

## Author



# Husserling Hoffman: Reframing the Explanatory Gap

**Jim Matthews**

*Philosophy*

Jim Matthews became interested in his research project through a class on phenomenology taught by Professor Smith. His project is unique, addressing the fundamental philosophical question of whether we create the world for ourselves or simply assign meaning to an objectively existing world. His favorite part of the research was finding and developing connections between modern theories and those that are 100 years old. Jim says that his research experience has given him a good introduction to some of the complex questions of philosophy that might not be addressed in the classroom. After graduation, Jim hopes to pursue a Ph.D., working in the field of philosophy of cognitive science.

## Abstract

Some theorists claim that cognitive science suffers from an explanatory gap. They believe that, even in its most potentially fruitful breakthroughs, it will never account for the subjective character of experience. As early as 1900, however, Edmund Husserl provided a rich, subjective theory of consciousness. I begin with a description of Husserl and his theory of transcendental phenomenology while trying to draw out the representational intent of his work. I then transition to an analysis of a newly emerging theory called conscious realism, proffered by Donald Hoffman, and show the implications it has for the study of the objective world. Ultimately, I argue that, despite some fundamental differences, the two theories cohere in significant ways, and can therefore provide a framework from which to analyze the explanatory gap.

## Faculty Mentor



Jim Matthews has taken a bold approach to the mind-body problem of how conscious experience relates to brain process. The reigning model of mind as computational neural process omits the subjective character of our experience. Matthews looks to an alternative mathematical model developed by UCI cognitive scientist Donald Hoffmann. This neo-idealist model, Matthews proposes, can be understood in terms of Edmund Husserl's transcendental phenomenology, according to which our intentional acts of consciousness are the building blocks of our "constitution" of the world around us. Matthews uses Husserlian concepts to frame Hoffman's model and to reframe the mind-body problem. Jim is to be congratulated for tackling such heady issues and producing a compact statement of a complex and timely scientific-philosophical vision.

## Key Terms

- ◆ Conscious Realism
- ◆ Intentionality
- ◆ Noema
- ◆ Noesis
- ◆ Phenomenology
- ◆ Sinn
- ◆ Transcendental Phenomenology

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## Introduction

The mind-body problem arises from the intuition that mind is fundamentally distinct from matter, or body. When we feel pain, for example, there seems to be a certain quality about it that distinguishes it from the physical processes associated with it. When someone pinches me it hurts, and this feeling of pain seems radically different from the electrochemical processes going on inside my body. The physical and the mental seem to be ontologically distinct, belonging to fundamentally different categories of being.

Cognitive science proposes to solve this so-called “mind-body problem” via physical reduction, equating the mental with the physical. Although the degree of reduction varies among theories, the vast majority of them aim to make the problem of the mental a problem of the physical. However, cognitive science has not managed to come up with one single theory of the mental and its relation to the physical. It has been discovered that certain neural correlates of consciousness stimulate particular brain areas resulting in experiences of, say, color washing out of the left visual field. However, the actual mechanism by which neurons create the experience of the loss of color in the left visual field is still far beyond our grasp. Cognitive science agrees that our physical and mental perceptions are related, but the relationship is not understood.

In response to this dilemma, a growing number of theorists have begun to question the frame of our search space (Block and Stalnaker, 2002; Block, Flanagan and Güzeldere, 1997; Levine, 1983, 1993, 1998; McGinn, 2002). They argue that, even in its most potentially productive results, cognitive science suffers from an explanatory gap. It seems to them that the apparently fundamental ontological distinction between mind and body will not be solved through a purely physical description, and that cognitive science as it is presently conceived will fall flat. They argue that the naturalization of the mental fails to account for the nature of subjective experience.

Indeed, a recurrent theme in the philosophy of cognitive science has been the primacy of experience itself, and certain theories have adopted this theme wholeheartedly. One of these is a newly emerging theory of consciousness, called conscious realism, which posits a fundamentally new way of knowing the world. Conscious realism, a form of idealism, asserts that consciousness is fundamental, and in fact claims that all that exists is consciousness. As early as 1900, Edmund Husserl had posited a theory of consciousness from the first-person perspective. He dubbed it phenomenology, and

consequently set in motion a movement in philosophy that became collectively known as the continental tradition. A number of years later he would revise this theory, calling the improved version transcendental phenomenology. I intend to show that, despite some fundamental differences, Husserl’s transcendental phenomenology and Hoffman’s conscious realism do, in fact, cohere in some significant ways, and can therefore help to reframe the search space of cognitive science and close the explanatory gap.

