

## Ontological Subjectivity

Thomas Natsoulas

*University of California, Davis*

Addressed here are certain relations among intentionality, consciousness, and subjectivity which Searle has lately been calling to our attention, while arguing that certain brain-occurrences possess irreducibly subjective features – in the sense that no amount of strictly objective, third-person information about the animal and his or her brain and behavior could result in a description of any such features, except by inference based on the first-person perspective. In his relevant discussions, Searle has focused on the aspectual shapes (i.e., cognitive, or intentional, contents) of conscious mental brain-occurrences, that is, the particular intrinsic feature of any mental occurrence responsible for the mental occurrence's being of or as of something beyond itself. However, Searle's view would seem, undesirably, to conceive of aspectual shape as purely appearential, in the same sense as a hallucinated fire-breathing dragon is purely appearential. Has not Searle thus abandoned ontological subjectivity (which, being ontological, cannot be reduced entirely to a matter of seeming) – though he has available other ways to conceive of the undoubted, as he says, plain fact about biological evolution which is ontological subjectivity? Throughout the present article, Freud's conception of consciousness serves as an aid to understanding Searle's views of subjectivity, consciousness, and intentionality.

In the present article, I address relations among intentionality, consciousness, and subjectivity that Searle (1989, in press) has lately called to our attention. My starting point is Searle's (1989) fundamental concept of "ontological subjectivity." Clearly, one means to refer to a factual matter when one says, as Searle did, that psychological and cognitive scientists must describe and explain ontological subjectivity. Years ago, here is how I, too, began an article entitled "Residual Subjectivity":

"Subjective science?" There isn't such a thing" (Hebb, 1974, p. 73). Yet the *fact* of subjectivity poses a fundamental problem for an objective psychology. Psychology *must* encompass subjectivity in its theoretical net on pain of unjustifiable incompleteness and possible inadequacy. But psychology may *fail* to encompass subjectivity unless it introduces phenomenological concepts and gives up thereby its claim to be a consistently objective science. (Natsoulas, 1978, p. 269)

I was addressing the same topic as Searle (1989, in press); to speak as I did of residual subjectivity is, also, to speak of something that does not only seem to exist. Mental occurrences individually and intrinsically possess a property of subjectivity, or a set of subjective features. About the fact of subjectivity, Searle (1984) stated,

It seems to me a mistake that the definition of reality should exclude subjectivity. If "science" is the name of the collection of objective and systematic truths we can state about the world, then the existence of subjectivity is an objective scientific fact like any other. If a scientific account of the world attempts to describe how things are, then one of the features of the account will be the subjectivity of mental states, since it is just a plain fact about biological evolution that it has produced certain sorts of biological systems, namely, human and certain animal brains, that have subjective features. (p. 25)

Note for later reference Searle's (1984) description of the existence of subjectivity as an objective scientific fact like any other objective scientific fact. Although subjectivity is a plain fact about biological evolution, Searle (1989, in press) would not characterize an instance of subjectivity, or any particular subjective feature, as an objective fact, although he would so characterize the fact of its existence. Deeply affected by his own "Chinese Room Argument" and its implications (Searle, 1980a, 1980b, 1984, 1987a, 1990), Searle (1989, in press) has been arguing for the irreducibly subjective nature of a mental occurrence's cognitive (i.e., intentional) content.

### **Ontological Subjectivity**

In contrast to a fire-breathing dragon that someone hallucinates, subjectivity is ontological and not merely phenomenal; that is, subjectivity in the present sense is not something of which one merely seems to be aware. Ontological subjectivity exists in the mode of being a property of individual mental-occurrence instances. A hallucinatory visual experience of a fire-breathing dragon does not possess among its properties the fire-breathing dragon thereby hallucinated. An experience, whether hallucinatory or of any other kind, is not the sort of occurrence that can possess as a property a fire-breathing dragon, or any part of the environment, or any part of one's own body outside the brain. These are not properties of experience. Experiences take place in certain sorts of biological systems, namely in human and certain animal brains, and all experiences (and all other mental occurrences) are neurophysiological occurrences. A fire-breathing dragon has no mode of existence. No science need concern itself with the ontology of fire-breathing dragons, that is, with what a fire-breathing dragon is in itself. In contrast, subjective features of mental brain-occurrences, though they be subjective, do have a mode of existence. And the sciences that are concerned with the nature and function of mental brain-occurrences must describe and explain the subjec-

tive features, as well, of mental brain-occurrences. As will be seen next, the latter statement is controversial depending on how the subjective features of mental brain-occurrences are interpreted. In any case, the phrase "ontological subjectivity" happily focusses attention on the fundamental difference between (a) subjectivity qua only apparent existence of such as hallucinated fire-breathing dragons and (b) subjectivity qua existing property of mental brain-occurrences. Searle stated that human and certain animal brains possess subjective features, but he too would not include among these features a fire-breathing dragon, any more than he would include the sun itself as a property of our visual perceptual experiences of the sun. He would include among the subjective features of biological systems the property of "aspectual shape," which is the property that makes it possible for mental brain-occurrences to be, for example, of or about the sun, or as though of or about an actual fire-breathing dragon.

*"Subjective science? There isn't such a thing."*

To the view that ontological subjectivity must be encompassed by psychological and cognitive science on pain of unjustifiable incompleteness and possible inadequacy, many psychologists will react along the lines that I shall express in the present subsection. They will not agree with the following assertion of Searle's (1989), assuming that they take the assertion as Searle meant it: "It is crucial to understanding the character of the processes involved that we have a clear distinction between those which are mental (hence also physiological) and those that are only physiological" (p. 208). Searle meant that psychological and cognitive science has to deal with mental properties that in principle cannot be referred to by means of a purely physiological or objective vocabulary. As Searle was writing the above statement, he must have had in mind that the subjective features of mental brain-occurrences make a significant causal difference, and therefore that psychological and cognitive science cannot but describe and explain these subjective features. In the same paragraph Searle (1989) added that the frog has certain visual experiences and not others, enabling the frog to eat and to survive. Visual experiences differ among themselves in their aspectual shapes, which makes for different real consequences, yet aspectual shapes are irreducibly subjective properties of visual experiences, as well as of all other intentional brain-occurrences, according to Searle.

Let me now try to take the perspective of a large group of psychologists with regard to ontological subjectivity as a property that psychological and cognitive science must describe, explain, and use to explain certain objective facts. I believe that a great many psychologists will oppose this view as follows:

Ontological subjectivity is *not anything* with which science of any kind needs to be concerned. Science can and must *ignore* all subjective features of the world *if any such exist*.

If a mental occurrence possesses the kind of subjectivity that Searle suggests, this property is of a kind that psychology (and all of science) is *not equipped* theoretically, conceptually, and methodologically to treat of. But psychology's being so ill-equipped is not due to the science's underdevelopment as Searle (1984) suggested: "This reluctance to deal with consciousness and subjectivity is part of a persistent objectifying tendency" (p. 10). Searle (in press) even spoke of this neglect as a "mess" which the disciplines of cognitive science, psychology, and the philosophy of mind have somehow gotten themselves into, and he wondered rhetorically how it has happened that we have neglected "the most important feature of the mind." Searle could not be more mistaken about what science is and can do. The neglect and *complete avoidance* of subjectivity is a necessary consequence of the essential nature of science at any stage of its development, however advanced this stage may be or come to be. Science is and will always be a *purely objective human activity* in the sense that scientists qua scientists are essentially and *exclusively* concerned with objective properties, entities, events, processes, and so on, *never* with subjective properties and the like. Only what can be described from a third-person perspective *uncontaminated by anything known only from a first-person perspective* can be a feature of a truly scientific account. If it is a fact that some mental occurrences possess a "subjective side," as Freud (1895/1964) held, or if in fact every mental occurrence possesses an "irreducibly subjective" dimension of aspectual shape, as Searle (1989) stated, science must *reject* all attempts to try to describe and explain this subjectivity. In this case, the proper scientific attitude is not just reluctance but *refusal* — on good scientific principle! And this refusal includes not using the subjective features of mental occurrences to explain *any* of the effects that mental occurrences are scientifically demonstrated to have. Of course, the present position depends on whether the so-called subjective feature of mental occurrences are not actually among the latter's objective features and therefore describable from a third-person perspective.

