

Mind World

Essays in Phenomenology and Ontology

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Three Facets of Consciousness

Abstract: Over the past century phenomenology has ably analyzed the basic structures of consciousness as we experience it. Yet recent philosophy of mind, concerned more with brain activity and computational function, has found it difficult to make room for the structures of subjectivity and intentionality that phenomenology has appraised. In order to understand consciousness as something that is both subjective and grounded in neural activity, we need to delve into phenomenology and ontology. I draw a fundamental distinction in ontology among the form, appearance, and substrate of any entity. Applying this three-facet ontology to consciousness, we distinguish the intentionality of consciousness (its form); the way we experience consciousness (its appearance, including so-called qualia); and the physical, biological, and cultural basis of consciousness (its substrate). We can thus show how these very different aspects of consciousness fit together in a fundamental ontology. And we can thereby define the proper domains of phenomenology and other disciplines that contribute to our understanding of consciousness.

The Problem of Consciousness

Lately, philosophers and scientists have been looking for mind in all the wrong places. Physicalists of all stripes have focused primarily on the physical conditions of consciousness, from neural activity to computational

I am indebted to my colleagues in the PACIS project: Charles W. Dement, President of Ontek; Stephen DeWitt, John Stanley, and Anthony Sarris, all of Ontek; and Peter M. Simons of the University of Leeds. Thanks to Tony Sarris for the ISO reference. Thanks further to Chuck Dement for numerous discussions of systematic formal ontology. I bear responsibility, nonetheless, for what is made of the three-facet distinction in the present chapter.

function.¹ Meanwhile, humanists – historicists, postmodernists, culture critics – have looked primarily to the cultural conditions of our discourse, as if consciousness did not exist in its own right (expressed in art and literature) but is “theorized” in a cultural tradition of phenomenology or science or humanistic discourse. Obviously, we have much to learn from the empirical sciences about boson, atom, organism, evolution, and brain – and from humanistic observations in art, literature, and cultural history and criticism. But this learning is informed by further disciplines that are not “empirical” or “naturalistic” or indeed “humanistic” in the received ways. If we are to understand the mind, we must understand more clearly the philosophical disciplines of phenomenology and ontology, because these disciplines define the place of mind in a world further detailed by the scientific disciplines of neuroscience, evolutionary biology, and quantum physics, as well as the humanistic disciplines of literary, artistic, and cultural criticism.

Let us begin with a fundamental principle of ontology. The nature of any entity, I propose, divides into three aspects or *facets*, which we may call its form, appearance, and substrate. In an act of consciousness, accordingly, we must distinguish three fundamentally different aspects: its form or intentional structure, its appearance or subjective “feel,” and its substrate or origin. In terms of this three-facet distinction, we can define the place of consciousness in the world. The aim of this chapter is to lay out this distinction in the nature of consciousness, and to draw out its implications for phenomenology and ontology, as distinct from purely naturalistic philosophy of mind. (I do not focus here on humanistic theory, although I think the morals to follow have relevance for humanistic as well as naturalistic theory of mind.)

Consciousness is the central concern of phenomenology. Although there is more to mind than what we consciously experience, our theory of mind must begin with the salient part of mind, conscious intentional experience. Consciousness is characteristically a consciousness “of” something, as Husserl stressed circa 1900, and this property of directedness he dubbed *intentionality*. The literature of phenomenology – in Husserl, Heidegger, Sartre, Merleau-Ponty, Ingarden, Føllesdal, and others, with roots in Kant, Hume, Descartes, and still earlier thinkers – has analyzed a rich variety of structures of intentionality in perception, imagination, thought, language, and action, along with properties of subjectivity, intersubjectivity, temporality, and the unity of the subject or self. For the discipline of phenomenology, there is no problem about the nature or existence of consciousness: we experience it

firsthand throughout our waking life, and we have ways of studying it carefully.

