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The Importance of Being Conscious

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I argue that each function that is the topic of a main section of the present article cannot proceed without inner (second-order) consciousness. (a) The overt social action of your reporting to someone else that you now have a toothache is one such function, which cannot occur, I argue, unless you have inner (second-order) consciousness of your having the toothache; your simply having a toothache does not suffice, notwithstanding its including first-order, pain-qualitative consciousness of your tooth or part of your mouth. (b) And I argue that both your report of seeing X and your report, due to your seeing X, of X's presence in the environment must be based on your inner (second-order) consciousness of seeing X; that is, in making such reports, you need to choose which sentence to utter depending on what you have inner (second-order) consciousness of seeing; again, simply (nonconsciously) seeing X, though it includes a first-order, visual consciousness of X, does not suffice. (c) Also, your controlling your active locomotor behavior on a visual basis necessarily involves your having inner (second-order) consciousness of how, as you move, a part of the environment is transforming or changing in how you are visually experiencing it, that is, in how that part of the environment is visual-qualitatively appearing to you; simply seeing the environment and where you are in it, simply the first-order, visual consciousness involved in your seeing X, cannot suffice.

Present-day psychologists are admirable in their modesty and honesty when, often, they openly express uncertainty regarding how to locate consciousness in the pattern of human functioning. They find the following sort of questions frustrating because they cannot, as yet, give answers in which they have confidence. In what ways does it matter — to ourselves, to each other, and to our common environment — that we have consciousness? What causal roles does consciousness play? Is consciousness merely an effect of other factors, or does consciousness itself have consequences? For which functions, accomplishments, or performances, if any, is consciousness necessary? Why do we have consciousness at all? What if we did not have it, or did

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not have certain kinds, aspects, or dimensions of consciousness? For example, how would people be different if they were, in fact, "unconscious intentional zombies" (Searle, 1990). That is, what if (a) people had perceptions of, thoughts about, and desires regarding the environment and its contents, themselves inhabiting the environment, and their own and each other's behavior and other perceivable properties of people and animals, but (b) people never had any *conscious* perceptions, thoughts, or desires pertaining to these or any other matters? Which kinds, aspects, or dimensions of consciousness are essential for civilization? Would civilization be possible in the absence of consciousness (cf. Jaynes, 1976, p. 47; Natsoulas, 1984a, pp. 146–152)? Is there any part of the environment in which humans evolved, any niche on earth, where we could survive without consciousness (cf. Marcel, 1988, p. 124; Natsoulas, 1992a)? This is a small sample of the many questions about consciousness for which psychologists have not achieved adequate answers by their own lights. In this regard, they are very cognizant of their own inadequacy. They pass harsh judgment on the little progress in understanding consciousness psychology has made though the science is now well into its second century.

Evidently, at the present historical moment, there is something very humbling about an attempt to create a psychology of consciousness. Nevertheless, psychologists have lately been gathering courage and strength, and speaking more freely about a potential psychology that includes consciousness. In books, articles, commentaries, and letters, as well as in lectures, conferences, and conversations, unambiguous signs are now regularly appearing to the effect that the time has arrived for psychologists to undertake a concerted effort to provide answers to the above kinds of questions about consciousness — questions long left pending for reasons too unpleasant and tiresome to summarize here again. In speaking of a concerted effort, I do not mean to suggest psychologists' striving together to achieve agreement. Science by consensus is unsuitable for a free society. Nor is psychologists' convincing each other, or trying to win each other's support, as though for political office or gain, a good way to make progress in adapting epistemically to our complex subject matter. The opinions of others who know as little as one knows oneself about a topic cannot be a trustworthy guide to what is the case. I am afraid psychological progress will again be retarded by psychologists' joining together to place all their bets on a single horse — in this case, adopting a single approach to, or account of, consciousness in which to invest their faith and to defend against all doubts.

Instead, as we embark on this new intellectual adventure, let the psychology of consciousness range as widely and variously as its participants desire. We should not emulate our behavioristic forebears who hindered the progress of their field by insisting that their colleagues investigate the "right" problems,

use the "right" methods and concepts, and develop the "right" kinds of explanations. Currently, conservatives in various university departments across the United States are complaining publicly about demands for what they call "political correctness." But the pressures these academics find so reprehensible, these pressures against the free expression of certain ideas, are as nothing compared to what psychologists were doing to each other routinely a short time ago (cf. Hebb, 1974, p. 17; Jaynes, 1976, p. 15; Mandler, 1975, p. 229). Our behavioristic forebears did not know much about human psychology, but they arrogantly claimed to know *how everyone should proceed* when engaging in psychological science. Theirs was no small claim. They claimed a level of understanding of an important human activity (psychological science) that, had they achieved it, would be celebrated for centuries to come. And they not only "knew" what was psychologically correct; they acted on this "knowledge" in ways detrimental to our science and inimical to colleagues and students who did not agree with them. Under the banner of "good science," they behaved as unscientifically as authoritarian religious leaders do.

In contrast and opposition to the eliminative, monolithic approach, I would emphasize the need in psychology at this time for answers in the "plural," not just a single answer to each question about consciousness. As a negative model, indicating what to avoid, I have in mind a creature who merely repeats the one proper pattern of behavior corresponding to each different set of circumstances it encounters. Psychology needs a variety of alternative accounts of consciousness, which psychologists can be developing simultaneously while constantly contrasting each one with all the rest. Thus, individual psychologists may each achieve what is now rare, namely, a plural view of the part of reality which is his or her focus. From my pluralistic perspective, it is not important that answers proffered by different people explaining consciousness be mutually consistent or complementary. Taken together, competing answers may prove more enlightening at the present time (Natsoulas, 1990).

I address here several psychological functions requiring consciousness. Each function which is the topic of a main section cannot proceed absent consciousness. In each case, I argue that inner (or second-order) consciousness is an essential ingredient of the particular function. But my purpose is not to provide the last word an any question about consciousness listed above. My purpose is to make it more likely that psychologists will systematically discuss, very soon, these functions with reference to consciousness. Participating in such discussion is one useful strategy psychologists can adopt to advance us toward a general understanding of what consciousness is for (Natsoulas, 1992a). The present article could turn out to be the first in a series; I hope to do the same again, as I do here, with regard to additional

psychological phenomena, when a consciousness interpretation for them, too, comes to seem to me to be necessary or, at least, highly persuasive. In this way, I hope to do my share to strengthen the case for the importance of consciousness, though not at the expense of the truth of the matter.

