + 'my body' [1]

It is also necessary to note that the word the 'I' includes self-consciousness. The term self-consciousness is a very tricky concept and given that we do not fully understand everything about the 'I,' it is rather difficult to define it clearly. However, since we are attempting to address the question 'What am the 'I'?', we cannot leave it vague. Just as with defining terms like mind, consciousness, and even recognition, we will not delve deeply into self-consciousness but will settle for a level sufficient for the present discussion and provide a simple definition.

If we interpret the word 'self-consciousness' literally, it will mean being conscious of oneself, or being conscious of the 'I', but it could also be rephrased as recognizing the existence of the 'I', or that the existence of the 'I' is being recognized. This is the so-called expression 'self-recognition,' and although it is simply a matter of replacing 'consciousness' with 'recognition,' this is probably easier to handle.

So, what is the recognition of one's own existence? Is it recognition that one's own body exists? Or is it the recognition that the mind, which is thought to govern perception, memory, learning, thinking, language, emotion, and will, exists? Under the idea that the 'I' = 'my mind' + 'my body,' it would be reasonable to consider both. Therefore, I would like to define self-consciousness as the recognition of the existence of both 'my mind' and 'my body.' I am aware that this is incomplete, but for the time being, I would like to proceed with the discussion based on this definition.

Rethink of the existence of the 'I'

In the formula of the 'I' = 'my mind' + 'my body', how are 'my mind' and 'my body' thought of in common knowledge?

First, regarding 'my body,' common understanding considers 'my body' to be the physical body. Each person differs in height, weight, facial features, and even blood type, making it unique to that person, and it exists within the material world. On the

other hand, 'my mind' is thought to be produced by the brain of that physical body and is considered as a non-material entity.

Since this is a story told under the condition of 'common knowledge,' it is indeed a story based on common knowledge and ends up being nothing unusual. The diagram from earlier [1], can be expressed like the following.

The 'I' = 'my mind' + 'my body as a physical body' [2]

Certainly, there is no problem in defining the 'I' as referring to what is represented by this diagram. This can be said to be a correct interpretation. It is an indubitable fact that we have a body as our unique physical form, and it is also an indubitable fact that the mind is produced by the brain located in the head of that body. I have no objection to defining the 'I' as referring to such an existence. That too can be said to be a correct interpretation.

However, when we consider this in light of the reflections on the world of the mind that we have undertaken so far, it raises the question of whether we are truly referring to such an entity when we say the 'I.' Therefore, I would like to reconsider the diagram the 'I' = 'my mind' + 'my body' [1] not from common knowledge, but through the analysis of the world of the mind that we have been conducting.

First, regarding "my body," there arises a question as to whether the ‘my body’" indicated in this diagram actually refers to the physical body. Certainly, in the material world, there exists a physical body, and that is an undeniable fact. There is no problem in defining that as "my body."

However, what you currently think of as "my body" must be the body that you see before your eyes. It must be the body that you can see when you direct your gaze and can control as you wish. That body is not the physical body that belongs to the material world but the apparent body that belongs to the world of the mind, as already discussed in Chapter 3, Section 4. We are under the misconception that the "apparent body" in the world of the mind is our physical body. The existence of the physical body is something we only know as knowledge.

On the other hand, regarding 'my mind,' as analyzed in Chapter 4, Section 1, the world of the mind is completely different from the mind in common understanding. It includes your 'apparent body,' and the world that spreads out before your eyes is the world of the mind, which should be 'my mind.'

However, 'my mind' that you, who are reading this paper now, think is probably thought to exist somewhere inside the face of the 'apparent body' before your eyes. That is the mind in common knowledge, called the ‘so-called mind' in Chapter 4,

Section 1, and it is different from the true world of the mind. Although the ‘so-called mind' is a part of the world of the mind, it does not coincide with the world of the mind itself. Considering that the ‘so-called mind' is thought to be 'my mind,' it should also be expressed as the 'apparent mind.'

In other words, 'my body,' which is a component of the 'I,' should be interpreted as the 'apparent body,' and likewise, 'my mind' should be understood as the ‘so-called mind’ that resides in the apparent body. Both exist within the world of the mind. Thus, the earlier diagram regarding the 'I' forms the following diagram.

The 'I' = 'so-called mind' + 'apparent body' [3]

Also, if we express the ‘so-called mind' as an 'apparent mind,' furthermore, It will be represented as following.

