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# On the Meaning of Psychological Concepts: Is There Still a Need for Psychological Concepts in the Empirical Sciences?

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## Abstract

When empirical psychology mostly focuses on physiological processes and external behavior that have their own concepts, the meaning of psychological concepts becomes obscure. If there are only physical processes and external behavior, then why are psychological concepts needed in the empirical sciences? Since the late 19th century, empirical psychologists and cognitive scientists have argued that introspective information about normal psychological processes is not reliable. Furthermore, many philosophers consider that the physicalist theory of mind is true, which would imply that psychological concepts are only words without explanatory power. However, without introspection, we would not be able to form concepts about other minds and psychological phenomena and understand the psychological states of other people or animals. The meaning of a psychological concept is neither its use for external behavior nor language use in context.

**Keywords:** other minds, animal mind, introspection, psychological concepts, behaviorism.

## Introduction

It is impossible, no doubt, for anyone to deny and simultaneously acknowledge the same thing. If there are only physiological states and external behavior, then why are psychological concepts needed in the empirical sciences? When we perceive someone's action, do we need psychological concepts to explain this action or not? If, for example, we want to explain the behavior of cats, what kind of concepts do we use? Cats themselves do not use psychological concepts in context. (Bova, 2009; Bradshaw, 2014; Ellis & Guevara, 2012; Kripke, 1982; Mulhall, 2007; Racine & Slaney, 2013; Stern, 1995; Vitale Shreve & Udell, 2015, 2017)

It can be argued that psychological concepts have external meaning because only external behavior is observable. And this external behavior should be examined by psychology. Some scientists and philosophers, in fact, have claimed so. External behavior only is directly observable, which would imply that the meaning of a psychological concept is external behavior. The emoji symbol “😊” referring to an external expression means “joy”, for instance. This is how the

psychological concepts would take on meaning. (Pinker, 1994, 1997; Ryle, 1949; Rachlin, 2014, 2017; Skinner, 1938, 1953, 1957, 1974; Watson, 1913)

Since the late 19th century, empirical psychologists and cognitive scientists have denied introspection to be a reliable method to examine a subject's psychological processes—a participant investigates her or his own internal processes and reports them during some task (Eysenck, 2012; Lieberman, 1979; Neisser, 1976). The current empirical paradigm for psychological research has been criticized, of course, but critics do not say much about why psychological concepts are still needed in the sciences. Furthermore, the critics' claim does not imply that description, narration, or social reality provides better data on action and psychological processes than observation and experiments. (Byers, 2021; Parker, 2007; Pérez-Álvarez, 2018; Smedslund, 2016) Empirical psychologists and cognitive scientists also do not rely on the analysis of language to achieve research knowledge about the human psyche. Wittgenstein's analysis of first-person propositions does not elucidate the nature or causes of human action and psychological functions. Statements such as “I perceive a cat” or “I am thinking of flying cows but I do not believe in them” do not in themselves clarify the essence of perception, thinking, or believing. They do not explain how these psychological phenomena occur or whether they are the causal factors of a person's actions. (Bova, 2009; Ellis & Guevara, 2012; Kripke, 1982; Mulhall, 2007; Racine & Slaney, 2013; Stern, 1995) Secondly, Wittgenstein's analysis says nothing about cognition in cats (Bradshaw, 2014; Vitale Shreve & Udell, 2015, 2017). Wittgenstein's Private Language argument does not seem to be plausible either, which I will show later in the last section (Bova, 2009; Ellis & Guevara, 2012; Kripke, 1982; Mulhall, 2007; Racine & Slaney, 2013; Stern, 1995; Wittgenstein, 2009). Phenomenological language, on the other hand, means a vocabulary describing how things are reflected in experience from the perspective of the first person. A phenomenological description is also a method in phenomenology, which in fact contains introspection. (Farber, 1943; Finley, 2009; Husserl, 1991, 2001; Schmicking, 2010) Some philosophical literature emphasizes that introspection provides access to information about psychological states and functions that would even be infallible without taking into account the problem of other minds. (Feest, 2014; Hurlburt & Heavey, 2001; Jack & Roepstorff, 2003; Kriegel, 2013; Peels, 2016; Piccinini, 2003, 2011; Price & Murat, 2005; Schwitzgebel, 2019) However, they do not say whether we need psychological concepts to explain or describe human action and what the meaning of these concepts is. All in all, it is still unclear in philosophy why we need psychological concepts when the mainstream of sciences seems to admit only physical phenomena.