I shall continue this statement on behalf of psychologists who oppose including within science nonobjective ontological subjectivity after I have explained how two theorists of consciousness, Freud and Searle, treated ontological subjectivity in their accounts of the "psychical apparatus" (to use Freud's biological term for the mind).

### *Freud's "Subjective Side"*

According to Freud's sustained conception, the psychical apparatus includes an anatomical part called the "perception-consciousness system" (for discussion and relevant references to Freud's works, see Natsoulas, 1984a, 1985b, 1989a, 1989b, 1990a, in press). All mental brain-occurrences that take place in the perception-consciousness system possess a "subjective side" as part of their individual occurrence every time that they occur. That is, their subjective side is not an effect that they produce (cf. Nagel, 1974, p. 20; Natsoulas, 1990c); rather, a mental brain-occurrence's subjective side is an intrinsic dimension of that mental brain-occurrence itself, a part of its own mode of existence. That is, certain mental brain-occurrences (all of those which occur in the perception-consciousness system) exist as something that, uniquely, possesses a subjective side — each of them its own particular subjective side. According to Freud, only the mental brain-occurrences of the perception-consciousness system possess a subjective side; all other mental brain-occurrences, which

occur elsewhere in the psychical apparatus, do not ever possess a subjective side. Thus, a mental brain-occurrence's being mental does not by itself mean, according to Freud, in that the mental brain-occurrence has a subjective side (as Searle, 1989, in press, insisted that it must; see later). Those mental brain-occurrences which occur outside the perception-consciousness system possess the property of intentionality, though they do not have a subjective side, according to Freud; each of them has cognitive (or intentional) content and can be about a state of affairs that does not include the mental brain-occurrence itself. Thus, each lacks a subjective side and each lacks the property of consciousness, in the sense of its being such as to give to its possessor direct (reflective) awareness of itself. By direct (reflective) awareness I mean particular awarenesses of mental-occurrence instances unmediated contemporaneously by other mental occurrences, for example, by mental occurrences constituting observation or inference.

What did Freud mean by the subjective side of a mental brain-occurrence? As will be seen from Freud's (1895/1964) statement below in this paragraph, Freud identified the owner's being conscious of his or her mental brain-occurrence with the subjective side of this mental brain-occurrence. The consciousness-subjectivity equivalence also seems to be suggested at points in Searle's account of the psychical apparatus. However, I postpone discussion of the relation between consciousness and subjectivity. For the remainder of the present main section it presents no problem to speak only of subjectivity. About the subjective side of the mental brain-occurrences that transpire in the perception-consciousness system, Freud (1895/1964) wrote as follows:

A word on the relation of this [Freud's] theory of consciousness to others. According to an advanced mechanistic theory, consciousness is a mere appendage to physiologico-psychical processes and its omission would make no alteration in the psychical passage [of events]. According to another theory, consciousness is the subjective side of all psychical events and is thus inseparable from the physiological mental process. The theory developed here lies between these two. Here consciousness is the subjective side of one part of the physical processes in the nervous system, namely of the [omega] processes; and the omission of consciousness does not leave psychical events unaltered but involves the omission of the contribution from [the omega system of neurones]. (p. 311)

As I have discussed in a previous article, the part of Freud's conception of the psychical apparatus that is relevant to the present article did undergo some notable change in the first decade of the twentieth century (Natsoulas, 1989a). However, the position expressed by Freud in the just quoted paragraph, and a great deal else about his conception of consciousness, "was to be maintained right the way through Freud's work" (Laplanche and Pontalis, 1973, p. 85; Natsoulas, 1984a, 1985b, 1989a, 1989b, 1990a, in press).

According to Freud's formulation, ontological subjectivity is a property of the omega brain-processes of the perception-consciousness system. These brain-

processes involve the activity of a unique kind of neurone, which Freud called "omega." Like present-day neuroscientists, psychologists, and cognitive scientists, Freud could not say how this subjective side of omega brain-processes is possible. Nor did he say how his postulation of a special omega system of neurones (to explain the subjective side of mental brain-occurrences) improves our understanding of a subjective side of something belonging to certain mental brain-processes. All that could be done at this time, Freud stated, was to "establish a coincidence" between (a) the subjective side of omega brain-processes as known to us from the first-person perspective, and (b) the objective properties of the omega brain-processes as these are believed or assumed to be from a third-person, purely objective scientific perspective. That is, Freud could and did speculate anatomically, physiologically, and psychologically about the omega brain-processes, including how they interact causally with other brain-processes of the psychical apparatus which themselves are not omega brain-processes (do not involve any omega neurones) and therefore do not possess a subjective side. To address the purely objective properties of omega brain-processes with their subjective side in mind, Freud (1895/1964) wrote, "is quite possible in some detail" (p. 311). He would be guided in his objective description of the omega brain-processes by what he already knew of them firsthand through his necessary apprehension of their subjective side; necessary, because a subjective side implies, for Freud, the individual's consciousness of it.

However, from the first-person perspective on our omega brain-processes, we can know "nothing of what we have so far been assuming — quantities and neurones" (Freud, 1895/1964, p. 306). Psychological theory must explain not only the subjective side of these brain-processes, the side of them of which we have direct (reflective) awareness, but must also explain, according to Freud, our lack of access to quantities and neurones, that is, to the objective side of the same processes. One may be led to wonder: Might our lack of such access mean that we have direct (reflective) awareness of something other than the objective properties of our mental (brain) occurrences? Or did Freud mean that omega brain-processes have other objective properties than those covered by the terms "quantities and neurones," objective properties that are directly (reflectively) knowable? These other properties might be of the sort to which Sperry (e.g., 1969, 1970, 1976; Natsoulas, 1987) has called special attention: higher-order organizational properties of molar brain-processes. Molar brain-processes as units, wholes, "entities," possess these higher-order properties, which are therefore not possessed by the individual neuronal occurrences that constitute the complex spatiotemporal pattern of the whole, unitary brain-process. Such properties would clearly be no less objective properties than the properties of individual neuronal events. Thus, the issue arises as to whether there exists not only (a) a special, inner access that we have to our

own conscious mental brain-occurrences (i.e., consciousness in the sense that I have called “direct, reflective awareness;” e.g., 1985a, 1988, 1989c), but also (b) an access to certain properties (of our mental brain-occurrences) that cannot be known otherwise than by direct (reflective) awareness (i.e., what I shall later call “subjective neurophysiological features”; see my discussion below of Searle’s account) except by inference from correlated objective neurophysiological features, a kind of inference that crosses the boundary between objective scientific description and subjective phenomenological description, and is based not on theory but on discovered coincidences (cf. Gustav Bergmann’s “cross section laws;” Natsoulas, 1984b).