## Husserlian Transcendental Phenomenology

### *The Foundations*

To answer the problem of consciousness and its relation to the world, Edmund Husserl, in his *Logical Investigations*, introduced the theory of phenomenology. According to an analysis proffered by David Woodruff Smith, phenomenology is the study of the structure of conscious experience as experienced from the first-person perspective (*Phenomenology*). As human beings, we typically have experiences ranging from imagination, thought, perception, volition, and emotion, to bodily movement, social interaction, and bodily awareness. Phenomenology aims to study the structure of these experiences. Its goal is not to describe how these experiences are caused, nor does it intend to provide a naturalistic account of mental states. Rather, it attempts to describe the structure of the experiences themselves, independent of anything in the world. For example, consider a typical subjective experience, “I see that hibiscus flower in the garden.” A typical phenomenological description begins with the first-person structure of the experience, namely that “I” see the flower. The second point of interest is the fact that the flower is *seen*. I do not smell the flower, I do not hate the flower, nor do I imagine the flower. I am in a certain kind of mental state, namely that of sight/perception. Another central characteristic of our phenomenological description is the way in which the flower is represented in my mental state or act. I see it as the hibiscus in the garden, and more specifically, as *that* hibiscus and no other. Notice that we never make any claim about the hibiscus itself, but only about our experience.

It seems that phenomenology and philosophy of mind should be intimately connected. However, over the past century phenomenology has been largely separated from philosophy of mind. This is perhaps due to the fact that phenomenologists typically set aside any judgment as to whether or not there could be a naturalistic account of mental states. This withholding of judgment, which Husserl called phenomenological epoché, led him to a theory of

transcendental phenomenology. In order to understand Husserl's transcendental phenomenology, however, one must first understand that which he takes to be fundamental: intentionality.

Intentionality refers to nothing more than the representational character of our conscious experience. As human beings, we do not passively take in our surrounding environment; rather, we actively attend to it. We direct our attention, and therefore our conscious experience. We are conscious of our environment, our own ideas, concepts, numbers, desires etc. Our consciousness, in many if not all cases, exhibits an *aboutness*. When I see a tree, my perception is *of* a tree. When I think that  $5 + 7 = 12$ , I am thinking *about* numbers and *about* addition. Our mental states are, in this way, representational. This *aboutness* or representational character of our experiences is known as "intentionality." According to Husserl's transcendental phenomenology, it is only through intentionality that we experience the world.

This representational view of intentionality seems, at first glance, to be that intentionality is a relation between some mental state and some extra-mental object in the world. When I think the moon is a greenish-blue color tonight, there is necessarily a relationship between my belief about the moon and an actually existing moon. When I hope that it will not rain tomorrow, my hope stands in some relation to a state of affairs. To see the problem inherent in this sort of view, one need go no further than an idea of Pegasus. Obviously, Pegasus is not some sort of extra-mental thing, for Pegasus does not even exist. So, one might ask, how could one have a belief about Pegasus if intentionality dictates that a belief must be about some extra-mental object? This is not the case in Husserl's version of intentionality. To accommodate thoughts about non-existent objects, we must conclude that intentional mental states are characteristically "existence-independent" (McIntyre and Smith 150). Our mental states need not be related to some actually existing external object for them to be intentional. According to Husserl, this must mean that intentionality is a phenomenological property of our mental states. It is an internal characteristic of our mental states, independent of the existing world.

Furthermore, intentionality exhibits the characteristic of "conception-dependence" (McIntyre and Smith 151). Consider the morning star and the evening star. One may believe that the evening star is beautiful while simultaneously believing that the morning star is quite unappealing. But the morning star and the evening star are in fact the very same heavenly body: the planet Venus. So, how are we

to analyze the intentionality of such a mental event? Surely, when one says, "I believe the evening star is beautiful," he cannot mean, "I believe Venus is beautiful," for he does not consider the evening star and Venus to be one and the same. It would seem that his aesthetic appreciation is directed toward the evening star and not toward Venus. It is in this way that the intentionality of a mental act must differ from a typical relation of representation. The man's aesthetic appreciation is not for Venus, but for Venus *as conceived* in a particular way. If intentionality were nothing more than a relationship between a mental act and an object in the world, then we would not be able to distinguish between an aesthetic appreciation for the evening star and an aesthetic appreciation for Venus. The intentionality of a mental state depends on one's conception of the object being represented.