For recent philosophy of mind, however, consciousness has seemed problematic, either in its nature or in its very existence, because it seems to escape the story told by the physical sciences. “Consciousness is what makes the mind-body problem really intractable,” Thomas Nagel observed, rightly, wryly, and presciently in 1974 (Nagel 1974). As cognitive science developed over the next two decades, moving from artificial intelligence into neuroscience, consciousness regained center stage. The function of mind in mediating behavior, in problem-solving computation, in evolutionary adaptation, and the like did not seem to involve the subjective qualities of sensation, dubbed qualia, or the felt character of consciousness as directed toward objects in the world around one. Nonetheless, by 1990 neuroscientists were measuring properties of neural activity (such as spiking frequency) associated with consciousness, and so consciousness became a respectable phenomenon of scientific investigation. “Consciousness studies” emerged with large interdisciplinary conferences in Tucson in the 1990s. Still, amid the excitement even in popular media, David Chalmers (1996) echoed Nagel’s sentiment in declaring consciousness the “hard” problem for our theory of mind. Chalmers struck a nerve.

Yet is it not odd to find consciousness problematic? What if someone declared that we do not know what language is, or that its existence is uncertain? We all speak a language such as English or Japanese. Grammars have charted its basic forms such as the verb or noun phrase, and linguists have analyzed its “deep” structure. How the brain functions in the production and understanding of language is a further matter of empirical neuroscience; how speech and writing emerged in our species is a matter of evolutionary biology; how our language shapes our society and politics is a matter of social-cultural theory. But the syntax and meaning of modern English are familiar, more or less, to its speakers. Similarly, the shape and meaning of our everyday experiences of perception, thought, and action are familiar to us all, more or less. These forms of consciousness have been studied by phenomenologists, much as linguists have studied forms of language. How the brain functions in consciousness, how our forms of experience evolved in the species *Homo sapiens sapiens*, how our consciousness is shaped by our language, culture, and politics – these are further matters. But how can consciousness itself be thought problematic or its basic forms obscure?

There is a widespread opinion that science alone will explain the workings of the world, including our own minds and thus consciousness. This idea goes under the positive banner of “naturalism” or meets the pejorative charge of “scientism.” This attitude is expressed with characteristic verve, in his recent book *Consilience* (1998), by biologist Edward O. Wilson, famous for his studies of ants and for his conception of socio-biology. Let us quote at length (the only way to evidence “attitude,” albeit in the way of humanists):

Belief in the intrinsic unity of knowledge . . . rides ultimately on the hypothesis that every mental process has a physical grounding and is consistent with the natural sciences. The mind is supremely important to the consilience program [of unity] for a reason both elementary and disturbingly profound: Everything that we know and can ever know about existence is created there.

The loftier forms of such reflection and belief may seem at first to be the proper domain of philosophy, not science. But history shows that logic launched from introspection alone lacks thrust, can travel only so far, and usually heads in the wrong direction. Much of the history of modern philosophy, from Descartes and Kant forward, consists of failed models of the brain. The shortcoming is not the fault of the philosophers, who have doggedly pushed their methods to the limit, but a straightforward consequence of the biological evolution of the brain. All that has been learned empirically about evolution in general and mental process in particular suggests that the brain is a machine assembled not to understand itself, but to survive. Because these two ends are basically different, the mind unaided by factual knowledge from science sees the world only in little pieces. It throws a spotlight on those portions of the world it must know in order to live to the next day, and surrenders the rest to darkness. (Wilson 1998, 96)

What we have here is failure to communicate, between philosophers and scientists. (1) It was philosophers – Descartes, Kant, and Husserl – who taught us the principle, “Everything that we know and can ever know about existence is created there [in the mind].” (2) The history of modern philosophy includes much more than failed models of the brain; Descartes and Husserl developed successful models of consciousness, of mind as experienced, precisely what is now found “hard” for empirical neuroscience. (3) Although the brain did not evolve to understand itself, in humans it seems to be on the verge of producing, Wilson thinks, a scientific theory of its own physical and evolutionary function – and, I think, a philosophical theory of consciousness. (4) Most of the great modern philosophers – notably Descartes, Kant, and Husserl – theorized in the face of factual knowledge from science *cum* mathematics in their day; they also appreciated, however, the importance of introspection when attending to the mind. (5) It is a hallmark of modern

philosophy – and ultimately philosophy of science – to delimit knowledge of empirical fact and that of logic and mathematics, and thus to define the limits of both a posteriori and a priori knowledge; today in philosophy-and-science of mind we need to understand the boundaries and interrelations between the more empirical and the more “formal” aspects of consciousness.