According to Freud (1895/1964):

Consciousness gives us [only] what are called *qualities* – sensations which are *different* in a great multiplicity of ways and whose *difference* is distinguished according to its relations with the external world. Within this difference there are series, similarities and so on. (p. 308)

It is to these qualitative contents of mental brain-occurrences that Searle (1989), too, was referring when he asked, “How could unconscious intentional states be subjective if there is no subjective feel to them, no ‘qualia,’ no what-it-feels-like-for-me to be in that state” (p. 201)? All of this is made even more explicit by Smith (1989):

Every conscious mental state has a certain subjective character, which we may call its *phenomenal quality*. Thus, every sensation, perception, desire, or thought, insofar as it is conscious, has a certain quality of “what it is like,” or what it “feels” like, to have that type of experience. And that subjective character is part of what makes the experience *conscious*. An unconscious mental state, by contrast, has no phenomenal quality – there is no such thing as what it feels like to have a thought or desire unconsciously or to receive sensory information unconsciously or subliminally. (p. 95)

One day there will be theories of the neural structures that confer qualia on various experiences. . . . The phenomenal qualities of these experiences. . . we know by acquaintance – only in consciousness, in inner awareness of those forms of experience. (pp. 97–98)

The issue I raised can be discussed with regard to the qualitative contents of mental brain-occurrences: What is the ontology, or mode of existence, of qualities? Here are two alternatives. (a) Are qualities certain *objective* neurophysiological features of which, uniquely, we have direct (reflective) awareness? According to Freud, except for the brains of human beings and certain other animals, qualities are completely absent from the world, and except for the fact that our conscious mental brain-occurrences possess qualities, we would not be directly (reflectively) aware of our mental brain-occurrences. About these unique features, we know very little that is not known from the first-person perspective. However, since qualities are objective neurophysiological

features, we will learn more about them later on, scientifically, than can be known from the first-person perspective. (b) Or are our qualitative contents, rather, *subjective* neurophysiological features? In that case, they would belong to Freud's postulated omega brain-processes no less intrinsically than if they were objective neurophysiological features; however, subjective neurophysiological features could only be apprehended, described, and explained using concepts whose reference is determined from the first-person perspective. In the above quoted passage, Smith (1989, pp. 97-98) seemed to say the latter about qualitative contents; that is, purely objective description of Freud's omega brain-processes would perforce omit reference to their qualitative contents.

As I understand Freud, the subjective side of omega brain-processes is not a mental-as-opposed-to-physical side of these processes; I take it that Freud was not proposing a physical-mental dualism of properties possessed by the omega brain-processes. As Nagel (1974) stated, Freud's account of the subjective side of certain neurophysiological processes is not an account compatible with a metaphysical dualism of the mental and the physical. No doubt, therefore, Freud was adopting a kind of physical monism that postulates the existence of certain extraordinary physical properties. Freud's introduction of qualities into the brain is somewhat analogous to Sellars's (1963, 1981) proposed introduction of "sensa" into ultimate physical theory: for example, "occurrent pinkness," or occurrent "volumes of pink," which take place in the "sensorium" of human and certain animal brains. However, all further comment by Freud was concerned with how the omega brain-processes function, rather than with how their occurrence involves qualities, or with the nature of qualities, except that he called qualities "conscious sensations." (Smith, 1989, pointed out, in effect that to call qualities "sensations" does not do justice to the variety of conscious mental occurrences having qualitative content; for example, the qualities of desires are different from the qualities that visual experiences possess.) Solomon (1974) rightly stated that Freud believed an account of the psychical apparatus qua biological entity could theoretically be made to yield a subjective side belonging to some brain-processes. This means, of course, that Freud had no use for a metaphysical dualism of the mental and the physical (such as, for example, Bergmann's, 1956, psycho-physiological parallelism; Natsoulas, 1984b).

#### *Searle's "Irreducible Subjectivity"*

In order to provide a more concrete context for expressing the objective scientific view against ontological subjectivity, I have presented Freud's idea of the subjective side of individual conscious mental-occurrence instances. For the same purpose (and more) I shall now do the same with Searle's "subjective neurophysiological features," as I have named them.

According to Searle, all mental occurrences are neurophysiological, yet mental brain-occurrences cannot be known fully from the third-person perspective. Notwithstanding the latter, all that exists that is mental are neurophysiological processes and their properties, according to Searle. That is, it is not as though minds exist or mental processes exist distinct from neurophysiological processes. There are no interacting, parallel, or epiphenomenal mental occurrences. And in the brain, there are only (a) neurophysiological processes with purely objective neurophysiological features and (b) neurophysiological processes with subjective neurophysiological features as well as purely objective ones. (Searle did not use the expression "subjective neurophysiological feature." He might even object to my using it, because such features are not, in his view, describable neurophysiologically. However, I mean to refer to those properties of neurophysiological occurrences that are irreducibly subjective in Searle's view.) Searle (1989) stated,

There is nothing going on in my brain but neurophysiological processes. . . . Conscious states . . . are, of course, higher-level features of the neurophysiological systems and hence neurophysiological themselves. . . . In my skull, there is just the brain with all its intricacy. All my mental life is lodged in the brain. But what in my brain is my "mental life"? Just two things: conscious states (of course, caused by neurophysiological processes and realized in the structures of the brain) and those neurophysiological states and processes that — given the right attendant circumstances — are capable of generating conscious states. (p. 203)

Searle (1989) was suggesting that some brain-occurrences have higher-level properties that distinguish them from brain-occurrences that "consist in nothing but objective neurophysiological features of the brain" (p. 203).

The two categories of processes, the mental and nonmental, are both completely neurophysiological, and I take it that the higher-level properties of either kind of brain-process are objective properties, properties that are amenable to third-person description and explanation. In Searle's (1984) view, these higher-level properties are analogous to molar features of certain other physical systems, such features as the solidity of tables, the liquidity of water, and the transparency of glass. Here is one dimension of this analogy:

Though we can say of a system of particles that it is 10°C or it is solid or it is liquid, we cannot say of any given particle that this particle is solid, this particle is liquid, this particle is 10°C. I can't for example reach into this glass of water, pull out a molecule and say: "This one is wet." In exactly the same way, as far as we know anything at all about it, though we can say of a particular brain: "This brain is conscious," or: "This brain is experiencing thirst or pain," we can't say of any particular neuron in the brain: "This neuron is in pain, this neuron is experiencing thirst. . . . Nothing is more common in nature than for surface features of a phenomenon to be both caused by and realised in a micro-structure, and those are exactly the relationships that are exhibited by the relation of mind to brain. (Searle, 1984, pp. 22-23)

If these relationships are indeed exactly the same, then the higher-level feature of a brain-occurrence that (a) makes the brain-occurrence an instance of, for example, pain or thirst, or (b) that makes the brain-occurrence a conscious brain-occurrence in the sense of the person's having direct (reflective) awareness of it, would be an objective neurophysiological feature, as objective a feature as solidity, liquidity, or transparency.

In addition to the objective neurophysiological features (at all levels) of mental brain-occurrences, there exist as well, I take Searle's account to say, subjective neurophysiological features. These are no less neurophysiological than the objective features of mental brain-occurrences, since there is nothing else going on in our brains other than neurophysiological processes. It is because mental brain-occurrences possess subjective features, in addition to objective neurophysiological features, that Searle claims mental brain-occurrences to be "irreducibly subjective." Better, as a statement of Searle's view, is the following: There is something about mental brain-occurrences that is irreducibly subjective, in the sense that no amount of third-person description of mental brain-occurrences, at whatever level of analysis of brain-function, will include the subjective features of these mental brain-occurrences, although any objective feature that they possess can get included in this way. In time, according to Searle (1989, in press), science may develop to an advanced epistemic point where we will be able to infer with certainty that a mental brain-occurrence has certain subjective features. However, the inference will depend on an independent first-person description of properties of mental brain-occurrences. Here it is possible to contrast Searle with Freud, who gave signs of trying, or having tried, to use his account of systems of neurones to derive quality itself. This would mean that the identical qualities could be known in two ways, through scientific observation and theory, in purely objective terms, and through consciousness, in the sense of direct (reflective) awareness.

In the long quotation from Searle (in press) that I have included just below, the "aspectual shape" of a mental brain-occurrence is the particular irreducible subjective feature of mental brain-occurrences to which Searle is referring. This feature is equivalent to what other authors have called the cognitive (or intentional) content of a mental occurrence. Searle (1989) stated, "We might say that every intentional state [i.e., every mental occurrence] has a certain *aspectual shape*; and this aspectual shape is part of its identity, part of what makes it the state that it is" (p. 197). Every mental brain-occurrence has an aspectual shape in the sense that every mental brain-occurrence "represents its conditions of satisfaction under certain aspects and not others" (Searle, 1989, p. 197).