It is in virtue of these two characteristics that intentionality, according to Husserl, cannot be analyzed from a purely third-person perspective. A neurophysiological explanation, for example, would not account for one's subjective experience, for our experiences are necessarily first-personal, and intentionality is an internal, subjective characteristic of our experiences. It cannot be isolated from the structure of one's subjective experiences. Thus, Husserl's conception of intentionality as a built-in component of our subjective experience is a phenomenological view of intentionality.

Indeed, it is crucial to the comprehension of intentionality that one understand the structure of a subjective experience. To do this, however, Husserl must employ his famous method of phenomenological epoché, or "bracketing." Literally, it is a withholding of judgment about anything in the natural world. In fact, he says that we must withhold judgment that the natural world even exists. This is not to say, however, that the natural world does not exist, for to do so would be to change his phenomenological enterprise entirely. Rather, it is a method for turning our attention from any behaviorist, neurophysiological or causal account of our subjective experience into a strict focus on the structure of our subjective experience. It is intended to force us to explain the phenomenological features of mental acts, one of which is intentionality.

Husserl's goal is to elucidate the phenomenological features of an act that make it the sort of mental act it is. He calls these features the *content* of an act, which is intended to explain the phenomenological properties of an act's intentional character. In his epochal treatise, *Logical Investigations*, he distinguishes his theory of content from a theory that was commonly held at the time (2001). This other view

holds that the content of an act was nothing more than the object toward which the act was directed. Thus the object of my belief that “the hibiscus in the garden is beautiful” is nothing more than the hibiscus itself.

This formulation of content is supported, in part, by the fact that intentionality is a phenomenological feature of mental acts. Intentionality, as discussed above, need not be related to any actually existing extra-mental object. Since it is not related to extra-mental objects, it must, according to the theory, be related to some mental object—namely my *idea* of a hibiscus. The object that stands in an intentional relation to my mental act is not real in the ordinary sense of the term, but rather an “intentional” object that is a part of the phenomenological content of the act that represents it. The traditional object-theories of content tried to combine two views: (1) the view that the object of an act is essential to its being intentional, and (2) the Husserlian view that only what is inherent in the phenomenological content of an act itself is essential to its being intentional (McIntyre and Smith, 155).

Husserl’s theory of content aimed to do away with this dilemma. By rejecting the first view, Husserl concludes that the phenomenological properties of an act are not “intended” or represented. Normally, according to Husserl, we are not even aware of the content, but only the object that is represented in the content. When we think or perceive or desire etc., our mental states are typically related to some extra-mental object. However, it is not this extra-mental object that makes the act intentional or representational, because intentionality is reserved strictly for an act’s content. Thus an act’s intentionality is independent of anything in the “real” world and only depends on its content.

In his *Logical Investigations* (2001), originally written in 1900, Husserl provides a brief description of the content of a mental act. He distinguishes between two characteristics of content. The first, its quality, is the characteristic that makes the mental act the sort of act it is. The “quality” is the aspect of the content that determines if the mental act is a fear, love, perception, imagination, recollection, all of which are different types of mental acts. Husserl contrasts this with what he calls the “matter” of an act. The matter, essentially, is what determines which objects are represented and how they are represented, or intended (Husserl 2001). He states that an act’s “matter” is responsible for the intentionality of an act (2001). However, his theory about how this is so was not refined until thirteen years later.

### *The Turn to Transcendental Phenomenology*

In his *Ideas* (1931), Husserl developed his theory of content in more detail. Within the content of an act, Husserl distinguished two parts: the noesis and the noema. The noesis is the meaning-giving part of an act, while the noema is an act’s “meaning” or sense. However, the distinction between noesis and noema is different from the distinction between object and content that is discussed above. While an object is typically seen as the thing toward which the intentionality of a mental act is directed, and the content of a mental act is seen as a phenomenological property of a mental act, noesis and noema are both kinds of content.