The 'I' = 'apparent mind' + 'apparent body' [4]

What am the ‘I’?

I began the discussion by expressing the existence of the 'I' in the diagram

The 'I' = 'my mind' + 'my body' [1].

And as a result of re-examining the existence of the 'I' in the previous section, what we think of as the 'I' should not be expressed as

The 'I' = 'my mind' + 'my physical body' [2],

but rather as

The 'I' = 'the so-called mind' + 'apparent body' [3].

or as

The 'I' = 'apparent mind' + 'apparent body' [4]

What has been discussed so far pertains to the narrow sense of the mind, which considers only conscious phenomena as the mind, and as for cognition, it was about the lower level of recognition in which one can understand that an object exists before them. There has been no mention of the broader sense of the mind, including the brain's processing of information, nor of higher levels of recognition, such as understanding the meaning of things. Under such circumstances, I am aware that it is not appropriate to attempt to answer the question 'What am the ‘I’?', but based on the previous discussion, the answer would be that 'The ‘I’ is an existence created within the world of one’s mind.'

Indeed, according to common knowledge, 'my body' is considered the physical body that exists in the material world, and 'my mind' is thought to be produced by the brain located in the head of the physical body. In fact, we have a physical body, and

it is an undeniable fact that this physical body, including the brain located in its head, supports us from a physiological standpoint. It is also true that, as 'my mind,' there exists information processing by the brain and the resultant conscious phenomena. Therefore, it is possible to define the 'I' as 'my mind' + 'my physical body,' and this is not incorrect.

However, it is certain that we have a physical body, but then, where is our physical body? Perhaps you think that the body you see before your eyes is your physical body. However, that is merely the 'apparent body' that exists in the world of the mind, and not the physical body.

The thought that the mind is produced by the brain is probably correct. So, where is this mind located? You might respond that it seems to be somewhere behind the face. However, that face is the apparent face of the apparent body, not the face as a physical body. Therefore, there is no brain inside it. No matter how much we search inside the apparent face, the mind we are looking for does not appear. What is positioned there is the ‘so-called mind’, which, although part of the world of the mind, is merely confined to the aspects expressed by such words as knowledge, emotion, and will. In the first place, the inside of the apparent face itself is also part of the world of the mind.

In other words, it is a fact that we have a physical body, but what we consider to be our own body is not that physical body, but the 'apparent body' in the world of the mind. Likewise, it is true that the mind is supported by the brain, but what we consider to be our own mind is the 'apparent mind' in the world of the mind. Just as a coffee cup seen before our eyes exists in the world of the mind with the meaning of being a vessel for drinking coffee, it can be said that the 'I' exist in the world of the mind with the thought of the 'I.'

I think you could not accept this kind of response. There are various reasons for this, but the main cause may lie in the question, 'Then, what happens to the existence of the physical body?'

Indeed, we possess a physical body. Since we have been speaking on the premise that the material world exists prior to human existence, the physical body undoubtedly exists. However, we must not forget that we are able to talk about our physical body is only possible once we are able to recognize the existence of our own physical body.

Even if a coffee cup exists in the material world as a material object, if it is not recognized, we cannot talk about its existence. Of course, here too, we acknowledge the existence of material objects prior to recognition. However, if it is not recognized,

we cannot speak about the coffee cup. And what is recognized is not the coffee cup as a material object itself. Through a series of processes related to the act of looking, what is recognized is that the coffee cup existing before our eyes, and the coffee cup seen before our eyes is not a coffee cup as material, but a coffee cup as apparent material.

The same can be said about our physical body. The physical body certainly exists prior to recognition. However, even if the physical body exists, if it is not recognized, we cannot talk about it. It is only when our body is present before our eyes that we can begin to talk about it. And that body is not the physical body, but the apparent physical body. In other words, what we can recognize as ‘my body’ is the ‘apparent body’ that exists before our eyes, not the ‘physical body.’

I expressed the existence of the 'I' with the diagram

The 'I' = 'my mind' + 'my body'. [1]

In this diagram, 'my mind' and 'my body' are represented as if they were separate entities. Indeed, if the diagram were,

The 'I' = 'my mind' + 'my physical body' [2]

then 'my mind' and 'my physical body' would be qualitatively different entities. However, in reality, 'my mind' is an 'apparent mind', and 'my body' is an 'apparent body', and both exist within the world of the mind. Therefore, the 'I' is not made up of these two distinct elements. Both exist within the world of the mind and form an unified existence. In fact, we feel that 'my mind' and 'my body' are inseparable, and the sense of unity that does not allow us to recognize a division between mind and body seems to originate from the fact that both exist within the world of the mind and are homogeneous entities called the 'apparent mind' and the 'apparent body'.