This article proceeds to its main points deliberately since other relevant issues must be touched on or briefly addressed along the way. For example, the first main section includes discussion of "nonconscious consciousness." This term simply refers to *all those cases in which someone is now conscious of something in particular (as occurs, for example, in seeing a tree in the garden), yet this individual has, in this instance, no inner (second-order) consciousness, that is, no immediate apprehension of this present fact about himself or herself.* Acknowledging the frequent occurrence of such instances of nonconscious consciousness helps me to bring out why inner (second-order) consciousness is necessary in other cases.

Reporting Having Toothache/Reporting Seeing X

The two functions I address in this first main section are familiar ones from everyday life. One is *your overt social action of reporting to someone else the fact that you are now having a toothache.* Is inner (second-order) consciousness necessary, or does simply having a toothache suffice for your reporting to take place? I argue that your (sincere) report of having a toothache cannot take place unless you also have, at the time, inner (second-order) consciousness of having toothache. Perhaps it is also true that, whenever you are having a toothache (which is a psychological phenomenon that necessarily involves aching or pain), you are always and continuously conscious of having toothache. I doubt this is a fact about all humans at all times; surely, distraction from being conscious of having a toothache occurs without this state of affairs (i.e., having toothache) ceasing until you again have consciousness of it. But the present article does not address the issue of whether having a toothache occurs, as well, in the absence of inner consciousness of having a toothache (Armstrong, 1984, pp. 125–129; Malcolm, 1984, pp. 15–16; Natsoulas, 1989a, pp. 81–88).

Delius's (1981) book-length discussion of "self-awareness" brought the case of your reporting having a toothache back to my attention, and in a way, as will be seen, that makes this function especially pertinent to the present purpose. Delius proposed nothing less than *that your reporting having a toothache does not require consciousness of that which you are reporting, which is your having a toothache.* Earlier in the same book, Delius argued, as was later pertinent to his account of your reporting having a toothache, *that a person may see something without being conscious of seeing it.* The latter will seem to some psychologists a paradoxical claim to make; it calls for explanation, which I soon

provide. Explaining this claim of Delius's will also contribute to understanding what is involved in your reporting having a toothache, in addition to understanding what is involved in your reporting seeing something (henceforth, "X"; e.g., a cat on the mat). Because of the attention I give to the visual case as well, it is correct to say that this main section has a double focus.

Let me state in different words the visual thesis of Delius's stated above: *although a person who is seeing X undergoes at the time a first-order, visual consciousness of X, the person may or may not undergo "inner (second-order) consciousness" of being visually conscious of X.* Throughout, I use the two adjectives *second-order* and *inner* to distinguish the main kind of consciousness under discussion in the present article. (a) This consciousness is "second-order" as distinct, for example, from the first-order, perceptual consciousness (of X, or of an aching tooth [see later]) that is involved both in your seeing X and in your having a toothache. (b) And it is "inner" because it is direct; inner (second-order) consciousness is not a matter of your taking notice of something else (e.g., your behavior!) and inferring that, for example, you must be visually conscious of X, or pain-qualitatively conscious of a tooth.

I have no reason to object to the fully italicized statement in the preceding paragraph. I believe it to be true, though, as will emerge, the statement does not apply, at the time, to any person engaged in reporting he or she now sees X; this person must undergo the corresponding inner consciousness to so report.

Delius held, moreover, *that an inner consciousness of seeing occurs relatively infrequently under the most common conditions*, a view I contradict in the second main section; I argue Delius (1981) was wrong when he stated, "In general, in the context of everyday life and during the pursuit of practical concerns, when attending to what we visually observe, to what goes on in our field of vision, we are completely oblivious of ourselves and of our 'performing acts of seeing'" (p. 17).

Nonconscious Consciousness

Visual consciousness of X. Delius's claim is that much of the time your seeing proceeds (in my term) "nonconsciously." But this *does not* imply that instances of your seeing proceed (a) without involving the kind of (visual) experience specific to seeing, which we readily distinguish on a firsthand basis from, for example, auditory experience, gustatory experience, and pain-qualitative experience, or (b) without involving your being aware of (cognitively apprehending) X, whatever may be the environmental object of the instance of seeing. That is, whether or not a particular case of your seeing X occurs consciously in the present sense, this case involves another kind of

consciousness, namely, a first-order, visual consciousness of X; that is, *whenever you see X (whether consciously or nonconsciously) you are aware of (you cognitively apprehend) X in the visual-qualitative manner.*[1]

The kind of (visual) experience involved in seeing is highly familiar to us from the myriad instances that we have "lived" and been conscious of — though a great deal more scientific work is necessary before we know what processes are actually taking place when visual (or any) kind of experience occurs in us (Sperry, 1987). In the meantime, we can successfully indicate to each other what we are referring to in speaking of "a visual consciousness of X." I so indicate when I suggest to you that, as you shut and open your eyes purposely and repeatedly while you are looking at me, it is your visual-qualitative consciousness of me that you are conscious of as stopping and starting, again and again (cf. Hebb, 1980, p. 28; Natsoulas, 1985a, p. 349). Of course, you are also conscious of me as going out of your sight and coming back into your sight (i.e., dis-appearing and re-appearing), over and over again, but this statement too makes implicit but clear reference ("out of sight," "in sight") to your off-again and on-again visual-qualitative consciousness of me as you repeatedly shut and open your eyes. In fact, you cannot know I have just come back "into your sight" *unless you have inner (second-order) consciousness now of my visually appearing to you,* which is to be conscious now of the visual experience that is an essential dimension of your seeing me. You cannot know I have just gone "out of your sight" *unless you are conscious now that I am no longer visually appearing to you,* which is to be conscious that your visual experience of seeing me has been interrupted (cf. Natsoulas, 1992b).

When you are seeing X, you are visually conscious of X, and this first-order, perceptual consciousness intrinsically involves two of the following three dimensions. A particular case of your seeing X includes, as well, the third dimension whenever you are seeing X consciously (not nonconsciously).

1. Whenever you are visually conscious of X, you are, for one thing, having *visual experience of* X, which is for X to be visually appearing to you in the distinctive visual-qualitative manner; that is, X phenomenally looks to you in a certain specific visual way (cf. Natsoulas, 1991b). We may speak of this dimension of visual consciousness as your having a visual-qualitative apprehension of X or as your having a visual experience of X. Whenever you are seeing X, you undergo therein this kind of experience, though there is, of course, much more to the process of your seeing X than your having visual

[1]Some psychologists emphasize the fact that there occur instances of first-order, "amodal" perceptual consciousness (e.g., Michotte, Thinès, and Crabbé, 1964/1991). Some environmental properties or aspects may be perceived though they do not qualitatively appear to the perceiver. However, I argue that the perceptual consciousness you have when you are amodally conscious of something is no less qualitative; the part of the environment that contains the aspect in question does visual-qualitatively appear to you when this aspect itself does not qualitatively appear (Natsoulas, 1984b, pp. 248–251).

experience. (Moreover, there are exceptions to the rule that, in being visually conscious of X, you must have visual experience of X per se; see footnote 3.)