To grasp the distinction between noesis and noema, however, one must first understand Husserl’s notion of real and ideal content, which he discussed in his earlier *Logical Investigations* (2001). The real content of an act is something that is restricted to that act alone. The ideal content of an act is the content that can be shared by a number of people. It is through ideal content that people are able to share the same experience. The difference can be likened to the token-type distinction. For example, if I pull two pennies out of my pocket, have I pulled out one coin or two coins? Perhaps, you could say that I have pulled out two coins, for there are two distinct objects in my hand. Or, perhaps you could say that I have pulled out one coin, the penny. In fact, the typical philosophical answer would be that I have two *tokens* of one *type*. Each individual penny is a token of the type, penny. It is in this distinction that ideal and real content differ. Each individual mental act has its own real content that cannot be shared by another person or by the same person at different times. Also, the ideal content can be shared by different people, or by the same person at different times.

Later, in *Ideas* (1931), Husserl says that the noesis of an act is part of the act’s “real” content, and that the noema is a part of the act’s “ideal” content. He expands on it by saying that just as his real and ideal content had both real quality and matter and ideal quality and matter, now the noesis and noema have the same structure. The noesis has both a component that determines the act’s kind and a component that determines an act’s intentional character. The component that determines an act’s kind, he calls the “thetic” character, and the component that determines the act’s intentionality is called its “sense-giving” component. The noema too has both a “thetic character” and a “sense-giving” component. However, under the noema, the “thetic character” and the “sense-giving” component are ideal entities. The interesting component is the “sense-giving” component of both the noesis (real) and noema (ideal). Also, it is important to note



that Husserl assigns a special term—noematic Sinn—to the “sense-giving” component of the noema. Thus, to summarize, the noesis, or “real content” of an act contains both a “thetic component” and a “sense-giving component.” An act’s noema, or ideal character, contains both a “thetic character” and a meaning, or “Sinn.” From here forward, we shall focus on the noema and all of its characteristics, for it is in light of the noema and its characteristics that Husserl’s notion of transcendental phenomenology must be explained.

It is because of the noematic Sinn that an act has intentional character. Husserl compares his notion of Sinn with meaning in linguistic reference to show that there are a number of characteristics about language that make it possible for language to refer to objects. First, it is the meaning of a linguistic expression, according to Husserl, that allows that expression to refer to anything at all. Without meaning, words would be nothing more than patterns of ink or sounds. Second, the meaning of a linguistic expression determines what thing that expression refers to. So, the meaning of “the author of *Waverly*” is the actual person who wrote *Waverly*. According to Husserl, by their meaning, the words in the expression “the author of *Waverly*” cannot refer to anything but the person who wrote *Waverly*. Third, meaning and object in a linguistic expression are distinct, thus a linguistic expression can have meaning while referring to no actual object. So, when I talk about “Pegasus,” there need not actually be any horse with wings that the name “Pegasus” refers to. Finally, different meanings can determine the same referent in different ways. For example, “the morning star” and “the evening star” both refer to the same object, Venus. However, the different meanings of these two phrases allow language to refer to Venus in different ways, as the first star seen at night and as the last star seen in the morning respectively.

Perhaps one can already see the parallels arising between Husserl’s theory of linguistic reference and his notion of Sinn, for Sinn makes it possible that a mental representation can refer to anything at all. Meaning is to language as Sinn is to mental representation. Also, the Sinn of a mental representation determines which object the representation refers to. Finally, Sinn is distinct from the object to which it refers, just as meaning is in a linguistic expression, and different Sinne (Sinn plural) can determine the same object in different ways. The difference, however, lies in the fact that linguistic expressions cannot give themselves meaning, whereas a mental act can because a mental act has the special characteristic of noesis, which inherently has a special meaning-giving component discussed above. The notion of

noema, and more specifically Sinn, is central in understanding Husserl’s version of transcendental phenomenology. For it is in virtue of Sinn that our mental acts can represent objects.