A different view, from the formal side of natural science, is proposed by mathematical physicist Roger Penrose in *Shadows of the Mind* (1994). From Kurt Gödel’s incompleteness theorem in mathematical logic, Penrose argues that consciousness cannot be a process of computation in the technical sense originally defined by Alan Turing; then, from considerations of quantum mechanics and the microstructure of neurons in the human brain, Penrose argues that we need a noncomputational quantum physics to explain how consciousness can arise in neuronal activity. I cannot evaluate the controversial speculations in Penrose’s book, but if he is right then consciousness is defined by a very different kind of “formal” mathematical structure than anything philosophers of mind have been considering previously. What I like in Penrose’s vision is this type of abstraction. The mathematical form of a piece of physical theory is integral to its content, and mathematical form is suggestive of ontological form. The subtitle of the Penrose book is *A Search for the Missing Science of Consciousness*. When we have finished the “science” of consciousness, its physics and its evolutionary biology, there will still be something missing in our account of consciousness. What is missing in all current “naturalistic” thinking about consciousness is the relevant phenomenology and ontology, and their integration.

The “loftier forms” of naturalism are what attract the philosopher. I believe in the unity of knowledge. I believe, moreover, in the unity of the world: one world in which physical, mental, and cultural phenomena take their interweaving places. And I believe that every mental process has a physical grounding and is consistent with the natural sciences. (In fact, I am quite partial to the metaphor of “ground” in ontology, as we shall see.) So far, naturalism: both methodological and ontological (these need to be distinguished).

However, the structure of intentionality – call it “formal” or “transcendental” or something else – does not flow easily from empirical, “naturalistic” studies of the brain or bodily behavior or physical system alone. The “logic” of intentionality in phenomenology, methodically launched from introspection alone, has a powerful thrust and carries us far (contrary to what Wilson claims in the preceding quotation). However, I must

concur, the theory of intentionality carries us in different directions than empirical science: into structures of consciousness in phenomenology, and indeed into structures of thought and inference in logic and semantics (concerning how we reason and represent things in thought and language). “Formal” ontology, too, moves in different directions, positing fundamental categories of existence such as Individual, Property, Relation, Number, Part, and so forth. Both phenomenology and ontology are crucial to a unified system of knowledge – of a unified world. And both carry us beyond naturalism: their results should be consistent with natural science, but the proper results of phenomenology and ontology are not simply amassed in empirical investigation in the natural sciences alone.

When we want to see the world as a whole and not in the “little pieces” so effectively modeled by physics, chemistry, and biology – when we want to see the *unity* of the world – we must inform natural science with fundamental ontology. Much as physics needs mathematics to structure its empirical content, so natural science in general needs ontology – or metaphysics – to structure empirical content. And when we turn to the nature of mind itself, the empirical analysis of our own consciousness is pursued expressly and methodically by phenomenology. Moreover, it is ontology that must define the *type* of relation that holds between mind and its grounding in brain activity. This is a matter of formal ontology rather than of empirical investigation per se.

Wilfrid Sellars (1963) contrasted two ranges of theory that define respectively the “manifest” image and the “scientific” image of man, that is, ourselves and our world as understood by common sense and as described by modern science. Similarly, in *The Crisis of European Sciences and Transcendental Phenomenology* (1970b/1935–38) Husserl distinguished the “lifeworld” from the “natural world,” that is, the world as we experience it in everyday life and as we “mathematize” it in physics. Mathematical physics (in all its well-earned glory) is an *abstraction*, Husserl held, from the world as experienced in everyday life. Consequently, Husserl said, we must confront “the paradox of human subjectivity”: how can I be both subject and object of consciousness, both a conscious subject and an object in nature? Husserl did not clearly foresee the “mathematization” of thought in the computer model of mind. Yet today’s controversy about mind as computer (whatever the architecture, classical or connectionist) is but the application of mathematical modeling or “mathematizing” to mind as opposed to physical activity like planetary motion. Thus, Husserl’s “paradox” foreshadowed what today is the “hard” problem of

consciousness: how can consciousness be both a *subjective* character of experience and an *objective* property of the brain – a computational structure implemented in neural networks evolved over the natural history of the human species on the planet Earth in the cosmos that took shape since the Big Bang over 12 billion years ago amid fields of gravity, electromagnetism, and quantum superposition?

Husserl distinguished phenomenology from both everyday knowledge and scientific knowledge, and he distinguished “formal” ontology from “material” ontologies of Body, Culture, and Consciousness (as the distinction is reconstructed in D. W. Smith 1995). The point to stress here is that the world is characterized in different parts and levels in these different ranges of theory, and the philosophy of mind must respect these differences of theory.