The 'I' = 'apparent mind' + 'apparent body' [4]

Self-consciousness

In the previous section, we concluded that what we recognize as the 'I' consists of the ‘so-called mind’ and the ‘apparent body’, namely, expressed as

The 'I' = ' so-called mind ' + 'apparent body' [3].

Now, let's consider self-consciousness, which is another important factor when thinking about the existence of the 'I'.

In the first section of this chapter, we defined self-consciousness as to recognize both 'my mind' and 'my body.' Considering that each is interpreted as the 'so-called mind' and the 'apparent body,' self-consciousness can thus be understood as the recognition of both the 'so-called mind' and the 'apparent body.'

The recognition of the existence of the 'apparent body' is a simple matter. As I discussed in the previous section, existing within the world that spreads out before our eyes is simultaneously recognition, so by directing our gaze toward our own body, the 'apparent body' emerges there, which constitutes the recognition of the existence of the 'apparent body.' However, for it to be interpreted as one's own body, a higher level of recognition is involved. Therefore, to recognize the existence of 'my body,' it would be necessary to examine the higher-level recognition. Nonetheless, it is not particularly difficult to imagine that the recognition of the existence of the 'apparent body' could lead to the recognition of the existence of 'my body.'

However, on the other hand, when it comes to the recognition of the ‘so-called mind,' the matter becomes complicated. This is because, although it is considered to be located somewhere inside the face of the apparent body, it is an extremely abstract entity that cannot be seen or touched.

What gives rise to the idea that the ‘so-called mind’ exists inside the apparent face? As I discussed in Chapter 4, Section 1, a major factor seems to be that it is in the opposite direction of our gaze. Various objects emerge in the world seen before our eyes as our gaze moves but thinking that 'my mind' is looking at those objects from the opposite direction of the gaze makes things add up.

The thought 'I am here, and I am looking' succinctly expresses the circumstances at that point. The 'I' in 'I am here' is interpreted as referring more strongly to 'my body' than 'my mind,' while the 'I' in 'I am looking' is interpreted as referring more strongly to 'my mind.' Therefore, the thought 'I am here, and I am looking' can be rephrased as 'I have my own body, and the ‘I’ residing in that body is looking.'

However, this is an assumption based on common knowledge, and correctly speaking, it is that we assume the apparent body seen before our eyes is our physical body, and we assume we are looking at the world seen before our eyes from inside the face of that apparent body. The thought that 'I am looking,' or in other words, the ‘so-called mind,' seems to be a thought associated with one's own 'apparent body,' and it does not seem to exist independently of the 'apparent body.'

In this way, the ‘so-called mind' seems to be something that can only manifest its existence in an indirect manner. This is because the true form that should be expressed by the words 'my mind' is the world itself that spreads out before our eyes, including one's apparent body. Therefore, the recognition of the existence of 'my mind' should be the same as the recognition of the existence of the world that spreads out before our eyes, including the apparent body. For these things to exist in the world that spreads out before our eyes is precisely the existence of 'my mind,' and at the

same time, it should be recognition as well.

However, what is commonly thought of as 'my mind' is the 'so-called mind.' The 'so-called mind' is not recognized directly as itself but can only be expressed indirectly through actions such as I look, I hear, I feel, I remember, I speak, I think, and I decide.

The thoughts of 'I do such-and-such' related to those actions are the thoughts of the 'so-called mind,' and at the same time, they can be said to be recognition as well. All these thoughts are associated with one's 'apparent body,' and it seems that they can only be expressed in a way that is linked to the 'apparent body.' It is much like how a coffee cup seen before your eyes has an associated meaning as a vessel for drinking coffee. In the same way, the 'so-called mind' acquires the meaning of 'my mind,' is positioned inside the face of the 'apparent body,' and that can simultaneously be said to be the recognition of the existence of the 'so-called mind.'