2. Also, if you are seeing X, you are having therein *awareness of* X, which is a kind of cognizing (conceptual) apprehension of X and of one or more of its properties. Awareness of X is a matter of bringing X under one or another identity or category heading. Note that the awareness of X that is an ingredient of your first-order, visual consciousness of X is not conceived of here as a distinct event from your respective visual-qualitative apprehension of X (see previous item). Rather, both visual experience and conceptual awareness are dimensions, qualitative and cognitive respectively, of a single occurrence, namely, of your first-order, visual consciousness of X. Consequently, we often will speak of a visual consciousness of X as a visual experience or awareness of X depending on which dimension of the particular visual consciousness of X we are emphasizing, or isolating for comment or discussion.

3. In addition, if the particular case of your seeing is one of consciously seeing X, as opposed to nonconsciously seeing X, then you are *conscious also of seeing* X. That is, just as there occurs, in your seeing X, a visual-qualitative experiential and cognitive apprehension (i.e., a first-order, visual consciousness) of X, there may occur in you, as well and at the same time, an inner (second-order) consciousness of your visual consciousness of X (which is involved any time you see X).

Needless to add, a complete scientific description of an episode of your simply (nonconsciously) seeing X or your consciously seeing X *would not* be accomplished if whatever consciousness was involved in the episode was the only part of your seeing X that was fully described. Beyond consciousness, much else goes on in your brain and body that is a part of your seeing X (cf. Gibson, 1966, 1979; Reed, 1988, 1989; Reed and Jones, 1982). Your seeing is your total process of visual perceiving, which includes as part and product of it a stream of visual consciousness in the sense I have brought out in the present subsection (Natsoulas, 1989d; cf. Hebb, 1968, p. 468).

Pressures against nonconscious consciousness. Nonconscious consciousness may be difficult for some psychologists to accept for various reasons, among them the following three.

1. Some psychologists are susceptible to one or another form of what James (1890) called "the psychologist's fallacy." Among other things, a psychologist may ascribe to a subject, relative to all of the subject's instances of consciousness, the same perspective as the psychologist's personal perspective on his or her own consciousness. That is, the subject stands to his or her instances of consciousness as the psychologist stands to the psychologist's own instances of consciousness. This may already be an overgeneralization, but the next step involves the fallacy. Since a psychologist has inner (second-order) consciousness of any instance of his or her own consciousness in which the psy-

chologist takes an immediate interest, the subject too must have inner (second-order) consciousness of all of the subject's instances of consciousness, in which the psychologist takes an interest. To have inner consciousness directed upon it is, so to speak, the natural state or condition of any instance of consciousness; this the psychologist purportedly knows firsthand, since it is the natural state or condition of all those instances of consciousness that the psychologist personally, in his or her own case, encounters. It follows, in that view, that simply to exercise the concept of a nonconscious consciousness is to fall into self-contradiction. Thus: "Nonconscious consciousness?! How could any instance of consciousness occur without its being conscious, without the subject's being conscious of it? It must have a subject, in the sense that the psychologist is the witting subject of his or her instances of consciousness, and so any instance of consciousness must be conscious."

2. Some psychologists will insist that, whatever may be true, we must protect ourselves from the appearance of self-contradiction (nonconscious consciousness!). Attitudes such as the latter result in psychologists' allowing themselves to say only whatever is safe from their colleagues' criticisms. This may be a source of pressure to deny the existence of nonconscious consciousness, though probably this pressure stems mainly from the next source below, along with the fact that the psychologist has inner (second-order) consciousness of all his or her own instances of consciousness in which the psychologist takes an on-the-spot interest.

3. There may well be a kind of verificationism at work, whether something exists being made dependent on whether it is observed or directly apprehended, ontology being conflated with epistemology. Thus: "How could an instance of consciousness exist of which its owner, who is the authority on the matter of its existence, was not conscious when it occurred? For any instance of consciousness to exist, it must manifest itself to a point of view, namely, to the point of view of the individual whose instance of consciousness it is. A purported instance of consciousness that does not manifest itself to its owner is actually something else, if it exists at all."

Agreement with Delius. But adoptinq such a position — that is, no nonconscious consciousness — would entail having to subscribe to either (a) the proposition that very young children do not undergo instances of first-order consciousness, such as the instances of first-order, visual consciousness that occur as part and product of (what Gibson [1979] called) the "psychosomatic" activity of visual perceiving (seeing), or (b) the proposition that very young children, too, have inner (second-order) consciousness of every one of their instances of consciousness, every case of their being conscious of anything.

My own view stands in contrast to both of these alternatives. I agree with Delius on the particular point that nonconscious instances of consciousness do occur, although I do not believe they occur at the same high frequency as

Delius clearly implied (see second major section below). A high relative frequency of nonconscious instances of seeing should be discovered in very young children, as well as in currently distracted human adults who are looking at something while absorbed in their own thoughts.

I agree with Delius that the clause "nonconscious instances of consciousness occur," though it may be arresting, is not self-contradictory (cf. Brentano, 1911/1973, pp. 102f.). All the clause means is *that some instances of consciousness, some instances of being conscious of something else, are not themselves, too, objects of inner (second-order) consciousness, whereas others are.* There can be consciousness of something (e.g., the first-order, visual consciousness of X that occurs in your seeing X) without any inner consciousness of this consciousness. To be conscious of something is not to begin an infinite regress of consciousnesses of consciousness — nor, for that matter, does being conscious of something always involve what would be such a regress's first step.

Delius on having a toothache. Later in his book, Delius (1981) proposed that, *analogously to your simply seeing X (i.e., without any consciousness of seeing X), you can have a toothache without inner (second-order) consciousness of having it.* Delius stated that the latter is "perfectly possible" and, surprisingly, he added, "It would require the theoretical detachment of a phenomenologist . . . to become aware of *oneself as now having an experience of toothache*" (p. 73). This is a surprising statement because I would think, instead, that your pain-qualitative apprehension of your tooth, the experience dimension of your having a toothache, is what makes your having a toothache so aversive, is what makes your having a toothache something you want badly to stop. It would seem that, absent all inner (second-order) consciousness of that pain-qualitative experience which is an essential ingredient of your having a toothache, your reason for complaining to the dentist would be missing.