Only by understanding more clearly both phenomenology and ontology, along with the natural sciences (as well as the humanities), can we understand the place of consciousness in the world. That is the loftier moral of this essay. The specifics to follow concern the ontology of the three aspects or “facets” of consciousness, and the role of phenomenology in such an ontology.

Phenomenology and Ontology

Ontology (or metaphysics) is the science of being: as Aristotle put it, being *as* being. Where the special sciences – physics, chemistry, biology, psychology, and the like – are sciences of particular kinds of beings, ontology is the general science of what it is to be a being (and perhaps of what it is to be).

Phenomenology is the science of consciousness: as Husserl put it, of consciousness *as* we experience it. Phenomenology begins in the description of conscious experience from our own point of view as subjects or agents: “I feel angry,” “I see that volcano,” “I think that Plato was ironic,” “I will [to act so that I] stroke this tennis ball cross-court,” and so on. The intentionality of consciousness is evident in our own experience: I am conscious “of” or “about” such and such.

Now, ontology and phenomenology interact in our overall theory of consciousness and its place in the world. For our experience – in emotion, perception, thought, and action – is informed by our understanding of the world around us, by our ontology, implicit or explicit. And as we practice phenomenology, we use our ontology, implicitly or explicitly, in order to describe our experience, its intentional relation to objects in the

world, and the things we are conscious of in perception, thought, and action. In this way, phenomenology is ontological. But ontology itself is phenomenological insofar as it recognizes the existence of our own consciousness, as we must in saying what exists.

It may be surprising to speak of ontology within the practice of phenomenology. For did not Husserl, in *Ideas* (books I and II, 1969/1913 and 1991/1912ff.), enjoin us to bracket the existence of the surrounding world of nature (and culture) in order to describe the structure of our consciousness? Here lies confusion. Husserl assumed a good deal of “formal” ontology – concerning individual and essence, part and whole, dependence, and so on – precisely as he sought to describe the essence of intentionality in phenomenology; and bracketing the region of nature (and the region of culture) leaves the region of consciousness, with the “material” ontology of consciousness as part of phenomenology (see D. W. Smith 1995). Heidegger followed suit, in *The Basic Problems of Phenomenology* (1988/1975/1927), assuming his own formal categories in describing structures of our existence and comportment; indeed, Heidegger insisted that phenomenology is “fundamental ontology,” and so fundamental ontology is essentially phenomenological. Philosophy today has lost sight of the intimate connection between our saying what there is and our saying how we experience what is.

Let us approach the nature of consciousness and its place in the world by laying out a very basic ontological distinction, a distinction we rarely make explicit but assume deep in the background of a good deal of our theorizing about the world.

Three-Facet Ontology

Everything in the world – every entity whatsoever – has a nature that divides fundamentally into three aspects we shall call *facets*: its form, its appearance, and its substrate. Thus:

1. The *form* of an entity is how or what it is: its whatness or quiddity – the kinds, properties, relations that make it what it is.
2. The *appearance* of an entity is how it is known or apprehended: how it looks if perceptible (its appearance in the everyday sense), but also how it is conceived if conceivable, how it is used if utilizable – how it is experienced or “intended” as thus and so.
3. The *substrate* of a thing is how it is founded or originated: how it comes to be, where it comes from, its history or genetic origin if

temporal, its composition or material origin if material, its phylogenetic origin if biological, its cultural origin if a cultural artifact – in short, its ecological origin in a wide sense, and ultimately its ontological origin in basic categories or modes of being.

The three *facets* of an entity (in this technical sense) are categorially distinct aspects of the entity, with important relations among them, as we shall be exploring. This distinction of aspects we may call the *three-facet* distinction (Figure 1.1).

Distinctions among form, appearance, and foundation or origin have been drawn in philosophy since its inception. Plato distinguished concrete things from their forms, and appearance from reality, and posited forms as the foundation of being. Before Plato, Anaximander assessed the material composition of things and envisioned their origin or foundation in something more basic (an archaic quantum field?); he even foresaw biological evolution, 2,500 years before Darwin. In more recent centuries, epistemologists from Descartes to Kant distinguished things from the ways they are known, while idealists like Berkeley put mind at the foundation of reality and materialists reduced mind to matter. What I am proposing, however, is to unify the distinctions among form, appearance, and substrate, and then to elevate the three-facet distinction itself to an axiom of fundamental ontology – and so to structure ontology itself (in one way) along these lines.