At the beginning of this section, I mentioned that self-consciousness is the recognition of both the 'so-called mind' and the 'apparent body.' As can be understood from the previous discussion, the recognition of the 'apparent body' is the recognition that the 'apparent body' exists in the world spread out before our eyes. On the other hand, the ‘apparent acts’ associated with the 'apparent body' unfolding in the world seen before our eyes, such as the thought that I am looking, seem to lead to the recognition of the existence of the 'so-called mind.'

The creation of the ‘I’

The ‘I’ that is discussing here is the ‘I’ represented by following diagram.

The 'I' = 'so-called mind' + 'apparent body' [3]

Therefore, the ‘I’ exists only during wakefulness and is not something that exists constantly like the physical body. For example, during sleep, the ‘I’ does not exist except when dreaming. It should be thought of as repeatedly appearing and disappearing, just as apparent matter repeatedly appears and disappears. Memory fills the gap between disappearance and reappearance, and it seems that memory plays an important role in maintaining the identity of the ‘I’.

The 'I' exists accompanied by the ‘so-called mind' and the 'apparent body,' but it is not something that exists from birth, nor does it suddenly arise one day as if out of nowhere. As can be seen in the development of infants and young children, it should be considered something that is formed, over a long period of time, in the world of the mind through interactions with the outside world from the beginning of life.

It seems that the factor that most strongly contributes to the birth of the 'I' is the creation of the 'apparent body' within the world of the mind. This is much like how

an organism becomes separated from the environment, gains independence, and life is born; similarly, when the apparent body distinguishes itself from surrounding within the world before one's eyes and comes to hold the meaning of its own body, it can be seen as leading to the birth of the 'I'.

It seems that higher-level recognitive functions are necessary for the feeling that the 'apparent body' is one's own body to arise. Through functions such as looking, hearing, and feeling, the external world is constructed within the world of the mind, but it is presumed that it is initially incomplete. By infants gradually interacting with the external world using their own bodies, this construction is gradually refined, eventually forming something at the same level as the world seen before our eyes today.

When the 'apparent body' seen before our eyes initiates movement based on its own will, it comes to have the meaning of 'my body.' By influencing the objects around us through bodily movement, the objects seen before our eyes exhibit properties such as hardness, weight, and warmth, and thereby come to have the meaning of 'matter.'

Furthermore, through sensations related to acceleration and balance, the apparent material world is fixed, and the apparent body moves within it. Thereby the relationship between the material world and the physical body that exists within it is formed between the apparent material world and the apparent body.

On the other hand, because the world spreading out before our eyes extends beyond the apparent body, a special meaning is assigned at the opposite side of the sight line. And by placing things like memory, learning, thinking, language, emotions, and will inside that apparent face, the idea that 'the mind is inside the face of the apparent body' ends up forming.

In this way, within the world of the mind, an apparent material world, an apparent body, and an apparent mind are formed, and we come to mistakenly interpret them as the material world, the physical body, and my mind. Here, the 'I' composed of the 'apparent mind' and the 'apparent body' is created. As a result, the world of the mind is interpreted as a closed world as my mind, and recognition is confined within my mind, interpreted as being separated from existence. It seems that the relationship between subject and object originates here.

Why does the 'I' exist within the world of the mind?

Within the world of the mind, the apparent material world, the apparent body, and the apparent mind exist, and we believe them to be the material world, the physical body, and my mind. But why is such a trick, which even deceives us, set up?

However, even though we say it is set up, it is different from a magic trick. It does not mean it is intentional. Because the apparent material world and the 'I' exist within the world of the mind, we ourselves cannot recognize their true nature.

It seems possible to think that the reason why the apparent material world, as well as the 'I' composed of an apparent mind and an apparent body, exists within the world of the mind, is that the apparent material world and the 'I' play an indispensable and important role as part of the system that controls our own actions. In other words, although we living beings take in information from the external world, analyze and judge it, and then act, it seems that the apparent material world and the 'I' play an indispensable role in the process of information processing.

Our actions consist of both conscious and unconscious parts, but the conscious part is very small, and most of it is unconscious. For example, even if we take the example of reaching out to grab a coffee cup before our eyes, while key points such as knowing the position of the coffee cup and judging the direction to extend the hand are conscious, much of the process is carried out automatically without awareness.