Curiously, Delius seems to be in addition claiming (see above, his reference to "theoretical detachment") that you give less, not more, attention to your experience when you are in pain than when you are having some other feelings. It is as though you were transfixed by the part of your body that hurts; you cannot, so to speak, detach yourself from the latter even to apprehend the pain-qualitative experience you are having. I understand the kind of frame of mind which Delius must have been thinking of here, but I do not believe Delius identified an actual case of it in your ordinarily having a toothache. An actual case might be an extreme emotional state (e.g., terror, ecstatic joy) wherein you are fully absorbed in the situation that is your emotion's object, not taking any notice of your emotion itself.

Also, Delius's view that you rarely have inner (second-order) consciousness of your pain-qualitative experiences may be a little puzzling because, in the course of expressing this view, Delius used the phrases *awareness of the*

pain and *awareness of the toothache* evidently synonymously with *having a toothache*. Or, at least, he used those two phrases to refer to something included each time in your having a toothache. Does Delius's use of these phrases contradict the sentence I quoted above (Delius, 1981, p. 73)? With confidence, I proffer the following interpretation of Delius's position. As Delius sees it, your having a toothache involves your being conscious of something in particular, just as in simply (nonconsciously) seeing X, you are visually conscious of X. Since Delius was claiming that you are *not* ordinarily conscious of the pain-qualitative experience involved in your having a toothache, one is led to wonder what it is, according to Delius, that you *are* conscious of in simply (nonconsciously) having a toothache.

First-order, perceptual consciousness. You are simply conscious of "the pain"; Delius said, too, you are simply conscious of "the toothache." But in what sense? Delius meant that you are conscious of *an aching tooth* analogously to your being tactually conscious of *a cold glass* that you hold in your hand. That is, you have first-order, perceptual consciousness of the aching of your tooth as you have first-order, perceptual consciousness of the coldness of the glass. Though the respective perceptual consciousness of tooth or glass is qualitative, it does not follow according to Delius, that you are therein also conscious of the experience you are having. Thus, you can have a toothache, which includes your being pain-qualitatively conscious of your tooth, or of a certain part of your mouth, without being conscious of your respective (pain-qualitative) experience. Compare these two cases (first-order consciousness of aching tooth, of cold glass) with the further strongly analogous case of your being visually conscious of the redness of a tomato. Even suppose this redness is a "secondary quality" (in J. Locke's [1706/1975] sense); that is, this quality is a consequence of the functioning of your visual system under certain stimulational conditions. It would be no less true, were redness a "secondary quality," that the object of your nonconscious, first-order, visual consciousness is the tomato and not your visual consciousness of it, when you are simply seeing the tomato. It is the tomato (not your visual experience of the tomato) that you are conscious of, rightly or wrongly, as having a red skin.

The parallel I am drawing to your being visually perceptually conscious of the redness of a tomato is appropriate since Delius explicitly characterized your first-order consciousness of toothache as a kind of "external perception," that is, a perception of something in the world rather than of something in your mind. As we know, your pain-qualitatively perceiving your aching tooth (a) locates your aching tooth in space, at a certain location in your body, and (b) is due to stimulation of nerve endings, produced by the carious condition of your tooth. Relevantly, Delius *contrasted* your perceiving your aching tooth, and the like, with your being conscious of your depression, boredom, and a certain kind of anxiety; none of the latter states

involves, Delius (1981) stated, any "structure, datum or content which could be considered as a candidate for anything perceivable" (p. 74). Rather, these states were said to be properties of "the self." A person's being conscious of them is the person's being conscious of himself or herself as depressed, bored, or anxious. The case of having a toothache (etc.) is different since there is something, at a particular location in the body, that the person perceives in having the respective experience.

Reporting Your Toothache

According to Delius, in having a toothache, you need not be conscious of anything more than your aching tooth, in the sense just explained. That is, quite analogously to the visual case, you need not have, as well, inner (second-order) consciousness of your undergoing the pain-qualitative experience that is an essential part of your having a toothache — *even in order to report to someone else that you are now having a toothache*. Delius (1981) expressed the latter point as follows:

> I may have a toothache and report this fact to my dentist by saying "I have a toothache" without being aware of the state of affairs described by the sentence "I am aware of myself as experiencing a toothache." All I am aware of in that situation may be the pain and my dentist, who is the aim of my intention of persuading him to squeeze me into his schedule without a previous appointment. (p. 73)

But, I say, how could a (sincere) report of having toothache be issued by someone not conscious of himself or herself as experiencing a toothache? As Delius sets up this nonconscious case, which he considers not only possible but common, there would only occur a (first-order) consciousness of the aching tooth (of "the pain"; see preceding subsection), analogous to being tactually conscious of a cold glass, or visually conscious of the redness of a tomato. It would be like someone's reporting seeing something *while being completely nonconscious of seeing it*. For example, you would see a cat on a mat and immediately report to someone else "I am now seeing a cat on a mat" though you had no consciousness of having an experience of a cat on a mat, that is, though your (first-order) consciousness was strictly of the cat on the mat. Analogously, according to Delius, your perceptual consciousness of an aching tooth would suffice for your reporting that you have a toothache; for reports of having a toothache, it is unnecessary to have inner consciousness of the pain-qualitative experience essentially involved in having a toothache. You can report having a toothache *while completely nonconscious of having a toothache*, in Delius's view. [2]

[2]Of course, people can pretend to see things and to have a toothache, but I am not considering such cases in the present article. Telling lies, too, requires inner (second-order) consciousness, but I must leave it for a future article on the importance of being conscious.

Assume seeing a cat on a mat (whether in a picture or in person) occurs only once in a person's life, and the person has at the time no inner consciousness at all of seeing it. Should we not expect that the person will never mention having seen a cat on a mat? Later on, the person might perhaps, as an effect of the original nonconscious visual experience, have some kind of visual imagery of a cat on a mat. But, again, the person would never mention having such imagery unless he or she were conscious of having it when the imagery occurred, that is, unless the imagery occurred consciously. Nor would the person likely treat his or her imagery of a cat on a mat, assuming the imagery occurred consciously, as a memory experience; after all, the person would have no memory of ever having had the experience of seeing a cat on a mat, since he or she had no inner (second-order) consciousness of having this visual experience when the experience occurred. For the same reason, a second, this time conscious occurrence of the person's seeing a cat on a mat would not cause the person to remember seeing the past cat on a mat — though the present experience might seem strangely familiar, and though imagery of the past cat on a mat was also produced.