We must clarify one more theme that is central to understanding Husserl’s version of transcendental phenomenology: horizon. Horizon is the notion that there is something more to an object than what the Sinn prescribes. When I see a tree, that tree has a certain meaning for me in virtue of my Sinn. However, there is almost always more to the object, such as its backside, its history, the shapes of the leaves that are obscured, etc. It is in this way that objects are transcendent; our knowledge of them is in some way limited by the boundaries of our noematic Sinn.

Thus, Husserl’s transcendental phenomenology is centered on his notion of Sinn and intentionality. The only way, according to Husserl, that we can represent the world and objects is through meaning, or noematic Sinn. However, our Sinne preclude us from experiencing an object in its entirety. The object is transcendent, for there is always more to the object than what is immediately available to our mental act. We must be careful to note, however, that this does not mean that we *create* the object of our representation. Rather, we only create its *meaning for ourselves*.

## Conscious Realism

According to Colin McGinn, “consciousness is indeed a deep mystery.... The reason for this mystery, I maintain, is that our intelligence is wrongly designed for understanding consciousness” (Blackmore 33). In modern philosophy and cognitive science, a number of theorists have practically dismissed the mind-body problem, saying that it is “intractable” (Nagel, 1974), “forever beyond our conceptual grasp” (Pinker, 1997), or that at the very least, would require “a real humdinger of a solution” (P.S. Churchland, 1996). One modern theorist, Donald Hoffman, whose transdisciplinary work transgresses the boundaries of both cognitive science and philosophy, does not believe that our inability to solve the mind-body problem means that we must abandon the project. Rather, he believes that, when our best attempts at solving the problem have not worked, we must question our most fundamental assumptions.

In his paper, “Mimesis and its Perceptual Reflections,” Hoffman proposes a theory of consciousness he calls conscious realism. Essentially, conscious realism is a response to the mind-body problem and our inability to solve it. It claims that consciousness is fundamental. Whereas previ-

ously, scientists and philosophers believed that neural activity was responsible for causing consciousness, conscious realism takes the exact opposite stance. Instead of claiming that biology is fundamental, it claims that everything that we experience in the physical world is dependent on consciousness *for its very existence* (Hoffman 7). Trees, tables, chairs, and even brains are nothing more than icons of our user interface.

To more fully understand conscious realism, it is helpful to look at Hoffman's metaphor of a multimodal user interface (MUI). He claims that a user interface must exhibit four specific characteristics to be successful. First, it must have what he terms "friendly formatting." That is, it must be easy for the user to interact with it. A computer could just require its user to toggle a number of switches on the motherboard, or write everything in binary code; however, this would not make it easy to use. The machine must allow for efficiency so that the user can get on with balancing their bank account or writing e-mails, or whatever the task at hand may be. Second, a user interface "conceals causality." That is, a user interface must hide the causal chain between a user's action and its effect. If a user clicks the Internet Explorer icon, she would not want to see the complex processes that take place to bring up a Web browser. Rather she only wants to see a window pop up. Third, a user interface must "clue conduct." One must be informed by the computer about what is happening. If you wish to delete a file, you can simply drag it to the Recycle Bin instead of flipping an indefinite number of switches on the motherboard. It must be clear that dragging a file to the Recycle Bin results in that file's deletion and not, say, in that file's being e-mailed to everybody in your address book. Finally, a user interface typically exhibits "ostensible objectivity" (Hoffman 4). When using your computer, the only area of interest is usually what you see on the screen. The complicated processes going on behind the scenes should rarely, if ever, matter to you.

In fact, conscious realism proposes that the human experience of the world behaves in just this way—that we have an MUI. Indeed, according to the mimetic theory, it seems that the world we experience is the only world there is. We go about our daily lives assuming that the chair we experience is all there is to the chair, and that there is no hidden complexity behind it. However, according to conscious realism, this is simply not the case. Taking the ostensible objectivity of our MUI as the only reality is, on this account, one of the biggest mistakes ever made in human history.

It is no wonder that we take what our MUI presents to us as such an obvious truth, because it seems that we only have access to the world through our sensory apparatus. We see, smell, taste, hear, and feel the world around us. In fact, there seems to be no other way to get at the world than through our senses. So, that we have accepted the world of experience as the only real world is no surprise.