The apparent world and the 'I' are phenomena that have been made conscious. Naturally, there is a backup by the brain behind them, and there exists a process of information processing by the brain's physiological systems, but the physiological processes themselves conducted by the brain are not made conscious. Besides the physiological processes, it seems that the apparent material world and the 'I' exist because they play an indispensable role in terms of recognition in the process of information processing.

One piece of evidence supporting this is the fact that the world and our bodies seen before our eyes exist in the form of a copy of the external world and of the physical body. In other words, it seems reasonable to think that the apparent external world and the apparent physical body exist in the mind in the form of copy is that taking the form of such a copy is efficient for analyzing information and making judgments.

For example, when trying to reach out and grab a coffee cup, if it is a robot controlled by a computer, it will rely on quantifiable information. In that case, there is unlikely to be any conscious phenomenon as observed in humans. However, in the case of humans, there exists the coffee cup and the hand in the world seen before our eyes, and at the same time, they are recognized as such Although the specific mechanism is unknown, when carrying out the action of reaching out and grabbing the coffee cup, it is almost certain that the coffee cup and hand before our eyes are used for information processing not as something 'I see' or 'I recognize,' but as the objects themselves.

In fact, under the system of synchronization, the act of a hand before our eyes moving toward the coffee cup before our eyes corresponds to the physical movement of the hand toward the coffee cup in the material world. To obtain information, we simply need to direct our gaze to the object within the world seen before our eyes. By doing so, what appears is not quantified information, but the object itself right before our eyes. The positional relationship, such as the distance and direction between the hand and the coffee cup, exists more as a copy of the external world itself rather than as quantified data, and being a form of recognition its usefulness as information is likely to increase dramatically.

Regarding the question posed by the theme of this section, 'Why does the 'I' exist within the world of the mind?', the 'I' here refers to the 'I' composed of an 'apparent body' and an 'apparent mind.' Therefore, half of this question is related to the 'apparent body,' and as I mentioned earlier, the answer might be that the existence of the apparent body as a representation of the physical body within the world spread out before our eyes is effective in terms of information processing.

Half of the current questioning is related to the 'apparent mind,' and perhaps this is because our actions, influenced by the existence of the thought of the 'I,' can reach a completely new stage that is different from when the thought of the 'I' does not exist.

The ‘I’ exist within the world of the mind, accompanied by thoughts such as ‘I look at,’ ‘I listen to,’ ‘I feel,’ ‘I’ remember,’ ‘I speak,’ ‘I think,’ and ‘I decide.’ However, as discussed in Chapter 3, Section 4, it is not actually possible for the ‘I’ look at the object before my eyes, the ‘I’ listen to the surrounding sounds, or the ‘I’ feel sensations related to the body. These are, so to speak, merely apparent actions. Nevertheless, it is structured in such a way that the ‘I’ appear to exist in the material world with a physical body and to have the impression that the ‘I’ am performing those very actions mentioned above.

What can be gained from that? For example, I would like to think about the action of reaching out to the coffee cup seen before our eyes and taking a sip of coffee. If we eliminate the thought of the 'I' and express this series of processes, it will look like the following.

The desire to drink coffee arises, and based on that desire, the hand reaches out. The spatial relationship between the coffee cup and the hand is recognized because both exist in the world that spreads out before our eyes. The coffee cup is drawn closer, and the coffee is swallowed. The taste of the coffee occurs, and a feeling of relaxation arises.

In this way, if the thought of the 'I' is eliminated, it gives an extremely mechanical impression, but when the thought of the 'I' is involved, this series of actions can be rephrased as follows.

The 'I' think I want to drink coffee. The 'I' reach out to the coffee cup of my own will. The 'I' understand the positional relationship between my hand and the coffee cup. The 'I' grab the handle of the coffee cup. The 'I' pull the coffee cup closer. The 'I' take a sip of the coffee. The 'I' feel a sense of relaxation.

In this way, with thoughts like 'I' think, 'I' decide, 'I' know, 'I' act, 'I' feel, the fact that the 'I' exists as the one who does things allows our actions to unfold on a completely new stage. To obtain information, the 'I' just needs to direct my gaze at the object seen before my eyes. In doing so, the 'I' can acquire information from the external world. The analysis of that information can be carried out by the 'I'. To influence the object, the 'I' just needs to decide. In this way, due to the existence of the thought of the 'I', the series of processes related to our action; information gathering, analysis, judgment, decision-making, and execution, proceed smoothly.