I agree with Delius that you can see a cat on a mat without having inner (second-order) consciousness of seeing it. But I cannot agree with him *that you can report having a toothache without being conscious of having it!* The latter is exactly what Delius (1981, e.g., p. 73) was saying. Delius's simply perceiving his aching tooth together with his simply perceiving his dentist were supposed to suffice to produce Delius's reporting to the dentist the fact of Delius's having a toothache. Delius was saying that no inner (second-order) consciousness of his seeing the dentist or of his having a toothache is necessary for Delius to make this report. However, having a toothache is one thing, reporting it is another; in my view, *an inner (second-order) consciousness of having toothache, not just the having of a toothache, is an essential ingredient of what is involved in your reporting your toothache.* Just your having a toothache without being conscious of having it merely includes your being nonconsciously conscious of the aching tooth, which is *subjectively* as though you were not conscious of the aching tooth at all. The latter point can be readily grasped by comparing with your being nonconsciously conscious of the cold glass or of the red tomato (see, also, earlier subsection *Visual consciousness of X*). When you are nonconsciously perceptually conscious of a tomato, you have no inkling that you are.

Reporting Your Seeing X

Delius (1981) did not develop a new argument for the case of your reporting having a toothache; he referred the reader back to his discussion of the visual case, to which I now turn.

Use of S_a in practical contexts. In discussing the corresponding visual case, Delius considered your use of the sentence "I see that there is a cat on the mat" (henceforth, "S_a") in a practical context analogous to asking for a dental appointment. He distinguished this practical use from your using the same sentence in a theoretical context where there is interest in the visual experiences you are having, and where uttering S_a expresses a state of consciousness of yourself, namely, inner (second-order) consciousness of the state of affairs that S_a as a whole expresses. Of interest here is the practical use of S_a. According to Delius, in practical contexts, you use S_a to communicate to another person the same information you use the sentence "There is a cat on the mat" to communicate; *plus* S_a's first component ("I see") conveys the source of the information that the rest of S_a conveys, how you have this information. "I see" informs listeners that you know there is a cat on the mat as a result of your seeing it. However, this practical use of S_a, Delius insisted, is *not* a report of your having visual experiences or of your being conscious of your seeing. Delius's basis for the latter claim was his conviction that, *in practical situations, you are oblivious of your experiences of seeing or your states of consciousness, attending instead exclusively to whatever it is you are visually observing* (cf. Delius [1981, p. 17] quote earlier). Analogously, it is your aching tooth you are ordinarily conscious of, according to Delius, when you have toothache and report it to others; you are not conscious, then, of the pain-qualitative experiences involved in your having a toothache.

Against Delius's view. First, let me say I agree with Delius that the "I see" part of S_a conveys information additional to what the remainder of S_a conveys. Indeed, as Delius says, you use S_a to inform others that it is by seeing the cat there that you are conscious of a cat on the mat. However, so to inform, you must be, I hold against Delius's view, *conscious of seeing a cat on the mat.* In my view, you do not know you are seeing a cat on the mat simply by seeing a cat on the mat; whenever there occurs in you only simply (nonconsciously) seeing a cat on the mat, you do not have any consciousness of now seeing it.

I extend my point. *As a result of your simply seeing there to be a cat on the mat, you cannot even report there is a cat on the mat, let alone that you see it.* If all that takes place is your simply seeing a cat on the mat, you cannot know that the occasion for such reporting is actually now instantiated. In such a case, you do not have any consciousness of experiencing this state of affairs; from your first-person (subjective) perspective, *it is as though the environmental state of affairs does not exist.*

What is the difference between your seeing X completely unwittingly (nonconsciously) and your not seeing X at all? The former surely has some effects (including behavioral ones; see next subsection), but these effects cannot include your choosing to perform (or not to perform) the action of reporting to someone else that you see X. Nor do these effects include your

action of reporting the existence of the bare state of affairs that you see. Both (a) a report of your seeing X and (b) a report of X's presence in the environment, due to your seeing X, must be *based on* (c) your experience of seeing X. I mean that to make such reports, you need to choose which sentence to utter depending on what you have inner (second-order) consciousness of visually experiencing.[3]

Responding. It would be erroneous to construe too generally what I have been saying about reports, that is, as applying to any response that (a) occurs in a perceptual situation and (b) has some sort of perceptual consciousness or perceptual experience as a cause of its occurrence. I have been explicit, from the very beginning, that I am discussing *the overt social action of your reporting to someone else the fact that you are now having a toothache and, of course, the parallel visual case of reporting.* Certainly, it does not follow, from any of my above discussion, that an organism responding to a state of affairs it sees in the environment must have inner (second-order) consciousness of the visual consciousness that is a product and part of its seeing the environmental state of affairs. So too, not all behaviors produced by having a toothache require, for their occurrence, that the individual be conscious of having a toothache. And, it is not the case that any instance of consciousness must be an object of higher-order consciousness in order to have effects.

Needless to add, there are living organisms and machines whose functioning is affected by light, thus they "respond" — in the broadest sense — to "stimulation" by light, without their having any visual-qualitative experience, or any other kind of experience, or any kind of consciousness.

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[3]To avoid making the discussion more complex, I have suppressed the following requirement, which I shall fully discuss in a future article. *Reporting what you have inner (second-order) consciousness of requires, as well, being conscious of this inner (second-order) consciousness.* For example, inner (second-order) consciousness, though necessary, cannot suffice for reporting your seeing X. Suppose, in a particular instance, that inner (second-order) consciousness is all that occurs in the way of consciousness beyond the first-order, visual consciousness of X. That is, (a) you are visually conscious of X and (b) this visual consciousness is accompanied simply by an inner consciousness of the latter fact about yourself. If so, then you would be conscious of seeing X without any apprehension that you were so conscious; that is, your inner (second-order) consciousness would be itself a nonconscious consciousness. This instance of seeing X would be, subjectively, as though the inner (second-order) consciousness had not occurred. You would apprehend your seeing X and how X was visually appearing to you, but have no inkling that you had this second-order apprehension. The case would be analogous to seeing a tree nonconsciously, that is, without inner (second-order) consciousness of seeing it. However, in order to report to someone that you are seeing X, it is necessary that you choose an appropriate utterance or other communicative behavior, one that corresponds to the content of your inner (second-order) consciousness of seeing X. And this requires a third-order consciousness, which allows you to match your communicative behavior to what you are conscious of having inner (second-order) consciousness of. (Cf. Armstrong [1968, p. 164], and Natsoulas [1985a, p. 337; 1989b, p. 119; 1991a, pp. 48–49] on "tertiary" consciousness. I shall proceed with no further mention of this necessary complication since I am arguing here for the necessity—not the sufficiency—of inner (second-order) consciousness in your reporting your seeing X or reporting your having a toothache.