That aspectual shape is an irreducibly subjective feature of certain brain-occurrences means that

no amount of neurophysiological facts under neurophysiological descriptions constitute aspectual facts. Even if we had a perfect science of the brain, and even if such a perfect science of the brain allowed us to put a brain-o-scope on the person's skull, and see that she wanted water but not  $H_2O$  all the same there would be an inference, we would still have to have some lawlike connection that would enable us to infer from our observations of the neural architecture and neuron firings that they were realizations of the desire for the water and not of the desire for  $H_2O$ . (Searle, in press)

In contrast to the potential objective approach to Freud's qualities, an approach that is fundamentally the same as the scientific approach to all objective properties, the discovery of the lawlike connections that Searle mentioned would require a first-person characterization of the subjective features. Therefore, aspectual shape, as understood by Searle, is not the sort of property that our thoroughly objective psychologist can countenance as a property for science to investigate.

### *The Objective Science Objection*

Let me now continue with the objective psychologist's objection:

Scientific investigation will address *only* whatever in the world is objective. Whatever is subjective *either does not exist or cannot be treated of scientifically*. This includes fire-breathing dragons and Searle's aspectual shapes, though perhaps not Freud's qualities. The irreducibly subjective features of mental brain-occurrences may amount to facts *outside the purview* of science, facts that science *cannot* describe or explain. More than that, mental brain-occurrences can be described and explained scientifically *without any reference at all* to any irreducible subjective features or even to the fact, if it is a fact, of mental brain-occurrences' possessing irreducible subjectivity. Science can fully grasp the causal roles of mental brain-occurrences entirely from a third-person, objective perspective. Any existing subjective features *make no difference* – unless these features are in fact objective features known as well “from the inside.” Relative to all truly subjective properties, there is what Bergmann (1956) called “physical closure” and explained as follows: “Men's bodies with all their stuffings, including of course their central nervous system, are part of the physical universe, and . . . the physical universe is causally closed under laws none of which ever mentions anything mental” (p. 267; Natsoulas, 1984b). For Bergmann's last word substitute “subjective”; that is, one does not need to adopt Bergmann's psychophysiological parallelism (according to which mental occurrences are distinct particulars from all physical occurrences) in order to see the correctness of his principle of physical closure with regard to all irreducibly subjective properties.

Now, science might come to countenance irreducible subjective features, but there would have to be *overwhelming* evidence of their causal influence. Somehow, it would have to be shown that such properties themselves make a difference in how the brain-occurrences possessing them behave in psychological functioning, in the determination of other mental occurrences, bodily processes, or behaviors. Moreover, it must be demonstrated that it is *impossible* to explain this difference that a subjective feature makes in terms of purely objective properties of the same processes. *Science must maintain its purely objective posture unless facts force science to behave otherwise.*

Note that the completely third-person account of psychological functioning would include the causal roles of all kinds of mental brain-occurrences.

While those mental brain-occurrences possessing irreducible subjectivity would not be describable fully from the third-person perspective, they would be partially describable in terms of their objective neurophysiological features, including those of their objective neurophysiological features that distinguish mental brain-occurrences from the nonmental brain-occurrences. What a purely third-person account would perforce exclude are only the irreducibly subjective features.

Note also that the last paragraph of my objective psychologist's statement may attribute too liberal a view to the great majority of scientists who are committed to objectivity. I believe that they would prefer (a) to leave matters unexplained, on the assumption that a suitable explanation will be forthcoming, rather than (b) to expand the conceptual range of science to include what can only be conceived of in first-person, subjective terms. That is, in these scientists' committed view, no facts could force science to be conceptually anything else but always and consistently objective through and through.

#### *How Searle Would Reply*

Searle would reply to the objective science objection as he has already stated: "If the fact of subjectivity runs counter to a certain definition of 'science,' then it is the definition and not the fact which we will have to abandon" (Searle, 1984, p. 25). Searle's point was that we *already know* that our mental brain-occurrences possess subjective features. For example, we know firsthand that they have aspectual shapes and qualitative contents. If objective science has not and will not mention the subjective features of mental brain-occurrences, then this is a deficiency of objective science, and not an indication that subjective features should be ignored. The case of the fire-breathing dragon is a different case of course, Searle would add. According to Searle, science must improve itself so that it can come to include ontological subjectivity — even if this improvement means scientists have to work, as well, with first-person, phenomenological concepts.

Thus, Searle is prepared to judge the scientific enterprise in light of the facts. He does not assume that only what science mentions or will mention counts as a fact. Thus, Searle would reject Sellars's (1963) principle of scientific realism: "Science is the measure of what there is, that it is, and of what there is not, that it is not" (p. 173). (Interestingly, Sellars, e.g., 1981, has himself demanded, anyway, a revision in the fundamental entities or processes of physical science, no less, in order that occurrent pinkness and the like be included in science's image of the universe.) Searle (1984) stated, "It is a persistent mistake to try to define 'science' in terms of certain features of existing scientific theories. But once this provincialism is perceived to be the prejudice

it is, then any domain of facts whatever is a subject of systematic investigation" (p. 25).

However, Searle's proposal does not end with the fact of subjectivity, or that there are subjective features of mental brain-occurrences. He also claims that the subjective side of these neurophysiological occurrences is not objectively describable. For example, the aspectual shape of a mental brain-occurrence can only be known either from the first-person perspective or by inference to how it seems from the first-person perspective:

Since the neurophysiological facts are always causally sufficient for any set of mental facts someone with perfect causal knowledge might be able to make the inference from the neurophysiological to the intentional at least in those few cases where there is a law-like connection between the facts specified in neural terms and the facts specified in intentional terms. But even in these cases, if there are any, there is still an *inference*, and the specification of the neurophysiological in neurophysiological terms is not yet specification of the intentional. (Searle, in press)

"The facts specified in neural terms" and "the facts specified in intentional terms" *are not* the same facts specified in different terms. The inference would be from one set of facts to a different set of facts.

### *Ontological Subjectivity Abandoned?*

Searle (1989) importantly distinguished between (a) what we know (ontology and causation) and (b) how we know what we know (epistemology). And he rightly suggested that behaviorism systematically confused the answers to these two questions: "We find out about mental states by observing behavior, so mental states just consist in behavior and dispositions to behavior" (p. 195). Is Searle displaying an analogous confusion when he claims that certain properties of mental brain-occurrences that we apprehend directly are *irreducibly* subjective? According to Searle, the mode of existence of the irreducibly subjective properties is not, it would seem, simply as properties of mental brain-occurrences; rather, they are properties knowable *only* by direct (reflective) awareness (and by inference depending on such knowledge). As Searle (1989, p. 207) stated about consciousness at one point, he would also state about irreducibly subjective neurophysiological features: *the only reality of these features is their appearance*. Irreducibly subjective features (a) are only as they appear to the person, (b) appear to the person only as they are, and (c) have a reality that is not a separate existence from their appearance to the person. In the concluding main section of the present article, I shall return to this understanding of Searle and suggest that he has abandoned ontological subjectivity by theoretically turning it into something purely appearential, just like a hallucinated fire-breathing dragon.

## The Ontology of Consciousness

According to Searle, consciousness, or direct (reflective) awareness, is not a distinct behavioral or neurophysiological occurrence; consciousness is not distinct from the mental brain-occurrence of which its owner is directly (reflectively) aware. In Searle, as in Freud, direct (reflective) awareness of a mental brain-occurrence is an intrinsic property of the mental brain-occurrence itself. In Freud, as perhaps in Searle, direct (reflective) awareness is one of the following four dimensions which together comprise the single property of intrinsic consciousness, the property possessed only by the mental brain-occurrences of the perception-consciousness system.