In this article, I will argue that empirical psychologists and cognitive scientists also rely on their own internal psychological functions in a research situation: they must necessarily use psychological concepts when exploring other minds and psychological phenomena. We cannot form psychological concepts of other minds and psychological processes, such as of “thinking”, “perception”, “memory”, “imagination”, “hallucination”, “illusion”, “depression”, “experience”, and other similar phenomena, without introspection. If introspection is an unreliable method in describing psychological processes, that is to say, an unreliable method of obtaining information and forming concepts about the psychological processes, then it follows that observation of our own psychological processes, such as perception and sensation processes, is also an unreliable method of obtaining information and form concepts about the psychological phenomena of other persons. Psychological concepts and my argument are based on the concept of identity, which some philosophers have a vague understanding of, and do not refer to external action or language use, because a psychological process is not the same as external

action or language use (Ryle, 1949; Rachlin, 2014, 2017). Even though introspection would be a poor method for psychological research, “thinking”, “perception”, “memory”, “imagination”, “hallucination”, “illusion”, “depression”, “experience”, and other psychological concepts, however, refer to some internal processes. We are aware of these processes, and very probably cats are aware of them as well (Vitale Shreve & Udell, 2015, 2017).

In the following pages, firstly, I will show reasons why introspection has been considered an unreliable method. Secondly, I will focus on what empirical psychologists and cognitive scientists do to obtain information about the psychological processes of other people, and what they do not directly obtain through the experimental method. We will see that the experimental method of empirical psychologists and cognitive scientists leads to a contradiction. It is impossible that introspection, which is the observation of one’s own psychological processes, is not a reliable method to understand other minds and their psychological processes, and simultaneously it is a reliable method. Without our own introspection, we would not have concepts about other minds and psychological processes. The meaning of a psychological concept is neither its use for external behavior nor language use in context.

## The Unreliable Introspective Method

In this section, I show reasons why empirical psychologists and cognitive scientists have considered introspection an unreliable method to examine psychological processes. We will find that there are good reasons for believing that empirical psychologists’ and cognitive scientists’ statements about introspection are partly plausible. Why is then introspection a weak research method?

To this question empirical psychology and cognitive science give an answer, which is partly plausible. Before the 1900s, psychologists examined psychological processes often, such as decision, memory, and perception, by asking a subject to perform a task that unambiguously would correspond with the psychological phenomenon. In the late 1800s, however, empirical psychology research also began. During these years, psychologists, especially Wilhelm Wundt (1904b) in his methodological critique, who is said to have created empirical psychology, and later behaviorists J. B Watson (1913) and B. F. Skinner (1938, 1953, 1957, 1974), began to think of naive introspection as an unreliable method of acquiring data on psychological behavior: a participant investigates her or his own internal processes and reports them during certain tasks (Lieberman, 1979). Cognitive scientist Ulric Neisser, in the 1970s, for example, describes why introspection proved unsatisfactory a hundred years ago:

*Introspection is a sloppy tool, yielding results that may be biased by the act of observation itself. Different observers may give divergent introspective accounts of the “same” process, and there is no way to resolve their disagreements. (Neisser, 1976, p. 2)*

Michael W. Eysenck’s example of this same process is as follows:

*One problem is that it isn’t possible to check the accuracy of the conscious thoughts people claim to have. Külpe*

*argued that people sometimes have “imageless thoughts”, whereas another prominent psychologist (E. P. Titchener) claimed that **all** thoughts have images. This controversy couldn’t be resolved by introspection. (Eysenck, 2012, p. 6)*

Eysenck mentions other problems associated with reliance upon introspective evidence, such as people being unaware of processes influencing their motivation and behavior, and people being aware of the outcome of their psychological processes rather than those processes themselves (Eysenck, 2012, p. 7). His example of the latter is:

*For example, what is the name of the person who became American President after George W. Bush? I imagine you rapidly thought of Barack Obama, but without any clear idea of how you produced the right answer. (Eysenck, 2012, p. 7)*

It seems that the criticism of introspection is plausible but this does not imply that the meaning of psychological concepts is external behavior or, as Wittgenstein argued (Bova, 2009; Ellis & Guevara, 2012; Kripke, 1982; Mulhall, 2007; Racine & Slaney, 2013; Stern, 1995; Wittgenstein, 2009), the use of psychological concepts in context. When we use psychological concepts, then we are talking about some internal states, even if these are physical states. Science wants to examine what, for example, perception, memory, or emotion itself is, and these functions are located in an observer. We are aware of a mental image or memory, and the meaning of the concept of the mental image or memory is not external behavior, or the use of concepts in context. The mental image or memory has content that we can tell about, even if we are not aware of the processes that caused the mental image or memory. We are aware of the mental image or memory through introspection—and the meaning of the concept of introspection is the ability to introspect. When, for example, a person in court talks about his or her imagination and memories, he or she does not tell about his or her current external behavior that others perceive in the courtroom. This already calls into question an assumption that the meaning of a psychological concept would be external behavior or the use of concepts. The concept of “cat’s memory” also refers to a cat’s internal functions, which could be included in explanations for the cat’s behavior.

Philosophers, furthermore, have known such problems for more than hundreds of years. Two examples of the philosophical problems that *introspection* has led to are the mind-body problem and the problem of the external world: how can one know the causes of the connection between the mind’s events and supposed matter, when one is aware only of one’s own experiences? Secondly, according to John Locke, David Hume, George Berkeley, and other empiricists, there are only sensible objects appearing spatially and temporally. How these objects perceptually appear is not necessarily how the things of the world really are; things could appear the same even though they really are different, and they may appear in different, incompatible ways, and actually be one and the same. How can I then know whether it is an object, what appears to me, the thing of the external world or not? What introspection directly reveals are sensible objects which can be compared with each other, such as thoughts, images, visible colors, feelings, desires, and the like. These are entities that philosophers have always acknowledged to exist by means of introspection. Nevertheless, introspection does not reveal how these psychological entities arise or what they are in essence. Philosophers, therefore, have already known the problems of introspection when knowledge is being sought.

There are also those in contemporary philosophy who see introspection as a plausible source of knowledge. However, I do not think they say anything new that has not been said about introspection before. Moreover, it is now a question of how to obtain data about other minds and the processes of these minds. Persons may be in a completely different state of mind than one might infer from external behavior. They may look calm even though they are angry in their mind. As a research method, introspection is not very reliable. Empirical psychologists and cognitive scientists are right in this criticism. On the other hand, the meaning of the concept of introspection is precisely some psychological phenomenon. The concept of introspection, and more generally psychological concepts, does not mean the same as external behavior, and it also speaks of a real phenomenon, not of language. (Feest, 2014; Hurlburt & Heavey, 2001; Jack & Roepstorff, 2003; Kriegel, 2013; Peels, 2016; Piccinini, 2003, 2011; Price & Murat, 2005; Rachlin, 2014, 2017; Schwitzgebel, 2019)

In the next section, we ask what empirical psychologists and cognitive scientists do when investigating human behavior. We realize that they themselves rely on their own psychological processes when they are examining something: they have a belief, for example, that they obtain information from the world by sensing. In my opinion, they do not *directly* obtain information about other minds by perceiving in a sense.

## Researchers' Consciousness of Own Psychological Phenomena

In the preceding section, on the one hand, we discovered with demonstrative reasons that introspection is not necessarily the most reliable method to obtain data about psychological processes and define concepts referring to psychological phenomena—for example, about memory, speech, or perceptual experience. On the other hand, introspection is considered by some philosophers, a reliable source of information about psychological phenomena. By contrast, I consider introspection not a reliable method of obtaining information from other minds. The question we must consider in this section is: what do empirical psychologists and cognitive scientists themselves do in the research situation? We will perceive a contradiction here. It is impossible that introspection, which is an observation of one's own psychological processes, is not a reliable method to understand other minds and their psychological processes, and simultaneously it is a reliable method. If there are only external behavior and physical brain functions, then psychological concepts would have no meaning. Talking about a cat's mind, for example, would be meaningless. We should only examine what is publicly observable. But then we would not need psychological concepts to understand the behavior of others. At first, however, I would like to make a small difference between philosophy of mind and psychology.