Your seeing X to be in your field of view? As an objection to what I am arguing, someone may suggest that *you can know you are seeing X otherwise than by being conscious of your experience of seeing X.* Here is a version of this objection as put forward by a hypothetical critic ("Psychologist A"): "Taking notice of X's presence before your eyes suffices for telling you are seeing X. That is, you see X in a certain way that gives away the fact of your now seeing X. You see X as being there, in the sense of X's being present before your eyes, and you conclude *from where you see X to be,* that you must be seeing X."

But how do I know X is before my eyes without any inner (second-order) consciousness of the visual-qualitative experience involved in my seeing X? Psychologist A replies: "You see X to be at a certain location in, what Delius (1981, p. 17) called your 'field of vision,' and Gibson (1979) called your 'field of view.' And seeing X to lie in your field of view, you know you are seeing X, despite your not being conscious of the visual-qualitative experience involved in your seeing X. That is, you know you are seeing X, notwithstanding the fact that your seeing X is occurring nonconsciously, as earlier characterized. You have *inferential* knowledge of your seeing's occurrence from now seeing X to lie inside your field of view." Next, I develop two lines of argument against Psychologist A's alternative source of your knowing that you see X.

1. What is a field of view? Gibson (1979) defined field of view as "the solid angle of the ambient light that can be registered by the ocular system" (p. 111). Gibson had in mind an animal's field of view relative to the particular point of observation which the animal is occupying. The animal's field of view changes as the animal changes its point of observation by moving its head, trunk, or entire body. This field of view is a sample or segment of the light projecting to the animal's particular point of observation from all directions.

Notice, however, that the field of view *consists* of ambient light, and that this light through which, thanks to which, you see the environment is *transparent* to your sight. As Gibson (1979, Chapter 4) argued, you cannot see the ambient light that is projecting to your point of observation. And so, I say, you cannot see where X is within your field of view by seeing X and your field of view, because your field of view consists of ambient light, which you cannot see. You can, of course, see where X is relative to yourself and other parts of the environment, and *you can conclude that X lies within your field of view by being conscious of the fact that X is now visually appearing to you.* But you cannot arrive at this conclusion if your seeing X occurs nonconsciously. My use of *conclude* should not disturb Gibsonians or students of Gibson's thought. I am not suggesting that the process of visual perceiving is inferential. I am suggesting that you need to have inner (second-order) consciousness that X is now visually appearing to you to know that X lies within your present field of view (which consists of light), because your field of view is not itself perceivable. This does not say that seeing X involves an inferential

process. If ambient light cannot be perceived, whatever you find out *about ambient light* (e.g., which objects lie now within your field of view) must be inferred.

2. Suppose, contrary to the last paragraph, that you can see that X lies within your field of view, and suppose Psychologist A proposes that, on the basis of seeing X to lie within your field of view, you infer you must be seeing X. My answer to Psychologist A would then be that if all that occurred was your simply seeing X to lie in your field of view, then you could not draw an inference to the fact that you are seeing X, since you would not be conscious of the mental occurrence (i.e., your visual consciousness of X) that is supposed to be the basis for your inference. You would not be conscious of this mental occurrence as an instance of your seeing X to lie in your field of view. Nor would you be conscious of this mental occurrence as an instance of your taking, judging, or occurrently believing X to lie in your field of view. Nor as anything else. That is, this instance of your seeing X would occur nonconsciously; and since you are not conscious in any way of this instance of seeing, you could not base any inference on its occurrence.

Psychologist A might reply, "You need not have inner (second-order) consciousness of seeing X in order to draw inferences from the fact of your seeing X; that is, you can draw such inferences nonconsciously. Thus, you see X, have no consciousness of seeing X, yet you are able to infer from the fact of your seeing X that such and such is the case." How? I must ask in response: in order for you to infer as Psychologist A proposes, what does your relation to the fact of your now seeing X have to be? Is it enough that you see X, is it enough that simply (nonconsciously) seeing X occurs in you? Or do you not have to apprehend, in some way, this fact about yourself?

Controlling Your Active Locomotor Behavior on a Visual Basis

Early on, I said I would later argue against Delius's claim that, in practical contexts of everyday life, we are oblivious of our instances of seeing X. On his view, in practical contexts, whatever we happen to be seeing completely holds our attention, as opposed to having any inner (second-order) consciousness at all of our first-order, visual consciousness, itself, of whatever we are seeing. To an extent, I have already argued against Delius's view: when I considered whether, without inner (second-order) consciousness of seeing X, you could report *seeing* X or could report *even X itself* (i.e., the outer object of your seeing). If I am right about the necessity of more than just simple visual consciousness of X for these functions, then inner consciousness of seeing X is far more frequent in practical situations than Delius allowed. I do not need to mention how very often we have occasion to refer to or describe to someone else our seeing what we are seeing or what lies before our eyes.

In this section, I add to the case for the high frequency of inner (second-order) consciousness, with argument *that ordinary locomotion, which you control on a visual basis, finding your way around by seeing, also requires inner consciousness* (cf. Gordon, 1984). To understand self-controlled behavior such as this is an important part of what Gibson (1974/1982) called "the formidable problem of volition." I shall put to use in this section Gibson's (1979) insightful account of the animal's controlling its locomotor behavior on a visual basis. I believe Gibson's analysis implicates inner (second-order) consciousness, though there is only small sign this was his intention, namely, his references to *volition* and his emphasis on *the animal's* controlling its active locomotor behavior on a visual basis. The animal is not *controlled* by stimulus information; the animal controls its active locomotor behavior *by means of* stimulus information. Reed (1988) stated, "Consistent with his view of acts as achievements, Gibson emphasized [in his last seminar] that the behavior of going from place to place is a kind of purposeful action, comprised of animate movements" (p. 300).

Again, the kind of inner (second-order) consciousness I am referring to is your being conscious of your seeing. By the latter, I mean, more specifically, your being directly, noninferentially conscious of your visual (first-order) consciousness of X, where your visual consciousness of X is both (a) a visual-qualitative experiencing of X and (b) a cognitive apprehension or awareness of X (see subsection *Visual Consciousness of X*). Still more specifically, I mean (see below) your being conscious of how, as you move, the visual-qualitative appearing to you of what you see undergoes change (cf. D. Locke, 1968, p. 26; Rock, 1975, p. 11). Thus, I am referring to inner consciousness, since to be conscious of the visual-qualitative appearing to you of the environment is to be conscious of a dimension of your visual (first-order) consciousness.