### *Freud's Property of Intrinsic Consciousness*

1. *Cognitive (or intentional) content.* This is the dimension of conscious mental brain-occurrences that Searle calls their "aspectual shape." According to Freud, both nonconscious mental brain-occurrences and conscious mental brain-occurrences individually possess aspectual shape. Therefore, nonconscious mental brain-occurrences are instances of consciousness in a different sense, that is, consciousness qua awareness (see Natsoulas, 1983, pp. 29–35; and Natsoulas, 1986–1987, pp. 298–302, which is a section entitled "Consciousness: The Cognitive Meaning"). The occurrence of either a conscious mental brain-occurrence or a nonconscious mental brain-occurrence makes its owner, according to Freud, aware of or as of something; all mental brain-occurrences "have an actual or apparent intentional object" (Natsoulas, 1990c, p. 30, Note 1). Intrinsic consciousness includes this feature of intentionality, but so do all mental brain-occurrences partake of this feature. (Contrast Freud with Searle, in press:

In our skulls there is just the brain with all its intricacy, and consciousness with all its color and variety. The brain produces the conscious states which are occurring in you and me right now, and it has the capacity to produce lots more which are not occurring. But that is it. Where the mind is concerned that is the end of the story. There are brute, blind neurophysiological processes and there is consciousness; but there is nothing else. If we are looking for phenomena which are intrinsically important but inaccessible in principle to consciousness there is nothing there.)

2. *Presence to consciousness.* The second dimension of Freud's property of intrinsic consciousness is the qualitative presence, qualitiveness, or qualitative content, of each conscious mental brain-occurrence. I have already, earlier in the present article, quoted statements from Freud (1895/1964, p. 308), Searle (1989, p. 201), and Smith (1989, pp. 95 and 97–98) about this dimension (see above subsection "Freud's 'Subjective Side'"). Let me add a further such statement from another author. Although this author speaks of subjec-

tivity, he means qualitative content. Having just identified the intentionality of a mental occurrence with its "thought-content," Wollheim (1984) stated,

The best way of isolating subjectivity is for us to take a mental state that has intentionality – or, if we think that all mental states have intentionality, then to take one that indubitably has it – and then to ask ourselves whether there could be a mental state that had the same total thought-content, or the same thought-content no matter to what degree this is specified, but that seemed somehow different. So, seeing the eucalyptus trees bending in the wind, we ask ourselves whether we could see just what we currently think we are seeing but do so through having a different kind of experience. Or, in pain, we ask ourselves whether we could be in just the same amount of pain, locatable in just the same part of the body, and it could feel unlike the way it currently does (p. 39)

3. *Direct (reflective) awareness.* This dimension of Freud's property of intrinsic consciousness, all alone, is often called consciousness (e.g., Natsoulas, 1990c), but it is only one dimension of the "package" that Freud considered to be the unitary property of intrinsic consciousness belonging to each conscious mental brain-occurrence, the intrinsic property that distinguishes conscious mental brain-occurrences from nonconscious mental brain-occurrences. In its cognitive content, a conscious mental brain-occurrence includes reference to its own occurrence, to its qualitative dimension, and to its cognitive content. Consistently, Smith (1989) offered the following first-person report as a report of the cognitive content of a certain conscious visual perceptual experience: "Phenomenally in this very experience I see this wriggling snake" (p. 103).

4. *Tertiary consciousness.* Repeatedly, Freud insisted that a consciousness of which its owner has no direct (reflective) awareness is not a consciousness worth considering. Thus, Freud opposed the idea that nonconscious mental brain-occurrences might include unwitting direct (reflective) awareness of themselves, while the person did not know that he or she was aware of them. I have called this higher-level dimension of intrinsic consciousness "tertiary consciousness" to distinguish it from (a) consciousness qua awareness of or as of something else (primary consciousness) and (b) consciousness qua direct (reflective) awareness (secondary consciousness; Natsoulas 1989a). Suppose that in having a certain mental brain-occurrence, one were simply directly (reflectively) aware of its occurrence; this would be analogous to being, in a particular instance, perceptually aware of the sun absent any apprehension of being so aware. Perhaps, pace both Freud and Searle, this is a very common occurrence both with respect to environmental things and with respect to mental brain-occurrences. However, notice that, in such a case, one is not in a position to report on one's seeing the sun or on one's taking notice of a mental brain-occurrence, since one does not apprehend having those awarenesses. That is, one would not grasp, at those times, that one was conscious in those ways. In the visual perceptual instance there would be an absence

of secondary consciousness; in the analogous case relevant to the present dimension of intrinsic consciousness, there would be an absence of tertiary consciousness.

### *The Same Conception?*

Freud's conception of intrinsic consciousness, as comprised of the above four dimensions, may be, as well, Searle's underlying conception of consciousness. According to Searle (1989, in press) (a) all mental brain-occurrences are conscious and possess aspectual shape. (b) All of them would seem to be qualitative as well; see Searle's (1989, p. 201) comment quoted above. Moreover, (c) consciousness is intrinsic; this is clear from Searle's (1989) insistence that one cannot subtract the consciousness from a mental brain-occurrence and still have the mental brain-occurrence left over. Also, he stated emphatically that how the aspectual shape of a mental brain-occurrence seems to the agent (i.e., how it seems immediately, nonobservationally, noninferentially) is essential to its identity. Thus, this firsthand seeming would be intrinsic to the mental brain-occurrence; it would not be an appendage to the mental brain-occurrence, an appendage that could be separated from the latter. (See Natsoulas, 1990c, on appendage theories of consciousness.) This is entirely consistent with my previous interpretation, elsewhere, of Searle's (1983) account of the aspectual shape (intentional content) of perceptual experiences. Recently, I discussed this account as well as Smith's (1984) similar view. From several pages of discussion ("Are All Visual Experiences Self-Referential?"), let me quote just one paragraph that brings out the relevant aspect of Searle's account:

The purported self-referentiality [of all perceptual experiences] follows from what [according to Searle, 1983] it takes for a perceptual experience to be veridical. Searle's assumption was that the conditions necessary to satisfy (make veridical) a perceptual experience are all included [i.e., referred to] in its content. That is, having any perceptual experience, one experiences whatever makes or would make the experience veridical. Included in a perceptual experience's "conditions of satisfaction" is that the experience be caused by its intentional object in the environment or body. Therefore, perceptual experience is always "causally self-referential," by taking itself to be an effect of its actual or apparent [in nonveridical cases] intentional object. That is, one experiences, in having the experience, a causal relation between the experience and its actual or apparent intentional object. (Natsoulas, 1990b, pp. 19-20; cf. Natsoulas, 1984a)

The only part of this discussion that I need here is Searle's inclusion of the perceiver's direct (reflective) awareness of perceptual experience in the particular perceptual experience itself, and his view that all perceptual experiences have this consciousness feature.

*The Objectivity of Searle's Direct (reflective) Awareness*

For Searle (1989, in press), any instance of any mental brain-occurrence includes bodily, in all instances of its occurrence, a dimension or property that makes the owner of the instance immediately aware of its aspectual shape (and qualitative content, at least). This shows just how central for Searle (in press) consciousness is when he states, "We have neglected the centrality of consciousness to the study of the mind." There are no instances of mentality without the presence of consciousness qua direct (reflective) awareness in those very instances. Moreover, this consciousness dimension would seem to be, interpreting Searle, an objective neurophysiological feature of the individual instance – though that of which the person is thereby given immediate awareness may be, according to Searle, a subjective neurophysiological feature of that instance.