However, the fact that our experience of the world is limited by our sensation does not even begin to explain the ontology of conscious realism. Our senses, inasmuch as we see, smell, hear, feel, and taste the world, are nothing more than properties of what Hoffman calls "conscious agents" (Hoffman 7). In their book *Observer Mechanics*, Bennett, Hoffman and Prakash provide a rigorous definition of participators, which conscious realism calls conscious agents. Intuitively speaking, a conscious agent is a conscious observer that can create new experiences through its interactions with other conscious agents. We typically have a wide variety of conscious experiences. Conscious realism, then, posits conscious agents as dynamically interacting entities that alter those experiences. Their complexity extends far beyond our standard conceptions of time and space, and therefore cannot be explained via any sort of physicalist description.

Conscious realism sounds very much like the transcendental idealism of Kant, which claims that we cannot describe the world in-itself, but only the world as experienced. However, Hoffman makes it clear that nothing could be further from the truth. Where Kant, according to one analysis, claims that we can have no knowledge of the objective world, conscious realism asserts that, "one can model the objective realm as, possibly countless, dynamically interacting conscious agents, and to do so with mathematical certainty" (Hoffman 7). Indeed, it is this ability to have mathematical precision that gives conscious realism explanatory power. For with mathematical precision, we can create adjunct theories and make useful predictions as is seen throughout all of science.

### Conscious Realism in Light of Husserl

As a specific naturalistic hypothesis, cognitive science aims to solve the mind-body problem via empirical means. In one analysis, its three primary lines of investigation are information processing, connectionism, and the embodied-enactive theory. For our purposes, it is sufficient to know that each of these theories propose empiricism as a means of detailing the mental. However, just how any of these theories

relate to our subjective experiences remains a mystery; any proposed solution from these theories will be envisaged in its predictive abilities. Thus, as some might argue, the power of these theories relies not on their ability to account for the mental, but rather on the behavioral; and cognitive science then appears to be only behaviorism with a theory of the “black box” that behaviorism lacked. Even in their most productive form then, it seems that these theories will fail in adequately describing the *phenomenality* of experience. As some would argue, cognitive science seems to suffer from an explanatory gap.

By delineating a theory of the mental from the first-person perspective and uniting it with a theory of cognition, we might be able to allow for a richer theory of mind. Many, however, believe that the necessary steps that would allow for this require a return to the phenomena. That is, we must begin with phenomenal experience if we can ever hope to find a theory of mind grounded in experience. Indeed, as described above, conscious realism proposes just such a rationale, for its primary postulate is that consciousness is fundamental, and that all that exists is consciousness and its contents. However, conscious realism remains a theory of what occurs while we are cognizing—not a phenomenal theory of what it is like to be a cognizing mind; Husserl’s theory of transcendental phenomenology provides that theory.

I argue that Husserl’s transcendental phenomenology and conscious realism cohere in a number of significant ways. For one, we use noemata/meanings, on Husserl’s account, to represent the world. According to him, we only get at the world through a sense or meaning. When we see a tree, for example, we see it as “that” tree. A lumberjack might look at it and think of how many houses he could build, whereas an environmental activist would think differently. The point is that whoever the perceiver happens to be, we see objects in the world as represented through a certain Sinn or sense and never as divorced from it. We never experience *just* the tree. It is in much the same way that icons of Hoffman’s MUI theory work. Just as objects in the world, for Husserl, are represented via a certain sense or meaning, so too are systems of conscious agents represented by icons of our user interface according to conscious realism.

Furthermore, the structures of conscious realism and transcendental phenomenology seem to be in accord. To return to Hoffman’s metaphor of a user interface, a user interface exhibits four essential characteristics. The first is friendly formatting. This is essential inasmuch as a user must be able to decipher and manipulate information with ease.

Evolutionarily speaking, we must also be able to manipulate information with ease. Suppose a tiger is crouching behind a bush, ready to pounce. According to conscious realism, this tiger is nothing more than a dumbed-down icon of our MUI that represents a much more complex system of conscious agents. It is to our advantage that we simplify this complex system so that we might react more quickly, for if we did not we would likely be eaten in the process of deciphering exactly what danger we face. Similarly, Husserl’s transcendental phenomenology asserts that we only experience things under a certain concept or meaning (the following statements are enclosed in quotes to indicate that they are mental contents and not linguistic expressions). We do not see the tiger simultaneously as “the tiger crouching behind the bush” and “the tiger that ate my friend.” Rather our experience is conception-dependent, and in this case we only experience the tiger as “the tiger crouching behind the bush.” If we were to view it under every possible conception, we would likely get lost in the complexity and be eaten in the process of deciding which subjective experience to choose and how to react to it. Thus, we can see how the conception-dependence aspect of Husserl’s theory is continuous with conscious realism.