Visual (first-order) consciousness is a part and product of seeing the environment, whether this seeing occurs consciously or nonconsciously, that is, whether this seeing, in a particular instance, does or does not include, as well, inner (second-order) consciousness. Early in the previous main section, I agreed with Delius that seeing occurs in humans sometimes consciously, sometimes nonconsciously. About other creatures, I suspend judgment on which undergoes inner (second-order) consciousness, which undergoes only outer (first-order) consciousness, and which undergoes neither. The "animals" referred to in this main section are humans and all other creatures that will turn out, empirically, to control their active locomotor behavior on a visual basis in the way it is here argued humans do. Where to draw the line between species cannot be decided in advance; for example, by insisting (as I do not hold) that inner (second-order) consciousness is a linguistic matter (e.g., G. H. Mead [Natsoulas, 1985b] and Skinner [1953, 1957, 1974]). It is curious how quickly the question of animal consciousness arises, well before

we have a good scientific grasp of consciousness in humans and are in a position to determine whether, or to what extent, an animal shares in this scientifically known property of humans.

"Control lies in the animal–environment system. Control is by the animal in *its* world" (Gibson, 1979, p. 225). Gibson understood active locomotor behavior as *something the animal does*, something over which the animal exercises control with reference to its environment all along the way. As Reed (1988, p. 77) emphasized, following Gibson (1979), active locomotor behavior is action "not caused by perception or stimulation" but steered or guided by the animal. The animal is in a position to exercise such control because the animal possesses (a) subsystems not only for locomoting and other behavioral activities, but also (b) subsystems by which it can have perceptual consciousness of its environment and itself in the environment, and *therewith coordinate its behavior to its environment*. In actively locomoting on a visual basis, in the present sense, the animal *puts to use* the information it picks up from the light by means of its visual system (cf. Marcel, 1988; Natsoulas, 1992a).

Visual-Kinesthetic Consciousness

Gibson (1979) stated,

> The dominant level of such control [of active locomotor behavior] is visual. But this could not occur without what I have called *visual kinesthesis*, the awareness of movement or stasis, of starting or stopping, of approaching or retreating, of going in one direction or another, and of the imminence of an encounter. Such awarenesses are necessary for control. (p. 236)

The fundamental Gibsonian idea here is that the stimulus energy flux at the photoreceptors has a spatiotemporal structure that contains both (a) features (stimulus information) specific to properties of environmental parts that project light to the animal's moving point of observation, and (b) features (stimulus information) specific to where the animal is in the environment, how it is moving relative to its environment, and its particular path of movement. Both of these kinds of features simultaneously characterize one and the same visual stimulus energy flux, so that you can have (visual-kinesthetic) consciousness of your own movement when looking at the environment as you move.

That is, you *see* where you are and how you are moving relative to where you are, as a result of your visual system's extracting certain informational features from the stimulus energy flux. But visual-kinesthetic consciousness occurs not only during active locomotor behavior but also when you are being passively transported. You can have visual consciousness of where you are relative to parts of the environment and how you are moving even if you are not engaged in active locomotor behavior, simply by looking at the environment "as it goes by," so to speak. The environment does not, of course, liter-

ally "go by" as you move through it, but everyone is familiar with certain visual experiences, to which I return below, that are as though the environment were flowing past us. In such cases among many others, I suggest, we have inner (second-order) consciousness of the "visual appearential flux," which is a certain dimension of visual perceptual consciousness of the environment.

Regulating Stimulus Information

Your control of locomotion on a visual basis requires more than just visual-kinesthetic consciousness, however. As Gibson (1979) stated about the animal that is passively transported while it looks around, the animal "has the information for transportation but cannot regulate it" (p. 226). And he expressed a very similar point as follows: "The extracting of information for the perception of the world and the extracting of information for the bodily control of performances are different processes, even if complementary" (Gibson, 1975/1982, p. 392). To engage in active locomotor behavior that you guide by means of your visual system, you must *behave purposely and selectively in such a way as changes the visual stimulus flux at your photoreceptors in specific ways*. This is what Gibson meant by the phrase "regulating the information." Your behavior that changes the visual stimulus energy flux in certain particular ways (in accordance with certain "rules" [Gibson, 1979, pp. 232-234]) will change your location in the environment. To achieve your locomotor goal, you choose to behave in such a way as is consistent with the appropriate "rule"; this behavior produces a certain pattern of effects in the stimulus energy flux with the concomitant result of your maneuvering in or through the environment as you desire. For example, Gibson (1979) gave the following as one of the "rules" for steering: "*To turn, shift the center of outflow from one patch in the optic array to another*" (p. 233).

Flowing Ambient Optic Array?

I have expressed the basic Gibsonian idea of the animal's control of its behavior by use of stimulus information in terms of the animal's regulating the stimulus energy flux at the photoreceptors, but Gibson (1958/1982, 1979) himself expressed the same idea differently, in terms of the structured light at the moving point of observation, and patterns of flow or transformation or change of this structured light. For another example, Gibson (1958/1982) stated,

> To begin locomotion . . . is so to contract the muscles as to make the forward optic array flow outward. To stop locomotion is to make the flow cease. To reverse locomotion is to make it flow inward. To speed up locomotion is to make the rate of flow increase and to slow down is to make it decrease. (p. 155)

As a matter of fact, neglected by Gibson, light does not flow or transform or change along with your movement. It remains constant and ambient around each successive point of observation that you instantaneously occupy as you travel a path of observation consisting of a continuous succession of potential points of observation; there is a different optic array at each potential point of observation. Contrary to Gibson's (1974/1982) way of expressing his view, there is no "motion in light" when, for example, by turning your head, you "displace" your point of observation (actually, change to a new point of observation). That is why I express the same points, as Gibson expressed, in terms of the stimulus energy flux at the photoreceptors, rather than in terms of "the flowing array of light." There does occur a kind of flow or, better, a transformation or change in the pattern of stimulation proceeding in your photoreceptors as you are controlling your active locomotor behavior on a visual basis. At the same time, the patterning of light at every point of observation through which you pass remains exactly where it is and does not get modified by your passing through it.