How are we aware of irreducibly subjective features of our mental brain-occurrences? Searle's answer to this question, must it not be that certain objective neurophysiological features of a mental brain-occurrence make such awareness possible, specifically, such occurrences' objective mode of being direct (reflective) awarenesses of themselves? If mental brain-occurrences are, as Searle (1989) stated, "higher-level features of neurophysiological systems," they must be objectively scientifically discriminable with respect to the kind of mental brain-occurrence each of them is. That is, their being a thought, a wish, a visual experience, or another kind of mental brain-occurrence would be a matter of their possessing certain distinctive objective neurophysiological features. I believe that the same must apply, within Searle's thought, to their dimension of direct (reflective) awareness. Answering the question of how consciousness is possible, Searle (1987b) stated,

We do not yet fully understand the processes, but we understand the *character* of the processes, we understand that there are certain specific electrochemical processes going on in the relations among neurons or neuron-modules and perhaps other features of the brain, and that these processes are causally responsible for the phenomenon of consciousness. (p. 225)

The causality mentioned in the last clause is, as it were, inner causality; that is, this causality takes place within a mental brain-occurrence, the individual neural impulses that constitute the occurrence causing to exist the higher-order properties of the occurrence, by virtue of how a large number of these neural impulses combine to form a unified, organized, repeatable spatio-temporal pattern of activity. A mental brain-occurrence is mental due to its possessing certain higher-order properties, and among these properties is the property of consciousness qua direct (reflective) awareness.

A further reason to consider consciousness an objective neurophysiological

feature according to Searle – though ontological subjectivity is for him an irreducibly subjective neurophysiological feature – is how, at one point, Searle (1987b) spoke of the two together, consciousness and subjectivity. In a subsection entitled “Subjectivity,” he brought in consciousness (direct, reflective awareness) as follows:

My present state of consciousness [i.e., my present mental brain-occurrence of which I am directly (reflectively) aware] is a feature of my brain and in consequence is accessible to me in a way that it is not accessible to you, and your present state of consciousness is a feature of your brain and is accessible to you in a way that is not accessible to me. Thus the existence of subjectivity is an objective physical fact of biology. (p. 226)

Accordingly, would not the existence of subjectivity be explained in terms of the objective facts of direct (reflective) awareness, that is, those objective higher-order features of mental brain-occurrences that constitute consciousness, or the person’s direct (reflective) awareness of them? A mental brain-occurrence’s ability to give to its owner direct (reflective) awareness of itself depends on the mental brain-occurrence’s possessing certain objective features. (This is very clear in Freud because qualities are what consciousness gives to us and consciousness does not exist in the absence of qualities; moreover, Freud explicitly stated that no effect of a mental brain-occurrence is necessary in order for the mental brain-occurrence to be conscious; see Natsoulas, 1984a, pp. 204–205.)

Those objective neurophysiological features of a mental brain-occurrence responsible for giving direct (reflective) awareness of it would be among the features that distinguish mental brain-occurrences from similar nonmental brain-occurrences. Perhaps these resembling though nonmental brain-occurrences are individually the most proximate causes (from within the psychical apparatus but outside the perception-consciousness system) of corresponding conscious mental brain-occurrences. These nonmental brain-occurrences would be analogous to Freud’s (nonqualitative) preconscious mental brain-occurrences – except that the former could not have aspectual shape given Searle’s consciousness requirement for aspectual shape. Searle (in press) stated, “When we describe something as an unconscious intentional state we are characterizing an objective *ontology* in virtue of its *causal* capacity to produce consciousness.” To produce consciousness means for Searle to produce mental brain-occurrences that by their occurrence give to their owner direct (reflective) awareness of themselves.

### Aspectual Shape and Subjectivity

If, as Searle (in press) stated, “The neurophysiological facts are always causally sufficient for any set of mental facts,” then the irreducibly subjective features

of mental brain-occurrences must be due causally to these occurrences' objective neurophysiological features. However, the following question then arises: When a person undergoes a particular instance of a mental brain-occurrence and describes it "from the inside," why does Searle insist that the person is describing (a) subjective effects of the mental brain-occurrence's objective neurophysiological features, rather than (b) some of these objective neurophysiological features themselves, those particular ones which, he holds, cause the irreducibly subjective effects? Would Searle contend that we know firsthand that what we apprehend by direct (reflective) awareness are not objective neurophysiological features, just as Bergmann insisted that we have direct (reflective) awareness of mental particulars as mental, that is, of their nonphysical nature (Natsoulas, 1984b, p. 55)? Is it just an obvious fact that what we have direct (reflective) awareness of are irreducibly subjective features of our mental brain-occurrences, features that are not describable from a purely objective perspective?

Searle did not so argue. It is rather, how aspectual shape can be known and cannot be known that led Searle to the distinction, which I have attributed to him throughout the present article, between irreducible subjective neurophysiological features and objective neurophysiological features. In Searle's view, insofar as science uses only concepts having purely third-person reference to the individual, to his or her behavior, and to his or her neurophysiological processes, science cannot describe the aspectual shapes of mental brain-occurrences. Searle (in press) stated,

There is no way just from the behavior to determine whether the person means by "H<sub>2</sub>O" what I mean by "H<sub>2</sub>O" and whether the person means by "water" what I mean by "water." No amount of behavioral facts constitute the fact that the person represents the conditions of satisfaction under one aspect and not the other. This is not an epistemic point. It is equally true, though less obvious, that no amount of neurophysiological facts under neurophysiological descriptions constitute aspectual facts . . . [though] neurophysiological facts are always causally sufficient for any set of mental facts.

The irreducibly subjective features (including aspectual shapes) of mental brain-occurrences are permanently occluded relative to the third-person perspective. That is, in the case of irreducibly subjective features, a certain ontological situation exists that is the reverse of an ontological situation that exists according to Freud's conception of all those mental brain-occurrences that take place outside the perception-consciousness system. Although these nonconscious mental brain-occurrences take place in the same psychical apparatus as the conscious mental brain-occurrences, and although they, too, are instances of, for example, the person's wishing or thinking, the nonconscious mental brain-occurrences are so constituted anatomically and physiologically that they are necessarily hidden from their owner's privileged, first-person apprehension of his or her mental life. This ontological situation

is not subject to change; no amount of personal effort, learning, training, and conditioning can alter the biological facts of the matter in this case, since they are facts of how nonconscious mental brain-occurrences are constituted. Clearly, this is not a mere epistemic point. The reason that Freud's nonconscious mental brain-occurrences are unknowable "from the inside" is because they are constituted (without the kind of neurone that gives qualities) in such a way that in this sense of "from the inside" they have no inside. That is, they have no subjective side, as do the mental brain-occurrences of the perception-consciousness system. All properties of preconscious and unconscious mental brain-occurrences can only be known from a third-person, objective perspective. This includes, of course, their aspectual shapes, according to Freud.

According to Searle and with regard to aspectual shape, the ontological situation is the reverse of what I have just described for Freud's nonconscious mental brain-occurrences. In Searle's view, all mental brain-occurrences are so constituted that they are all of them conscious and have certain (subjective) neurophysiological features that, in principle, cannot be apprehended except by direct (reflective) awareness and by thought and memory based on such awareness. It does not matter how advanced scientific instrumentation may become, there is no way in which to observe the subjective neurophysiological features, to measure them, or even to describe them from a purely third-person perspective. Searle stated that an irreducibly subjective feature such as aspectual shape may be inferred in some instances from objective evidence but this is not a specification of aspectual shape (the intentional) in objective, neurophysiological terms. Aspectual shape, or any irreducibly subjective feature of a mental brain-occurrence, cannot amount ontologically to a set of third-person facts. This is not a mere epistemic point about aspectual shape because the knowability of aspectual shape from only the first-person perspective is, according to Searle, a fact about the very nature of aspectual shape.

*Searle's Irreducibly Subjective Neurophysiological Features: Are They Purely Apparential?*

According to Freud (though not according to Searle), there take place in our brains certain (nonconscious) mental occurrences whose nature it is for all their properties to be occluded from subjective, first-person vision. According to Searle (though not according to Freud as I have interpreted him), there take place in our brains certain occurrences whose nature it is for certain of their properties to be occluded from objective scientific vision. Searle (1989) stated,

The aspectual character is irreducibly subjective in the sense that no characterization in purely neutral third person terms will ever be sufficient to express how the aspectual character seems to the agent, but how it seems to the agent is essential to its identity. (p. 201)

The aspectual shape of a mental brain-occurrence not only seems to the agent as it is (i.e., there is veridical direct, reflective awareness of aspectual shape), but how aspectual shape seems to the agent is essential to its identity. Moreover, it would seem that, according to Searle, *how an aspectual shape seems to the agent is all that there is to that aspectual shape*. There is no further reality behind or beyond the appearance.