The structure < Form, Appearance, Substrate > thus defines a special system of ontological categories. For the world is structured importantly, at fundamental joints, by this three-facet distinction. The distinction presupposes that the world includes attributes (of entities), minds (to which entities may appear), and contexts of foundation or origin (from or within which entities may come to be). There may be possible worlds that lack such things, but our world has this much structure, and our ontology and phenomenology are accountable to this three-facet structure of the world. These three categories do not form a sequence of mutually exclusive and collectively exhaustive *summa genera* of entities, as do the Aristotelian categories (roughly, Substance or Individual, Species, Quality, Quantity, etc).

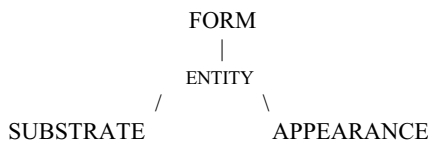


FIGURE 1.1. The three facets of an entity.

Rather, the categories of Form, Appearance, and Substrate order or rank three fundamental ways an entity in our world is defined: by relation to its form, to its being known or “intended,” and to its ground or origin. If you think about it, these categories define three fundamentally important and importantly different areas within the *nature* of any entity (in a world such as our own). Thus, the entity itself is *distributed* in its being through these three aspects of form, appearance, and substrate: that is its nature or essence.

There are other fundamental divisions in the structure of the world. But the division < Form, Appearance, Substrate > marks one crucial ordering in the nature of things. To appreciate its significance, we shall work through some examples.

Importantly, the division among form, appearance, and substrate is a division of *structure* in the nature of an entity rather than a division among three intrinsically distinct types of property. In principle, the same thing might be part of the appearance, form, and substrate of an entity. The green of a leaf – say, of a California Live Oak tree – is part of its appearance to the human eye, part of its intrinsic form, and part of its evolutionary history (in the role of chlorophyll). Thus, the property green plays three different *roles* in the form, appearance, and substrate of the leaf, and these three facets are themselves defined by the roles played. That is, Form, Appearance, and Substrate are defined by *roles* played in the nature or essence of an entity.

An instructive parallel to the three-facet distinction can be drawn in biology: in systematics, the science of diversity among living things (Mayr and Ashlock 1991). Thus, biologists today *define* a species by principled reference to its character, its observed specimens, and its evolutionary descent. (Exactly how a species is defined in these terms has been vigorously debated; I abstract the terms of debate only.) Imposing our terminology: the form of a species is its genotype, its appearance (to the scientific community) is its phenotype or observable traits (starting with a definitive specimen called its holotype), and its substrate or origin consists in its path of phylogenetic descent from ancestor species. These three aspects of a species are given canonical places in defining the species in modern biological theory, and we may see in this empirical theory something more like a “formal” division in the nature of all things, not just of evolving species of living things. (N.B. In biological systematics, a “category” is defined not as a high-level grouping or *summum genus*, as Aristotle originally used the term, but rather as a rank of taxa or groupings. In the long run I too would define the term “category” in a more special way, but for

present purposes let us mean by the term simply an important group or classification of things.)

Insofar as biological systematics provides one model of three-facet ontology, we are abstracting or factoring out from the empirical theory of species the formal structure of three facets, which we would apply to any kind of entity at all (in a world such as our own). This kind of abstracting is the proper work of formal ontology, and the three-facet distinction is a formal ontological distinction, applying by hypothesis to any kind of entity whatsoever. The significance of the three-facet distinction lies in the different ways in which something can be defined in its being, in its fundamental nature, by its form, appearance, and substrate.

Husserl is one systematic philosopher who recognized what we are calling the three facets of an object. The form of an object Husserl called its “essence” (*Wesen*, from *Was-sein*). The sensible qualities of a material object Husserl called its “appearance” (*Erscheinung*), or more generally its “way of being given” to consciousness, which aligns with the “object as intended.” And the substrate of an object encompasses what Husserl called its “horizon,” its *Umwelt* (surrounding world), and indeed its ontological “foundation,” that on which it is “founded” (by *Fundierung*). What is unusual in Husserl’s philosophy is the principle that the *essence* of any object includes the ways in which it can be known or intended, the ways it is “constituted” in consciousness. It was Husserl who first explicitly defined “formal” ontology, as specifying categories (“formal essences”) that apply to different “regions” (“material essences”) such as Nature, Culture, and Consciousness. (The details are drawn in D. W. Smith 1995.) The three-facet distinction belongs to formal ontology in this sense. However, Husserl himself did not join the three facets into the canonical division I am proposing.