Invisibility of Visual Stimulus Energy Flux

Yet I believe Gibson was on the right track as regards the animal's controlling its active locomotor behavior with reference to *something* that (a) changes as the animal moves and that (b) contains visual stimulus information. But what is this "something," this referential basis? The temptation is to identify the visual basis on which you control your active locomotor behavior with the visual stimulus energy flux, *as though this stimulus flux could serve as an object of your perceptual consciousness*. But your visual system evolved in such a way as gives you first-order, visual consciousness, instead, of the environment so that you can behave in adaptive ways with respect to it. Indeed, the visual stimulus flux is in continuous transformation or change as you locomote, and it contains stimulus information specific to your own movement relative to the environment; however, *you do not see the visual stimulus energy flux* (Gibson, 1979, pp. 54–55). Both the light in the air and the events transpiring at or in your visual receptors are not visible to you. As you look around at the world thanks to the light that the world reflects into your eyes and the functioning of your photosensitive receptors, both light and receptor activity remain "transparent." You see "through" them, by means of them, but you do not see them.

Think, along with Gibson, of the structured ambient light that surrounds every one of the huge number of potential points of observation in this room; there is, in this immediate environment, much of a complex order going on in the way of light that remains entirely invisible to you. Of course, you can see that certain objects radiate light and that other objects and surfaces are

illuminated to a greater or lesser degree, but in such cases it is no less something in the environment that you are perceiving to have certain temporary or more lasting properties. Notice that even when you have visual consciousness of a surface as being highly illuminated, the light in the air between the surfaces before you and your eyes, the light by which you are visually conscious that the surface is highly illuminated, remains invisible. As for the events transpiring in your visual receptors, which proceed as you are looking at me, ask yourself what — is there anything? — you might do in order to see that receptor activity, along with seeing, or in place of seeing, me. The photoreceptors by means of which you see are physically directed outwards, not upon each other.

Visual-Qualitative Appearing

Now, if you cannot guide your locomotion by apprehending the optic array, whether "flowing" or stationary, or by apprehending the stimulus energy flux at your photoreceptors, *how do you* use *visual stimulus information to control your active locomotor behavior?* In a previous article, I stated,

> Perspectival appearances are part of your stream of experience even when you are having visual-perceptual awareness of the ecological environment in the natural attitude. Even then, the ecological environment is appearing to you, in the sense of structuring your visual stimulus flux so that it produces a flow of perspectival appearances. You do not simply pick up stimulus information from the light. You are affected qualitatively by the visual stimulation in the form of an appearential flow. (Natsoulas, 1989c, p. 92)

Visual stimulus information is contained not only by the light, and by the visual stimulus energy flux, but also *by the environment's visual appearential flux which proceeds within the visual system at the level of certain brain centers*. The visual appearential flux is a dimension of your visual consciousness of the environment and of yourself inhabiting and locomoting through the environment; it is a dimension of your instances of seeing X, of your outer consciousness which you have in seeing the environment.

Early in the previous main section, I mentioned that instances of seeing X, whether conscious or nonconscious, all involve a visual-qualitative experience of X. I appended note 3 to cover certain exceptions to the latter statement. These are cases in which X is not itself apprehended qualitatively (amodal perception), though you are conscious of X as part of an environment that you are experiencing in the unique visual manner, an environment that is here and now visual-qualitatively present to you in your very instances of being visually conscious of X. In such cases, the visual appearential flux does not include any appearing of X, as would occur if X were perceived "modally." The visual appearing to you of X, which exists in the environment, is X's having visual-qualitative presence to you.

Inner (Second-Order) Consciousness

And you can have, as well, inner (second-order) consciousness of the visual appearential flux. Your instances of seeing are occurrences that in certain part help to constitute your stream of consciousness. You can have inner consciousness of, for example, how something in the environment is visually appearing to you, and of how its visual appearing to you changes as you locomote. This is very useful, to say the least, because this inner consciousness is, I suggest, a necessary ingredient of your controlling your own locomotor behavior on a visual basis.

Regarding the transition from (a) the straightforward outer perceptual consciousness (i.e., simple [nonconscious] instances of seeing X) to (b) the inner ("reflective") consciousness of one's stream of visual experience, Husserl (1925/1977) stated,

> If I pass over reflectively in the first and natural manner from the straightforward object-perception to the modes of giveness, then they are [apprehended], noticed in their subjective existence. But the object itself also continues to he perceived and noticed, although it is not what is exclusively noticed, as when I am directed straightforwardly toward it [i.e., in simply (nonconsciously) seeing it]. What I now grasp is the object appearing in this or that *how* of its mode of appearance; or vice-versa, the mode of appearance is preferred as the main theme, but still as mode of appearance of the object which so to speak is still in our grasp and remains in its previously posited actuality. (p. 129)

The main point is (a) that you do not cease being visually conscious of the environment when you have inner (second-order) consciousness of the visual appearential stream which the visual stimulus energy flux is producing in your brain; in this kind of inner (second-order) consciousness, you are conscious of how *the environment* is visually appearing to you. A further point is (b) that how the environment, or the part of it that is "seen now from here" (cf. Gibson, 1979, pp. 195–197; Natsoulas, 1989c), visually appears to you is not equivalent to how this part of the environment is perceptually apprehended to be. The environmental surfaces comprising the seen now from here, which are the surfaces lying within your field of view and facing your point of observation, can be seen not to change in any of their properties while you have inner consciousness of their changing visual appearance as you move through the environment relative to them. In the following passage, Gibson (1979) got this point (b) across rather well though he was expressing himself in terms of the flow of ambient light:

> How do we see where we are going? We guide or steer our locomotion, when we are in control of it, by locating those invariant features of the array that specify a destination, whatever it may be, and then keeping the focus of optical outflow centered on that item. In short, we magnify the form that specifies the goal . . . . To say that one perceives an outflow of the world ahead and an inflow of the world behind as one moves forward in the environment would be quite false. One experiences a rigid world and a flowing array. (pp. 122–123)

Gibson added that, when experiencing a flowing array, you seldom have visual consciousness of the world in motion, but rather of yourself in active locomotion or passive movement. In accordance with my revision of Gibson's view, I would say instead that your inner (second-order) consciousness of your visual appearential flux, that flux which you regulate in controlling your locomotion by behaving consistently with certain "rules," is accompanied by visual-kinesthetic consciousness of yourself moving, and more rarely by illusory visual consciousness of environmental motions. When you are moving and looking, you normally do not have consciousness of the environment as moving; rather, you are conscious of its visual appearential flux, that is, how a part of the environment is changing in how it is appearing to you, due simply to your own movement.

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