The concept of external world is defined differently in classic philosophy of mind and psychology. In the field of psychology, the concept of external world would refer to that which is outside of the observer's body. The "inner realm" refers not only to the mind, but also everything that occurs inside of the human body, or more generally, inside of a living organism. In the field of philosophy of mind, however, especially in the past, philosophers have understood the human body as being included in the external world. A philosophical question, therefore, concerns whether one is directly aware of the external world, which also includes the human body. If considering a claim that I perceive something, someone may wonder what my justification is for such a claim. My justification for thinking that I know that I perceive something is the

fact that I do perceive something. The fact that I am perceiving something is directly obvious. I do not need other extra evidence in support of my claim “I perceive something”. I immediately know that I perceive something. (Chisholm, 1966, p. 2) However, from the fact that it is directly obvious that I am perceiving something, I cannot deductively infer that facts of the external world including the facts of my body or other people's bodies are directly evident to me in a similar way. I need something more in order to speak of facts of the external world, and the external world includes the human body, and my own body as well. In order to examine the psychological processes of other persons or animals, empirical psychologists, and cognitive scientists rely on their own states of consciousness and cognitive processes. Empirical psychologists and cognitive scientists are aware of psychological processes and phenomena—this is a fact that everyone can confirm for themselves. However, the meaning of a psychological concept, such as the concept of perceptual experience, is not what researchers do because they act on the basis of perceptual experience. The concept of perceptual experience does not mean, for example, “The researcher is videotaping a person with a video camera”. Moreover, other minds and their psychological processes and phenomena are not directly observable, but the external behavior of the subjects and the present conditions are. However, for example, “writing down”, that is to say, a certain external behavior of a subject, does not mean “memory”, the concept of memory. (Rachlin, 2014, 2017) What do empirical psychologists and cognitive scientists then do when researching a psychological function, such as introspection?

Empirical psychologists and cognitive scientists seem to leave their own psychological processes away from the research situation, even though they think they are investigating the psychological processes. At least, when presented very commonly, they have some hypothesis that should be confirmed or proven false. They begin experimental research to verify or falsify theories, hypotheses, or general claims. In fact, there are cases in which similar techniques have been used in philosophy—this kind of philosophical study, for example, was done by Roderick M. Chisholm (1942) in his article “The Problem of the Speckled Hen”. Firstly, it is considered whether a general claim “X is P”—which can be a theory, a hypothesis, or a statement—is true or false. Secondly, a researcher does A, and by doing A, she or he tries to demonstrate that the claim “X is P” is true or that it cannot be true. Finally, this A is evidence that “X is P” is true (or false). Experiment A might be, for example, an experiment on eye movement at a lab, a video recording of the research subjects in a test case, brain imaging of research subjects’ decision-making during the assignment, exposing subjects to further training and analyzing consequences, or recording politicians’ speeches. Scientific research is thus based on what others can also experience and to some extent check whether the results of the research are correct.

There was, for example, an experiment about perceptual sets done by Bugelski and Alampay (1961). Half of the people being tested were shown pictures of animals in black and white and the other half were shown pictures of humans in black and white. Then Bugelski and Alampay showed every person an ambiguous picture and asked what the people saw. Most of the people that saw the animal pictures before usually said they saw a rat while the people that saw pictures of humans before usually said they saw an old man with glasses. A reason that this happened is that they were used to seeing a human or animal since they had seen so many pictures of them already, and this caused them to have a perceptual set on the ambiguous picture. (Bugelski & Alampay, 1961) We can easily conclude from this research that the symbol of the eye or some external behavior is not the meaning of the concept of “visual perception”. That concept refers to an internal event of a person that is not publicly observable. These researchers compared what they saw to their own experiences.