The three-facet distinction, then, is a higher-order formal structure that orders the nature or essence of an entity. Because this structure applies to consciousness itself, we can use the three-facet distinction to look at the ontology of consciousness. But first we must address the distinction generally.

The Three Facets of Diverse Entities

To see how the three-facet distinction works, and to begin to appreciate its scope, let us apply it to some very different kinds of entities.

Consider this piece of quartz found in my garden. Its form includes its shape, its color, and its type, quartz. Its appearance includes what it looks

like from various angles and under various lighting. And its substrate includes its physical crystalline structure, as well as its geological genesis from great heat and pressure in the crust of the planet Earth.

Consider now an electron. Its form includes its mass, charge, and spin. Its appearance includes its observable position and momentum, its electron-microscope image, and so on. And its substrate includes the matter field (from which it emerges per quantum field theory). So even a basic physical particle has its three facets.

Now consider this pencil. The form of the pencil is its structure of graphite in wood plus its function in writing and drawing. Its appearance includes what it looks like and what it feels like in my hand in writing. The substrate of the pencil is its origin. It is made of certain materials, including wood, graphite, paint, tin, rubber. Each material has its physical-chemical structure. Moreover, these materials are produced only in specific parts of the world, in specific cultures, their trade following established routes. Furthermore, the substrate of the pencil includes the historical development of writing, writing instruments, and the invention of the pencil. So the pencil's substrate includes not only its physical composition (down to quantum structure) but also its cultural genesis.

Next consider the tool of the century: the computer. The International Organization for Standardization has defined what is called the ISO three-schema architecture for database design, distinguishing a computer program ("conceptual schema"), its implementation in hardware (plus operating system, etc.) ("internal schema"), and the user's presentation of what the program does ("external schema"). These three aspects of a computer system are precisely what we are calling its three facets: its form, the program; its substrate, the hardware; and its appearance, the user interface. This familiar distinction, we now begin to see, reflects a deep ontological distinction in the nature of things far beyond computers.

Finally, consider a human being, an individual such as Napoleon. His appearance is well known: his facial structure, his small stature, his posture with hand in vest. His form is his individual character as a person, an intentional subject living in a culture in the natural world, his body having various traits. And his substrate is what makes this individual possible: his genetic heritage, his birth on Corsica, the French Revolution, and the army in which he developed his power – as well as the wider physical, biological, and cultural conditions of humanity.

Observe how naturally the three-facet distinction applies to such diverse kinds of entities. The concepts of form and appearance are relatively

familiar; the concept of substrate is not. Indeed, notice how wildly different are the things that serve as *substrate* for different entities: materials or parts from which an object is composed; the field in which a physical particle exists; the genesis of an individual through time; the evolutionary track (or “clade”) of a biological species; the cultural history and use of an artifact; the hardware that implements a computer program; the life trajectory of an individual human being; even the cultural genealogy of our values (in Nietzsche’s idiom) and of our language games and other forms of life (in Wittgenstein’s idiom). What these things share, what makes these things play the role of substrate in very different entities, is the form of ontological *derivation* or *emergence* (in different ways!) from things more fundamental, the form of ontological *foundation* or *dependence* on things in the wider context of the entity. Again, the three-facet distinction belongs to “formal” ontology.

Now let us apply the three-facet distinction to – of all things – consciousness itself.

The Three Facets of Consciousness

An act of consciousness – my experience of thinking, seeing, or doing such and such – is an entity with three facets:

1. Its *form* is its structure of intentionality, its being directed from subject toward object through a content or meaning, with inner awareness of itself (“apperception”).
2. Its *appearance* is how I experience it, “what it is like” for me to live or perform this act of consciousness.
3. Its *substrate* is its origin or background in conditions including brain activity, psychological motivation, cultural ideas or practices, and the biological evolution of this form of mind.

The three facets of an act of consciousness are mapped in a diagram in Figure 1.2.