However, Searle would find acceptable the following statement of mine from an article of a dozen years ago:

Let us suppose that our experiences are as we take them to be. It hardly follows that they are that way only. Normally, that something is purely an appearance serves as a basis for deciding it does not exist. An existent pure appearance is more difficult to conceive than something that may seem purely an appearance but has nonetheless an objective character. Our special access to our own experiences does not require that they cannot be known otherwise as well (e.g., by instrumental observation). . . . Where does [the] conviction come from that there is nothing more to [one's] experience than how it seems to [one]? (Natsoulas, 1978, pp. 275-276)

Searle would agree with my statement since, in his view too, experiences are mental brain-occurrences. Obviously, he does not hold that all properties of mental brain-occurrences are irreducibly subjective.

But Searle is suggesting, I believe, that mental brain-occurrences possess both objective neurophysiological features and certain other features (e.g., aspectual shape) that are *purely appearential*. As stated, Searle rejects the view that there are two ways, inner and outer, of knowing the subjective features of neurophysiological processes (the view that I have attributed to Freud). I believe that, if we follow Searle, we must conclude that direct (reflective) awareness produces a kind of illusion insofar as it makes us aware of irreducibly subjective features. Searle's account of ontological subjectivity regrettably implies a strong analogy between (a) someone's having direct (reflective) awareness of the aspectual shape of a mental brain-occurrence and (b) someone's having a hallucinatory awareness of a fire-breathing dragon or, another example, someone's veridically seeing a certain person but as though the person is wearing a mask over his or her face.

No amount of objective facts concerning a hallucinatory person's behavior, neurophysiological processes, or environment would constitute a fire-breathing dragon. How a fire-breathing dragon seems to the agent is essential to its identity, if we can speak of the identity of something irreducibly subjective and purely appearential. A fire-breathing dragon's appearance and its reality are not distinct existences. It appears as it is, and it is as it appears. There is no more to a fire-breathing dragon than its appearing to an agent. A fire-breathing dragon only seems to exist, and no objective science could ever manage to observe, measure, and describe its ontological properties because a fire-breathing dragon has no ontological properties. A fire-breathing dragon

would not acquire ontological properties if we succeeded someday in stimulating with electrodes the brains of a large experimental group of scientists in such a way that every one of these scientists simultaneously hallucinated a fire-breathing dragon. Such a "scientific consensus" would not bestow an ontology on any fire-breathing dragon, either as a constituent of the physical environment or as a property of a certain kind of mental brain-occurrence. The only reality, if we want to call it that, ever possessed by a fire-breathing dragon is the seeming reality of its seeming to someone to exist. A fire-breathing dragon has no reality apart from its appearing; there is nothing more to it than its appearing. And the objective fact of its appearing, the fact that it does appear in any instance to a person, is a property of certain mental brain-occurrences.

Surely we should not say the same about the aspectual shape of a mental brain-occurrence as we rightly say about the ontology of hallucinated fire-breathing dragons. Rather, we should say, as I stated early in the present article, that the subjectivity belonging to certain mental brain-occurrences is an ontological subjectivity, not a merely phenomenal subjectivity; whereas the subjectivity of hallucinated fire-breathing dragons is purely phenomenal, not ontological. Whereas fire-breathing dragons only seem to exist, aspectual shape and other subjective neurophysiological features both seem to exist and do exist. In their different ways, the person and the scientist qua objective scientist are both in a position (or will be in the case of the objective scientist) to apprehend aspectual shape.

#### *Aspectual Shape without Consciousness*

Searle's (1989, in press) account of the psychical apparatus leads us to equate the subjectivity of aspectual shape with the subjectivity of a hallucinated fire-breathing dragon. However, if aspectual shape were actually an objective neurophysiological feature (i.e., a reducible subjective neurophysiological feature, such as Sperry's, 1969, 1970, 1976, higher-order mental properties of certain molar brain-occurrences), then it may be possible to determine the presence of aspectual shape as a feature of brain-occurrences to which their owner has no direct (reflective) awareness. These brain-occurrences would include Freud's nonconscious mental brain-occurrences, to which Freud of course attributed aspectual shapes. Judging from how Searle has so far developed his account of the psychical apparatus, Searle will continue to oppose the existence of nonconscious mental brain-occurrences. Although the consideration expressed in the preceding subsection may possibly move Searle to give up irreducibly subjective neurophysiological features, he will doubtfully continue to argue in favor of a consciousness requirement for aspectual shape. (Searle, 1989, p. 199: "This aspectual feature must matter to the agent. It must

exist from his/her point of view.") That is, though aspectual shape be an objective neurophysiological feature, it cannot belong to any instance of a mental brain-occurrence except as a subjective neurophysiological feature, in the sense that its owner must be directly (reflectively) aware of the aspectual shape of the instance as it occurs. So Searle will hold. Analogously to Freud's property of intrinsic consciousness which has four dimensions, Searle's property of intrinsic intentionality has at least two dimensions, aspectual shape and direct (reflective) awareness of it.

Searle's grounds for this combined property of intentionality and consciousness would be as he expressed with regard to the possible existence of a totally unconscious intentional zombie (Searle, in press). Such an individual (impossible for Searle) would have mental brain-occurrences (with aspectual shapes necessarily, since the brain-occurrences are mental) but the zombie would not have direct (reflective) awareness of any of them. Searle rejected the possible existence of such a creature on the grounds (a) that the creature's allegedly mental brain-occurrences could not have aspectual shapes, (b) since there could be no fact of the matter regarding these brain-occurrences' aspectual shapes, (c) since we could not determine, from a third-person perspective, what the exact aspectual shapes were of the hypothetical creature's allegedly mental brain-occurrences. Let me spell out a little Searle's reasoning. Searle (in press) stated, "For a zombie, unlike a conscious agent, there simply is no fact of the matter as to exactly which aspectual shapes its alleged intentional states have." And if there is no fact of the matter about aspectual shape, as there would be a fact of the matter if the zombie had conscious mental brain-occurrences, then there is no aspectual shape and no intentionality in this case. Searle's reason for holding that there is no fact of the matter about aspectual shape in this case is because all the information that we could acquire about the creature would not constitute the alleged aspectual facts. What these facts are would be underdetermined by all the possible objective facts. If we cannot know the exact aspectual shapes of a zombie's allegedly mental brain-occurrences, there is no fact of the matter about aspectual shape and no aspectual shape, according to Searle following W.V. Quine. And so there cannot be a nonconscious intentional zombie. Nor can there be a nonconscious intentional part of the psychical apparatus, as many present-day psychologists and cognitive scientists hold and as Freud famously held.

### *Bohm's Qualitative Infinity of Nature*

That which led Searle to postulate irreducibly subjective neurophysiological features, I shall suggest, did not have to lead him so. For Searle, the crucial consideration seems to have been that all third-person evidence will underdetermine what the aspectual shape of a mental brain-occurrence is. (Though

he added that even if we knew in some cases the exact aspectual shape of a mental brain-occurrence by using third-person information, we would know this aspectual shape on the basis of an inference to the first-person perspective.) Even should Searle come to accept that there is a purely objective perspective possible on aspectual shape, Searle would insist that third-person access to aspectual shape is inferior to first-person access, underdetermining what is known from the latter perspective. With first-person access, we get right inside a mental brain-occurrence, in a sense, and know it intimately and concretely, not in terms of the relatively abstract objective concepts of the third-person perspective. Inner access is such that the owner of a conscious mental brain-occurrence can distinguish different aspectual shapes whenever they are judged from the third-person perspective to be the same. As Searle (1989) stated, "No amount of purely third-person behavioral [and neurophysiological] evidence is sufficient to entail all of the aspectual features of intentional states" (p. 200).