Because their psychological processes cannot directly reach the psychological processes of other people, they did not observe the perceptual set of other people.

The examples above make me wonder about how to generally define psychological concepts like “perception”, “memory”, or “sensation” based on external behavior and conditions if there are only external behavior and physical brain activity. These concepts, in fact, are empty, if they do not correspond to any facts of the world. Empirical psychology and cognitive science accept that sensation differs from perception, but they do not explain the difference in the same way philosophy does. I consider, quite clearly, empirical psychologists and cognitive scientists use their *introspection* to make such a distinction. According to empirical psychology and cognitive science, sensation is perception without interpretation. Our senses—auditory (hearing), visual (sight), olfactory (smell), gustation (taste), tactile (touch), kinesthetic (body position), and vestibular (balance)—register the stimulus with its physical properties, “decode” it and transform it into a neural signal that is then transmitted to the brain. Perception is mainly how our brain interprets a sensation. For example, sensing a cell phone vibrate, and then perceiving it as my phone. Moreover, sensing the light outside coming from the sun, and then perceiving it as warm outside. There are, therefore, good reasons to admit that perception differs from sensation. (Bugelski & Alampay, 1961; McLeod, 2018)

James L. Gibson asserted, by contrast, that *sensation is perception*. Gibson did not believe perception to be based on sensations. However, he did not claim that sensations do not exist: a visual field and optic flow in the movement do exist, but perception is something more active than just being aware of the real things:

*The field is bounded whereas the world is not. The field can change in its direction-from-here, but the world is not. The field is oriented with reference to its margins, and the world with reference to gravity. The field is a scene in perspective while the world is Euclidian. Objects in the world have depth-shape and are seen behind one another while the forms in the field approximate being shapeless. In the field, these shapes are deformed during locomotion, as is the whole field itself, whereas in the world everything remains constant and it is the observer who moves. (Gibson, 1950, p. 42)*

Gibson claims there is no need for processing (interpretation) as the information we receive about size, shape, and distance is sufficiently detailed for us to interact directly with the environment. (Gibson, 1950, pp. 11–4, 26–43, 57–8, 120–1, 124–6, 127–8; 1966, pp. 2, 266–9; 1979, pp. 238–56) In fact, Gibson talks about “to interact directly with the environment” implying that it is not the meaning of the concept of perception. “A cat’s perception”, for example, does not obviously mean the same as “a cat’s interaction with its environment”. The cat’s psychological process would be identical to the interaction, which is an absurd statement. Moreover, when we are honest, Gibson’s view shows that there is awareness in a healthy person that provides reliable information about the environment and the bodies of other people, but not about other minds. But in order to empirically explore and define the general concepts of perception and sensation, empirical psychologists and cognitive scientists must introspectively rely on their own psychological functions and use psychological language. It seems clear, therefore, that the meaning of the concepts of perception and sensation is not some external action—I do not even know what group of people would use these concepts in that way. Physicalism,

on the other hand, would imply the meaninglessness of these concepts because there would be only physiological brain activities. And yet introspection itself exists, to which the concept of introspection refers. As we combine the arguments of the two previous sections together, we will notice in the next section that they lead to a contradiction.

## A Contradiction

In the two previous sections, firstly, we found that introspection is partly an unreliable method to examine psychological processes and phenomena. Introspection essentially reveals the existence of psychological processes and phenomena, not their essence, as empirical psychologists and cognitive scientists have shown. Secondly, empirical psychologists and cognitive scientists must necessarily rely on introspection of their own psychological processes and use psychological language in order to suppose generally *other minds* and their psychological processes. Without introspection, there would be no psychological concepts. However, these two findings are clearly incompatible with each other. When comparing introspection with empirical psychologists' and cognitive scientists' own actions, their arguments for the claim that introspection is an unreliable fail because they contain a contradiction in terms. Even if groups of people use the concept of introspection in their own way, they are still talking about something being in the world. The meaning of the concept of introspection, namely, is precisely an internal psychological function within a person or animal. Next, I argue how the contradiction occurs.