According to this three-facet ontology, an act of consciousness is *distributed* in its nature through its form, appearance, and substrate. This is not to say there are three kinds of entities bound together, say, items of brain, meaning, and “feeling.” Rather, a particular mental act is one entity with a nature that divides into three fundamentally different aspects or *facets*. There are systematic relations, including dependencies, among

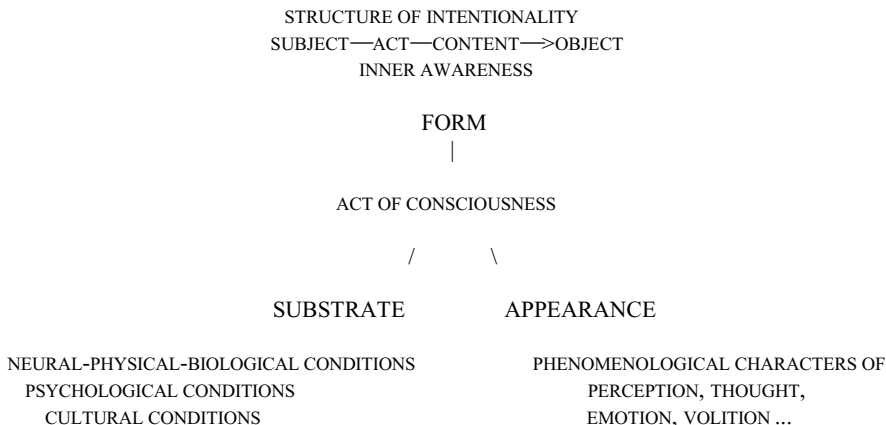


FIGURE 1.2. The three facets of an act of consciousness.

these facets, but that is a further story. First we must appreciate the fundamentally different roles these facets play in defining consciousness. As we bring out these differences in facets, we can carve out the role of phenomenology in understanding mind and its place in the world.

The Structure of Intentionality and Inner Awareness

I am assuming a basic theory of intentionality (elaborated in Smith and McIntyre 1982). This account of intentionality draws on a long history, but the main ideas were synthesized adequately first by Husserl. In recent work in philosophy of mind and cognitive science, Searle (1983) comes closest to this model of intentionality.

Consciousness occurs in concrete states or events called “acts” of consciousness: when I see that bird overhead, when I think that Plato was ironic, when I feel angry about the president’s speech, when I run with the volition to catch a bus, and so on. Such an act of consciousness is *intentional*, or directed toward something, called its object (the bird, Plato, the speech, my catching the bus). As we say, it is “of” or “about” that object. The object is prescribed by the content of the act. And the act is experienced or performed by a person, called its subject. This structure is analyzed by laying out cases and marking distinctions among subject, act, content, and object (for detail, see Smith and McIntyre 1982). The point to consider here is where this structure plays in the ontology of the act of consciousness, in the three-faceted nature of the act.

The fundamental structure of intentionality, we assume, is this:

subject — act — content —> object.

The act is distinct from the object (unless the act is self-referential). The subject is distinct from the act, and from the stream of consciousness in which the act occurs as a transitory part. The content is an idea, image, concept, thought (proposition), volition, and so on: a “meaning” that Husserl called noema, updating the ancient Greek term for “what is known.” Importantly, the same object can be “intended” through different contents in different acts.

In practicing phenomenology, when I reflect on an act of consciousness as experienced, I “intend” the act in a second act of reflection focused on the first act. In this reflection the first act “appears” to the second. Classical phenomenology was much exercised about the best methodology for reflecting on our experience. However we do it, let us assume, I carry out an act of reflection – or introspection – on my own conscious experience. And in phenomenological reflection the intentionality of the given act is part of its “appearance” in the reflective act. So the given act’s intentionality is part of its *form* but also part of its *appearance* in reflection.

Furthermore, we may directly experience the intentionality of an act of consciousness, without retreating into a reflection on it. For when I am conscious of something, say in perception, I have a prereflective *inner awareness* of this consciousness-of-something. On this neoclassical view, consciousness is consciousness-of-something and *eo ipso* consciousness-of-itself. In inner awareness, then, intentionality “appears” to me in having a conscious experience of such and such. So intentionality is part of the *appearance* of the act already in inner awareness. (This form of inner awareness is analyzed in D. W. Smith 1989.)