Such thoughts are exactly the ideas about the mind, body, and external world that we hold as common knowledge. We believe in the common- knowledge notions about the mind, body, and external world without questioning them, but as mentioned in Chapter 1, Section 1, that common knowledge is mistaken. Within the world of the mind, a copy of the material world and the physical body has been created, but without realizing it, we believe that they are the material world and the physical body. As a result, we come to believe that the 'I' inhabits the physical body, and that the 'I' is acting in the material world.

In the material world, it is the physical body that actually acts. However, the physical body alone can only perform mechanical actions. To be able to act in a highly adaptive manner in a complex environment, a system to control it is necessary. This system, on one hand, is a neural network that supports actions from the physical aspect of the body. On the other hand, within the world of the mind an apparent material world exists, and the 'I,' consisting of an apparent body and apparent mind, exists, supporting actions from the perspective of recognition. In other words, the general common-knowledge framework is constructed in which 'my mind' exists in the physical body, the 'I' exist in the material world, and then act.

It seems like our actions are supported by a system where, at the same time as the brain processes information from a physiological perspective, the conscious world helps process information from the perspective of recognition. The apparent material world and the 'I' exist as part of a system that controls our own actions and could

such a system of information processing may be called the ‘evolution of information processing,’ or perhaps the ‘evolution of the mind.’

The apparent world is not meaningless world

In the world of the mind, the apparent material world, apparent body, and apparent mind exist, and for this reason, the expression 'apparent' has been used for each. The word 'apparent' may give the impression of being superficial, meaningless, or worthless, but that is by no means the case. While existence in the material world is defined as real, those things that exist within the world of the mind are not actually present in the material world itself; it is for this reason that the term 'apparent' has been used.

The body seen before our eyes, and the world spreading out before our eyes, exist in their own unique forms, and it is by no means true that they do not exist, nor are they merely superficial, meaningless, or worthless. Although they are sometimes described as ‘apparent,’ they exist in their own unique forms and, at the same time, are forms of recognition. As I mentioned in the previous section, they are likely indispensable factors in processing information, in ways we have yet to fully understand.

Also, although we believe we fully understand the world that spreads before our eyes because it is the world we are accustomed to daily, as you can understand from what has been discussed so far, this is actually not the case. There are undoubtedly important facts hidden there that we have not yet discovered, and it seems that they naturally come to light when we change our perspective.

Summary of this section

Within the world of the mind, there exists an apparent material world, an apparent body, and an apparent mind, and the 'I' is made up of this apparent body and apparent mind. The apparent material world and apparent body exist in the form of copies of the material world and the physical body, and the fact that the 'I' exist within the world of the mind is convenient for smoothly carrying out the series of processes related to our actions, such as collecting information, analyzing, judging, deciding, and executing. This seems to make it possible to adapt highly to complex environments.

Afterword

As I mentioned at the beginning, this paper is not the kind of content that can be enjoyed lightly. I would be grateful if you had finished reading it through to the end.

The purpose of this paper is to use contradictions hidden in very everyday things, such as 'looking at a coffee cup,' as clues to fundamentally overturn common knowledge about the mind. For that, logical analysis is necessary, and the discussion inevitably becomes somewhat argumentative. It will compel you to make an effort to review your own thoughts about the mind. Furthermore, I am concerned that using unusual terms like 'the object of looking,' 'the body of looking,' and 'the result of looking' may make it even more difficult to read and understand.

It was something that could not have been imagined in the past, but the number of researchers attempting to approach the issues of mind and consciousness from a scientific standpoint has been steadily increasing, even if slowly. Along with this, the number of scientists who mention that the objects seen before their eyes are not matter but psychological phenomena has also been increasing, though slightly.

In fact, the object seen before our eyes is not the material itself but a psychological phenomenon, and this seems relatively easy to understand. What is difficult to grasp is the interpretation of our own body seen before our eyes and understanding that it is not the physical body, but the 'apparent body' is not easy. The main reason for this is probably the belief that the existence of the 'I' is closely connected to the physical body. In other words, it is assumed that the 'I' exist together with the physical body, and the body is the one seen before our eyes, and therefore, the body seen before our eyes is the physical body, a reasoning provided as common knowledge.