Empirical psychologists and cognitive scientists rely upon their own psychological processes when, for example, judging the perception of test subjects. This means that they also rely on introspection: they rely on conscious observation of their own psychological phenomena. These phenomena are the meanings of psychological concepts rather than external behavior, or contextual first-person statements—the emoji symbol “😊” referring to an external expression is not the meaning of the concept of joy but a “certain emotional state within a person” is the meaning of that concept. Empirical psychologists' and cognitive scientists' information is based on the idea that it is possible for human persons to transcend sense experience. However, this idea leads to a contradiction:

1. Introspection, that is to say, observation of one's own psychological processes, is unreliable in recognizing psychological states.
2. There is indeed reliability in internal perception, or introspection, i.e., psychological states exist and can be recognized.
3. Because empirical psychologists and cognitive scientists consider introspection unreliable, they acknowledge the concept of introspection refers to a phenomenon that exists and thus relies on it.
4. Therefore, introspection is both reliable and unreliable in recognizing psychological states, i.e., a clear contradiction exists (from 1, 2, and 3).

If people are aware of the outcomes of psychological processes, but unaware of the processes themselves, then how can it be that empirical psychologists and cognitive scientists are aware of the processes? The first answer that naturally occurs is, although researchers may see the issue differently, that the external perception does not *directly* reveal the psychological states of other people or animals and psychological processes, such as perception, memory, or thinking.



Only gestures, actions, and behaviors emerge in our own sense experience, and psychological states are not causes of action, as behaviorists Watson, Skinner, and Ryle also argued. If, according to modern science, the brain is the cause of psychological processes, then this statement also applies to empirical psychologists and cognitive scientists. This argument, therefore, implies that external behavior is not the meaning of psychological concepts. Nor can it be said that the meaning of psychological concepts is physical brain states if only brain functions exist.

The psychological theories of perception, in fact, include the concept of causality as a basic assumption (Helmholtz, 1878/1977; Wundt, 1873-74/1904a; Fechner, 1860/1966; Koffka, 1922, 1935; Gibson, 1950, 1966, 1979; Neisser, 1976; Marr, 1982; Gregory, 1980, 1998). Empirical psychologists and cognitive scientists, however, may deny the above contradiction. Either introspection is reliable, or the experimental method is reliable, even if introspection would not be. These statements will be addressed in the next section.

## Some Objections and a Reply

The strongest possible objection to my argument might be that introspective evidence is fallible. The meaning of psychological concepts can be reduced to external behavioral tendencies or to brain functions. “Joy”, for example, can be defined by means of a smiley face emoji symbol “😊” or by a certain brain function “P”. I will also argue that Wittgenstein’s analysis of first-person propositions does not elucidate the nature or causes of human action and psychological functions. Wittgenstein’s Private Language argument is not plausible.

I reply to the objection as follows. It does not follow from the fact that introspection is not a reliable means of researching a psychological process and that the meaning of a psychological concept is some external behavior. Because external behavior is not identical to a psychological phenomenon obviously, then, for example, the emoji symbol “😊” does not mean “joy”, or the concept of perception and the concept of handwork do not have the same meaning. Even if the causes of a psychological process would be physiological, and the psychological process would be nothing more than a physical state of the brain, we are nevertheless aware of this state, to which we refer by a psychological concept. By the concept of joy, we refer to the feeling of joy, of which we are aware. That is to say, my objection to the argument that only brain function exists is as follows: we are, however, aware of psychological processes. The conclusion is, generally stated, that psychological concepts do not have the same meaning as the concept of external behavior or the concept of brain function.

The introspective evidence of a psychological process is fallible, but the observer cannot be mistaken when going through this event. More importantly, we know that we have the ability to introspect that we are not mistaken about. If one feels happy, one’s description of the happy feeling must be correct. If something now looks red to me, my description that it looks red to me cannot be a false statement. In this sense, we can rely on introspection. We have the direct introspection of our psychological phenomena and their qualitative features: this is the way we obtain the psychological concepts. We have the concept of introspection because we have the ability to introspect. We know that we have. Therefore, there are no contradictory opposites. However, contrary to what some philosophers say, our own introspection does not explain or

describe the behavior of other people. Conclusions about speech and gestures are not necessarily truthful about the processes of other people's minds. (Feest, 2014; Hurlburt & Heavey, 2001; Jack & Roepstorff, 2003; Kriegel, 2013; Peels, 2016; Piccinini, 2003, 2011; Price & Murat, 2005; Rachlin, 2014, 2017; Ryle, 1949; Schwitzgebel, 2019) Psychological concepts, nonetheless, have use in interpreting and explaining the behavior of others. Thus, in another way, the conflict is avoided.