One might argue that there is a fundamental difference between conscious realism’s account of the situation described above and that of Husserl’s transcendental phenomenology. It seems that Husserl’s theory posits the tiger as physical, and conscious realism posits it only as an icon of a user interface. This argument, however, mistakes a phenomenological description for a physical one. Husserl’s phenomenological description is a first person, subjective description only. The phenomenological description above makes no claim as to whether or not the tiger is physical or ideal but only about the structure of a single, subjective experience. Thus, the tiger can still be an icon of our user interface, and the phenomenological description of our subjective experience will not change. Our intentionality need not be directed toward any physical object to retain its intentional structure. Just as we can represent Pegasus, we can represent systems of conscious agents.

Husserl’s notion of real content, too, coincides with conscious realism. According to the standard Copenhagen interpretation of quantum mechanics, objects as we know them cease to exist when unobserved. Although this is only one interpretation of quantum mechanics, conscious realism aims to take it seriously. When our consciousness does not create an icon, say, of a table, the table does not exist. On the other hand, when three people perceive a table, each person’s MUI creates a table icon and there are then three

tables and not just one. Each table is experienced only by the person experiencing it, and his experience is therefore not shareable, but exists only for him. Similarly, Husserl's notion of real content asserts that each conscious experience contains a special part that is experienced only by the experiencer and is therefore not shareable. He calls this the "real content" and even claims that one cannot have the same real content at different times, for any future real content cannot, by definition, be the same as the one before it, even if it is of the same object. Similarly in conscious realism, each time we look away from the table and then look back, we create a new icon. Thus, one can see a strong coherence between Husserl's theory and conscious realism.

However, a fundamental disconnect does exist. In *The Crisis of European Sciences and Transcendental Phenomenology*, Husserl devotes a section to Galileo's formulation of nature as mathematical. He begins with what Galileo took to be "obvious": that mathematics could adequately describe the structure of the world. Science studies objects within the context of space and time. In essence, then, geometry, and consequently mathematics as a whole, is the study of ideal forms—shapes, to stick with the example of geometry, toward which our precision aims. We can imagine shapes, and in fact scientific theories, that are absolutely precise, for we seem to get closer and closer to such a goal as our methods of measurement become more and more precise. For geometry, Husserl calls these perfect shapes *limit-shapes* (*Limegestalten*). However, he claims that the difficulty arises when we take these to represent actual objects in the world—objects of our sense, which he calls the *plena*, or objects after their ideal forms have been abstracted away. Any science of these, he claims, would be an indirect mathematization.

But math is essential to science. As long as we do not begin to mistake the mathematical for that which it represents, we have little to worry about. Again, it is a distinction between the model and the modeled. Conscious realism proposes that mathematics can adequately model the realm of conscious agents but does not claim that the mathematics is *itself* the realm of conscious agents. Indeed, it is inherently difficult to mathematically model a subjective experience because mathematical models necessarily invite third-personal interpretations, and subjective experiences are certainly not third-personal. This, however, is another reason why transcendental phenomenology can contribute a great deal to conscious realism, for it provides an account of what it is *like* to be cognizing to a theory of what it *is* to be cognizing.

We can see then that a number of substantial parallels do exist between conscious realism and transcendental phenomenology, and we can learn from this. We can see how the new ontology proposed by conscious realism might be able to close the explanatory gap. Indeed, conscious realism requires an extensive reworking of our present conceptual schema, but if the explanatory gap argument is true, and physicalist cognitive science cannot account for phenomenality, then we have little choice but to redraw our conceptual boundaries so that consciousness might be included. Furthermore, when united with transcendental phenomenology, we have a theory that is rich in both explanatory power and subjective description of the mental. Thus, if the explanatory gap does exist, conscious realism and Husserlian transcendental phenomenology together provide a rich ontology that may close it.

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