By contrast, we do not directly experience (in inner awareness) the *substrate* of an act of consciousness, notably its grounding in brain process and cultural history. Nor does the substrate of an experience submit to phenomenological analysis in reflection or introspection. In modern times we all have some knowledge of the fact, empirically discovered and pursued in neuroscience, that what we are thinking, perceiving, or dreaming depends on what is happening in our brains. And in postmodern times we all have some appreciation of the fact, frequently observed in the wake of Marx, Nietzsche, and Freud, that what we think and value depends on long-standing cultural conceptions, assumptions, linguistic practices, and political institutions. But these background conditions

must be distinguished from the intentional structure of consciousness itself, thus separating the form and appearance of consciousness from its substrate. (Compare D. W. Smith 1999b on “background ideas” in the cultural substrate of intentionality.)

The Ontology of Form and Appearance

Given the preceding model of intentionality, we can say more about the ontological status of the form and appearance of an entity.

The *form* of an entity, we said, consists of its kinds, properties, and relations. These are “universals” in the traditional sense. I shall not here address the full range of issues about the existence of universals (ably and succinctly assayed by Armstrong 1989, 1997), but a couple of points stand out in present discussion. First, some universals depend for their existence on intentional acts of consciousness and associated cultural practices, although most do not. The property of being a fork, for instance, could not exist unless people had developed the tradition of eating with a utensil of that shape. (See Thomasson 1999, on similar issues of dependence.) Moreover, if I am using a fork to pry open a box, it is not in that context bearing the property of being a fork. Second, a universal is distinct from any concept that represents it. The property of being an electron does not depend for its existence on anyone’s having a concept of it; when someone thinks about an electron, the concept “electron” is part of the content of the act of thinking but is distinct from the property of being an electron. Universals rather than any associated concepts make up the form of an entity. Third, a universal is distinct from its *instance* in a particular entity. Aristotle called such instances “accidents”; Husserl called them “moments”; recent philosophers (following Donald Williams’s usage) call them “tropes.” Strictly speaking, the form of an entity – in the three-facet distinction – is realized in a complex comprising moments or tropes that are instances of universals. For simplicity, however, in this essay I shall simply speak of an entity’s form and its constituent kinds, properties, and relations. (Still, the distinction between moments and universals, or “ideal” essences, does important work in a Husserlian philosophy of mind *pace* D. W. Smith 1995.)

The *appearance* of an entity, we said, consists of how it is known or, we may now say, “intended” in appropriate acts of consciousness. This talk of “how” is ambiguous between the properties that appear or are intended and the contents through which they appear. (Husserl carefully distinguished these: see *Ideas* I, 1913, §42.) When I see that green leaf,

for instance, the content “green” in my visual experience is one thing, and the color itself in the leaf is another thing. Science tells us that the color green is dependent not only on the wavelength of the light reflected from the surface of the leaf but also on the interaction with the observer. Nonetheless, the color in the leaf is distinct from the sensory-conceptual content in my experience. Moreover, as Husserl noted, the same color will “look” different under different lighting conditions. The properties in the appearance of the leaf, in its three-facet nature, are distinct from the concepts or sensuous qualities (so-called qualia) that are part of my visual experience that intends the leaf and presents it as green.

Clearly, appearance is to be studied in different philosophical disciplines, in phenomenology (addressing its role in intentional consciousness) and in ontology (distinguishing an appearing color itself from the intentional contents that present it).

Bearing in mind these amplifications of form and appearance in general, we turn to phenomenology as the study of the form and appearance of consciousness.

“Transcendental” Phenomenology and the Study of Consciousness

Consciousness has seemed difficult to study in a disciplined way because it is hard to separate in a disciplined way the different features of consciousness. The distinction between three facets of consciousness helps to define the domains of different disciplines that study consciousness. Purely descriptive phenomenology describes the *appearance* of consciousness in our own experience: the character of consciousness as we experience it in different types of experience. Analytic (“eidetic”) phenomenology analyzes the *form* of consciousness: the formal structures of intentionality (already noted in description of our experience). Empirical sciences investigate the substrate of consciousness: the conditions in which it arises in different forms (noted, roughly, in phenomenological analysis). Neuroscience develops the theory of how neural activity gives rise to consciousness in different forms, taking these forms somewhat for granted. Evolutionary biology develops the theory of how different life forms evolved, including animals (and plants?) with the capabilities of consciousness, which begins in sentience and response in low-level organisms (perhaps even in DNA structures themselves if we are to believe some abstractions about the transfer of “information” in very different levels of physical reality). Cultural history develops the theory of how particular forms of consciousness evolved in human history, including the