Introspection can be an unreliable method, but the experimental method is not unreliable because the latter includes external perception and does not include the subjects' own perception of their psychological processes in a psychological experiment. Furthermore, there are more reliable methods for examining subjects' psychological functions and states than the introspective account. Neuroscience and phenomenological research, for example, can be combined with empirical research without any contradiction. Therefore, there are no contradictory opposites. Even though we do not doubt that, while we look, a certain color and shape appear to us, and while we press, a sensation of hardness is experienced by us, we can really doubt whether we observe other minds and their psychological processes because only the physical processes of human bodies and external behavior appear to us. Next, I make some remarks.

Firstly, introspection refers to the existence of psychological processes, but not their essence or causes. Nor does introspection reveal anything about other minds or the phenomena of their minds. Thus, introspection is not the most valid method of psychological research. In this case, empirical psychologists and cognitive scientists are correct.

Secondly, the empirical method does not directly show other minds and the psychological processes of other persons, such as perception, sensation, or memory. Consequently, empirical psychologists and cognitive scientists must rely on their own internal experiences in saying what, for example, are the meanings of the concepts of perception, sensation, or memory. However, this was initially supposed to be unreliable, so contradiction is an inevitable result.

Wittgenstein's doctrine of the meaning of psychological concepts does not in itself tell us anything about psychological phenomena. It is clear that different people and groups of people have different meanings for the same concept. However, this fact does not refute that the views of the laity are often unfounded beliefs and erroneous. Wittgenstein's doctrine also does not tell us what psychological phenomena are. His analysis of first-person propositions does not elucidate the nature or causes of human action and psychological processes. Statements such as "I perceive a cat" or "I am thinking of flying cows but I do not believe in them" do not in themselves clarify the essence of perception or thinking. These statements do not explain how these psychological phenomena occur or whether they are the causal cause of a person's actions. (Bova, 2009; Ellis & Guevara, 2012; Kripke, 1982; Mulhall, 2007; Racine & Slaney, 2013; Stern, 1995) After all, these phenomena are being studied by science, and we want information about them. Furthermore, the doctrine does not refute the statement that we have the ability to introspect. The concept of introspection refers to some internal function within a person. If one wants to give the concept some other meaning which reflects introspection, it is possible. However, it does not make the meaning come true.

An interesting question arises when we look at animals. If we need to understand the behavior of cats, what kind of concepts do we use? Cats do not use psychological concepts in context, which implies that Wittgenstein's assumption is not plausible. (Bova, 2009; Bradshaw, 2014; Ellis & Guevara, 2012; Kripke, 1982; Mulhall, 2007; Racine & Slaney, 2013;

Stern, 1995; Vitale Shreve & Udell, 2015, 2017 Psychological concepts, and I base this argument on the concept of identity, still do not refer to language use, because psychological processes are not the same as language use—the different thing is when it comes to language use which is a psychological process. Even though introspection would be a poor method for psychological research, “thinking”, “perception”, “memory”, “imagination”, “hallucination”, “illusion”, “depression”, “experience”, and other psychological concepts, however, refer to some internal processes. We are aware of these processes, probably cats are too (Vitale Shreve & Udell, 2015, 2017). Wittgenstein's analysis, in fact, says nothing of cognition in cats (Bradshaw, 2014; Vitale Shreve & Udell, 2015, 2017).