In order to answer the question, 'Where is the mind?', the first hurdle that must be overcome is to see through the fact that the object seen before our eyes is not a material thing but a psychological phenomenon. On top of that, the second hurdle is to see through the fact that the body seen before our eyes is not the physical body but an apparent body. For that, it is important to have an attitude of acknowledging the facts obtained through logical analysis as facts and interpreting those facts correctly without being constrained by common knowledge.

The thoughts of 'I am here, and I am looking' or 'I look at the object before my eyes, and I come to know the existence' are tricks that obscure the true nature of the mind and recognition. But the key to seeing through them is extremely simple. You just need to determine what the 'result' is when information from the outside world is transmitted to the brain and processed there.

However, what can be gained from that directly conflicts with common knowledge and accepting it as fact is not easy. Moreover, the reasoning of common knowledge, which is prepared to try to conceal that fact, makes it even more difficult to accept the fact as a fact. Nevertheless, there is no doubt that a correct interpretation of our own body seen before our eyes becomes the key to understanding the true nature of the mind and recognition, and furthermore, the key to understanding the existence of the 'I'.

By mistakenly interpreting the body seen before our eyes as a physical body, the mind is understood as a closed world that is elusive even to ourselves, and recognition is interpreted as being detached from existence. However, this is not the case; the world that unfolds before our eyes is the world of the mind, and recognition is inseparable from existence.

In this paper, I have mainly analyzed the ‘act of looking’ and have only dealt with content that is consciously recognized, so to speak, I have only discussed the world of the mind in a narrow sense. Considerations of the world of the mind in a broader sense, including information processing by the brain, are lacking, and higher-level recognition has not been mentioned at all. Therefore, regarding the world of the mind discussed in this paper or the interpretation of the existence of the 'I,' you may have felt some sense of dissatisfaction. Resolving this would require consideration of the mind in a broader sense and of higher-level recognition.

It is true that there are such deficiencies, but what I have talked about here is not the kind of thing that can be dismissed as ' That's one way of thinking of it.' When we logically analyze the ‘act of looking at a coffee cup,' it inevitably leads to the conclusion that the coffee cup seen before our eyes is not a material object but a psychological phenomenon, an existence within the world of the mind, and that this existence is simultaneously an recognition. Furthermore, it also leads to the conclusion that the very existence of the 'I' exists within one's own world of the mind.

As for myself, do I live each day under the kind of thinking that I have talked about in this paper? The answer is no. I do not live thinking that the objects seen before my eyes are only apparent matter, that my body seen before my eye is merely an apparent body, or that the people walking toward me are only apparent beings, that everything exists only in the world of my mind. As common knowledge indicates, I think that the objects seen before my eyes are matter, that the world spreading out before my eyes is the material world, that my body is a physical body, and that the

person before my eyes are that person themselves.

However, it is different when I contemplate the mind or consciousness. At times, I am left speechless at the cleverness of this trick, that the 'I' exists within the world of my mind—and at the profound intricacies of the workings of life. Yet, on the other hand, when I encounter a beautiful and magnificent landscape and realize that it exists within the world of my mind, I am reminded of the splendor of the mind and the irreplaceable value of life.

I. Newton published the "Principia" in 1687, which marked the completion of classical mechanics. Also, in 1665, R. Hooke observed fragments of cork with a microscope of his own making and discovered that they were made up of small boxes like a honeycomb, which he named cells. Both of these events occurred in the mid-17th century. Three and a half centuries have passed since then, during which both physics and biology have made remarkable progress. It can be said that the scientific method has proved effective in elucidating unknown phenomena.

It can be said that science began to address issues of the mind and consciousness toward the end of the 20th century, along with advances in neuroscience. It is almost certain that science will achieve results in this field as well, but for that, an understanding of what kind of world seen before our eyes is, including our own body seen before our eyes, is indispensable, and that will be the starting point.

What I have discussed in this paper is merely the very entrance to the exploration of the world of the mind. There are many things ahead that need to be elucidated.

First, we need to figure out what role conscious phenomena play in the world of the mind, including how the brain processes information. Furthermore, the mind, consciousness, and even recognition need to be reexamined from the perspective of existence, and at the same time, existence may also need to be reinterpreted from the perspective of recognition.

We have proceeded on the premise that the material world exists regardless of the presence of life that engages in mental activities like humans. Even at this point when it has become clear that the world spreading out before our eyes is the world of the mind, that premise has not changed in any way. However, the question 'Where is the mind?' is transformed into the form 'Where is the material world?' and it has got thrown back at us as it is.

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