But this fact of the matter can be explained without concluding from objective underdetermination of aspectual shape either (a) to the absence of aspectual shape in those cases where there is no first-person perspective relative to a mental brain-occurrence or (b) to the presence of aspectual shape as an irreducibly subjective feature of conscious mental brain-occurrences. Of greatest use to me at this point is an argument that I made in an earlier article on ontological subjectivity, an argument that begins with Bohm's (1957) proposed "qualitative infinity of nature":

We assume that the world as a whole is objectively real, and that, as far as we know, it has a precisely describable and analysable structure of unlimited complexity. This structure must be understood with the aid of a series of progressively more fundamental, more extensive, and more accurate concepts, which series will furnish, so to speak, a better and better set of views of the infinite structure of objective reality. We should, however, never expect to obtain a complete theory of the structure, because there are certainly more elements in it than we can possibly be aware of at any particular stage of scientific development. However, any specified element can in principle ultimately be discovered, but never all of them. (p. 100; cf. Bohm, 1965, p. 228)

I emphasized in my previous article that our experiences, too, are occurrences in the physical world as Bohm described it. Accordingly, experiences, too, partake of the physical world's unlimited complexity, or infinite structure. And this may explain, I suggested, the "inexhaustible fullness of intuition" on which phenomenologists have insisted. Our familiarity (though not under that name) with what they mean may account for our common doubts about the ability of objective science to grasp cognitively our very experiences.

Our experiences are the part of the universe that we encounter most concretely, and not surprisingly if Bohm is correct, we find our experiences to allow endless discriminations among them. I concluded my argument with the following two paragraphs:

No two experiences ever are the same in all their properties, just as no two pebbles ever are. This surely is a safe assumption to make. As subjects, we may always be in a position therefore to distinguish experiences which are the same according to the latest scientific understanding. In an inexhaustible world, differences between experiences may continue to be detected without end. This possibility follows once experiences are included in the claim that no part of the world can be described fully.

The inaccessibility of another's experiences due to the relative crudity of our knowledge systems would not be special to experiences in the kind of world that Bohm has argued our world is. Limited accessibility would characterize *anything* that we tried to describe fully. Needless to say, this would apply equally to nervous systems. They would partake of the identical inexhaustible fullness said to characterize our experiences. (Natsoulas, 1978, p. 275)

### References

- Bergmann, G. (1956). The contribution of John B. Watson. *Psychological Review*, 63, 265-276.
- Bohm, D. (1957). *Causality and chance in modern physics*. London, England: Routledge and Kegan Paul.
- Bohm, D. (1965). *The special theory of relativity*. New York: Benjamin.
- Freud, S. (1964). Project for a scientific psychology. *Standard edition* (Vol. 1, pp. 281-397). London, England: Hogarth. (Composed in 1895)
- Hebb, D.O. (1974). What psychology is about. *American Psychologist*, 29, 71-79.
- Laplanche, J., and Pontalis, J.-B. (1973). *The language of psycho-analysis*. London, England: Hogarth.
- Nagel, T. (1974). Freud's anthropomorphism. In R. Wollheim (Ed.), *Freud* (pp. 11-24). Garden City, New York: Anchor/Doubleday.
- Natsoulas, T. (1978). Residual subjectivity. *American Psychologist*, 33, 269-283.
- Natsoulas, T. (1983). Concepts of consciousness. *The Journal of Mind and Behavior*, 4, 13-59.
- Natsoulas, T. (1984a). Freud and consciousness: I. Intrinsic consciousness. *Psychoanalysis and Contemporary Thought*, 7, 195-232.
- Natsoulas, T. (1984b). Gustav Bergmann's psychophysiological parallelism. *Behaviorism*, 12(1), 41-69.
- Natsoulas, T. (1985a). An introduction to the perceptual kind of conception of direct (reflective) consciousness. *The Journal of Mind and Behavior*, 6, 333-356.
- Natsoulas, T. (1985b). Freud and consciousness: II. Derived consciousness. *Psychoanalysis and Contemporary Thought*, 8, 183-220.
- Natsoulas, T. (1986-1987). The six basic concepts of consciousness and William James's stream of thought. *Imagination, Cognition and Personality*, 6, 289-319.
- Natsoulas, T. (1987). Roger W. Sperry's monist interactionism. *The Journal of Mind and Behavior*, 8, 1-21.
- Natsoulas, T. (1988). Sympathy, empathy, and the stream of consciousness. *Journal for the Theory of Social Behaviour*, 18, 169-196.
- Natsoulas, T. (1989a). Freud and consciousness: III. The importance of tertiary consciousness. *Psychoanalysis and Contemporary Thought*, 12, 97-123.
- Natsoulas, T. (1989b). Freud and consciousness: IV. A propaedeutic for functions of consciousness in hypercatheted speech-imagery. *Psychoanalysis and Contemporary Thought*, 12, 619-662.
- Natsoulas, T. (1989c). From visual sensations to the seen-now and the seen-from-here. *Psychological Research*, 51, 87-92.
- Natsoulas, T. (1990a). *Freud and consciousness: VI. A present-day perspective*. Davis, California: UCD Psychology Department.
- Natsoulas, T. (1990b). Reflective seeing: An exploration in the company of Edmund Husserl and James J. Gibson. *Journal of Phenomenological Psychology*, 21, 1-31.
- Natsoulas, T. (1990c). *What is wrong with appendage theory of consciousness*. Davis, California: UCD Psychology Department.
- Natsoulas, T. (in press). Freud and consciousness: V. Emotions and feelings. *Psychoanalysis and Contemporary Thought*.

- Searle, J.R. (1980a). Intrinsic intentionality. *The Behavioral and Brain Sciences*, 3, 450-457.
- Searle, J.R. (1980b). Mind, brains, and programs. *The Behavioral and Brain Sciences*, 3, 417-457.
- Searle, J.R. (1983). *Intentionality*. Cambridge, England: Cambridge University Press.
- Searle, J.R. (1984). *Minds, brains and science*. Cambridge, Massachusetts: Harvard University Press.
- Searle, J.R. (1987a). Indeterminacy, empiricism, and the first person. *The Journal of Philosophy*, 84, 123-146.
- Searle, J.R. (1987b). Minds and brains without programs. In C. Blakemore and S. Greenfield (Eds.), *Mindwaves* (pp. 209-233). Oxford, England: Blackwell.
- Searle, J.R. (1989). Consciousness, unconsciousness, and intentionality. *Philosophical Topics*, 17, 193-209.
- Searle, J.R. (1990). Is the brain's mind a computer program? *Scientific American*, 262(1), 26-31.
- Searle, J.R. (in press). Consciousness, explanatory inversion, and cognitive science. *The Behavioral and Brain Sciences*.
- Sellars, W. (1963). *Science, perception and reality*. London, England: Routledge and Kegan Paul.
- Sellars, W. (1981). Foundations for a metaphysics of pure process. *The Monist*, 64, 3-90.
- Smith, D.W. (1984). Content and context of perception. *Synthese*, 61, 61-87.
- Smith, D.W. (1986). The structure of (self-)consciousness. *Topoi*, 5, 149-156.
- Smith, D.W. (1989). *The circle of acquaintance*. Dordrecht, Netherlands: Kluwer.
- Solomon, R. (1974). In R. Wollheim (Ed.), *Freud* (pp. 25-52). Garden City, New York: Anchor/Doubleday.
- Sperry, R.W. (1969). A modified concept of consciousness. *Psychological Review*, 76, 532-536.
- Sperry, R.W. (1970). An objective approach to subjective experience: Further explanation of a hypothesis. *Psychological Review*, 77, 585-590.
- Sperry, R.W. (1976). Mental phenomena as causal determinants of brain function. In G.G. Globus, G. Maxwell, and I. Savodnik (Eds.), *Consciousness and the brain* (pp. 163-177). New York: Plenum.
- Wollheim, R. (1984). *The thread of life*. Cambridge, Massachusetts: Harvard University Press.