Wittgenstein's Private Language argument is not plausible. This argument concludes that a language in principle unintelligible to anyone but its originating user is impossible: “The reason for this is that such a so-called language would, necessarily, be unintelligible to its supposed originator too, for he would be unable to establish meanings for its putative signs.” (Candlish & Wrisley, 2019, p. 1; Kripke, 1982; Mulhall, 2007; Racine & Slaney, 2013; Stern, 1995; Wittgenstein, 2009, §§244–271) However, we are able to establish meanings for its putative signs. Language does not refute the fact that I have knowledge of internal processes and phenomena, such as memory and introspection. Language does not determine the phenomena we are aware of:

1. If we have knowledge about ourselves, then the language we use when talking about self-knowledge is not non-intellectual,
2. We have knowledge about ourselves, such as memories of past events or our secret thoughts,
3. Therefore, the language we use when talking about self-knowledge is not non-intellectual.

The conclusion is that when we use the concept of memory or introspection as a psychological concept, we are describing some internal processes by it that only we know something about.

The fact that normal psychological processes are caused because of physical and physiological factors leads to the conclusion that sensory information about the research object is indirect. That is to say, introspective evidence about normal psychological processes and other minds is not reliable, even though we seem to trust our own psychological processes on the grounds of observation of our own psychological processes. Psychological processes seem to be trustworthy sources of information about the external environment. However, it is impossible that introspection, which is the observation of one's own psychological processes, is not a reliable method to confirm the correspondence of a psychological concept with a psychological phenomenon, and simultaneously it is a reliable method to confirm the correspondence of a psychological concept with a psychological phenomenon. Psychological concepts are needed to describe these psychological phenomena. These concepts do not refer to the external behavior of other persons. If, by contrast, physicalism is true, and thus only brain activities exist, then criticism against introspection loses its meaning. The psychological concepts would be useless in the empirical sciences, followed by the argument below:

1. If psychological concepts do not correspond to the physical facts of the world, then psychological concepts have no meaning,
2. Psychological concepts do not correspond to the physical facts of the world (physicalism), and

3. Therefore, psychological concepts have no meaning.

We do not use psychological concepts of physical facts and external behavior. I call the result a dilemma for empirical psychologists and cognitive scientists.

## Conclusion

The result of this article is as follows. The contrary statements cannot be simultaneously true. Since the late 19th century, empirical psychologists and cognitive scientists have argued introspection to be an unreliable method to examine a subject's psychological processes. However, it does not follow from the statement that introspection is unreliable and that the meaning of a psychological concept is external behavior. External behavior is not identical to a psychological process. Physicalism, on the other hand, implies that psychological concepts are not needed to explain people's actions. Furthermore, psychological phenomena clearly exist, such as introspection and memory, and a sane person believes that other people and many animals also have psychological processes and states. Thus, psychological concepts are not meaningless because they refer to existing psychological phenomena. Wittgenstein's analysis of psychological concepts is thus not true.

Empirical psychologists and cognitive scientists are undoubtedly right that introspection is not a reliable way to explain our own states of mind and psychological processes, i.e. the nature of these states and processes. The weakness in psychology is the inability to *directly* observe other minds through empirical methods. Therefore, it is not so clear what perception, sensation, memory, image, and other psychological phenomena are. Psychological language is necessarily needed to describe these psychological phenomena. We believe in the existence of other people's psychological processes because we are aware of our own psychological processes. We have an introspective mind. We obtain the concepts for psychological phenomena, for thinking, perception, memory, imagination, hallucination, illusion, depression, and experience, and other psychological phenomena, from introspection. The meaning of a psychological concept, therefore, is a psychological phenomenon of which we are aware through introspection, even if it is the result of brain activity. If only brain functions exist, then psychological concepts have no denotation in the empirical sciences.

A sane human psyche and normal sensory organs do not directly produce beliefs about other minds. If introspection is not a reliable method, then why, for example, would a sane human psyche be a more reliable method for researchers? There is no need for proof of the existence of other minds, because the mind of a healthy person believes in other minds anyway. As final words, I say that both introspection and empirical method are plausible scientific methods for obtaining data from human psychological processes. The empirical method, however, provides data only on external behavior and physiological events in human bodies, and therefore we cannot directly perceive other minds, but only indirectly deduce their minds from what we perceive of their physical bodies.

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