

Look Again:
Consciousness and Mental Imagery

Evan Thompson

Department of Philosophy
University of Toronto
evan.thompson@utoronto.ca

DRAFT: COMMENTS WELCOME

A lot has happened in cognitive science and the philosophy of mind since the heyday of the mental imagery debate in the nineteen-seventies and eighties.¹ The computational theory of mind, once considered to be “the only game in town,” is now called “classical cognitive science,” and co-exists, separately and in various hybrid forms, with connectionism, dynamical cognitive science, and embodied approaches to cognition.² Neuroscience exerts increasing influence, and collaboration between neuroscientists and philosophers is on the rise.³ There is widespread interest in the nature of consciousness, and the scientific usefulness of introspection is being reassessed.⁴ Finally, philosophers and cognitive scientists have begun to offer detailed phenomenological analyses of various aspects of conscious experience.⁵

¹ For this debate, see the articles collected in Ned Block (ed.), *Readings in the Philosophy of Psychology. Volume Two* (Cambridge, MA: Harvard University Press, 1981), pp. 117-194, and in Ned Block (ed.), *Imagery* (Cambridge, MA: The MIT Press/A Bradford Book, 1981). See also Mark Rollins, *Mental Imagery: On the Limits of Cognitive Science* (New Haven, CT: Yale University Press, 1989), and Michael Tye, *The Imagery Debate* (Cambridge, MA: The MIT Press/A Bradford Book, 1991).

² For a useful overview, see Andy Clark, *Mindware: An Introduction to the Philosophy of Cognitive Science* (New York and Oxford: Oxford University Press, 2001).

³ See Andrew Brook and Kathleen Akins (eds.), *Cognition and the Brain: The Philosophy and Neuroscience Movement* (New York and Cambridge: Cambridge University Press, 2005).

⁴ For recent discussions of introspection, see Alvin I. Goldman, “Can Science Know When You’re Conscious? The Epistemological Foundations of Consciousness Research,” *Journal of Consciousness Studies* 7 (2000): 3-22, and “Epistemology and the Evidential Status of First-Person Reports,” *Journal of Consciousness Studies* 11 (2004): 1-16; Anthony I. Jack and Tim Shallice, “Introspective Physicalism as an Approach to the Science of Consciousness,” *Cognition* 79 (2001): 161-196; Anthony I. Jack and Andreas Roepstorff, “Introspection and Cognitive Brain Mapping: From Stimulus-Response to Script-Report,” *Trends in Cognitive Sciences* 6 (2002): 333-339.

⁵ See Barry Dainton, *Stream of Consciousness: Unity and Continuity in Conscious Experience* (London: Routledge Press, 2000); Dan Lloyd, *Radiant Cool: A Novel Theory of Consciousness* (Cambridge, MA: The MIT Press, 2004); Colin McGinn, *Mindsight: Image, Dream, Meaning* (Cambridge, MA: Harvard University Press, 2004); Alva Noë, *Action in Perception* (Cambridge, MA: The MIT Press/A Bradford Book, 2004); Brian O’Shaughnessy, *Consciousness and the World* (Oxford: Oxford University Press, 2002); Jean Petitot, Francisco J. Varela, Bernard Pachoud, and Jean-Michel Roy (eds.), *Naturalizing Phenomenology: Issues in Contemporary*

Given these developments, it is disappointing that the recent reappearance of the imagery debate takes little or no account of them.⁶ Instead, conceptual confusion remains about the nature of imagery experience and its relation to the brain and behavior. If there is to be progress in understanding mental imagery, let alone any “resolution of the imagery debate,”⁷ then we need to do better.

Using imagery research as an exemplar, I intend to show how cognitive science stands to gain from phenomenological analysis of experience. Let me explain what I mean by phenomenology for the purposes of this paper.

Phenomenology is concerned with what constitutes the experience of a given sort of activity, such as perceiving or imagining. It focuses not simply on the *qualitative character* of *what* is experienced, the *objects* of experience, but also on the *subjective character* of the *activity itself*, the *acts* of experiencing. For example, a phenomenological analysis focuses not only on the qualitative character of *what* we see—color, shape, things in space, and so on; it focuses also on what the activity of seeing is like, on what it feels like to encounter the world visually. Phenomenology is concerned with what seeing is like, as compared with hearing, or imagining, or remembering. What experience is like in this sense is constitutive of what experience is. Phenomenology is thus concerned with the constitution of experience.

Phenomenology understood in this way includes any philosophical analysis that makes the qualitative and subjective character of experience its subject matter. It is not limited to the phenomenological school or tradition stemming from Husserl. Nevertheless, this tradition’s analyses of imagery experience offer resources for understanding mental imagery untapped by cognitive science, and they inspire much of what I have to say in this paper.⁸

Phenomenology and Cognitive Science (Palo Alto, CA: Stanford University Press, 1999); A.D. Smith, *The Problem of Perception* (Cambridge, MA: Harvard University Press, 2002).

⁶ See Zenon W. Pylyshyn, “Mental Imagery: In Search of a Theory,” *Behavioral and Brain Sciences* 25 (2002): 157-238 (including “Open Peer Commentary” and Pylyshyn’s “Author’s Reply”); Zenon Pylyshyn, *Seeing and Visualizing: It’s Not What You Think* (Cambridge, MA: The MIT Press/A Bradford Book, 2003); Zenon Pylyshyn, “Return of the Mental Image: Are There Really Pictures in the Brain?,” *Trends in Cognitive Sciences* 7 (2003): 113-118. See also in the same issue Stephen M. Kosslyn, Giorgio Ganis, and William L. Thompson, “Mental Imagery: Against the Nihilistic Hypothesis” (pp. 109-111) and Pylyshyn’s response, “Explaining Mental Imagery: Now You See It, Now You Don’t” (pp. 111-112).

⁷ Steven M. Kosslyn, *Image and Brain: The Resolution of the Imagery Debate* (Cambridge, MA: The MIT Press/A Bradford Book, 1994).

⁸ Of particular importance are Husserl’s and Sartre’s writings on imagination. Husserl’s main writings on imagination are collected in his *Phantasie, Bildbewußtsein, Erinnerung. Zur Phänomenologie der anschaulichen Vergegenwärtigungen. Texte aus dem Nachlass (1889-1925)*. *Husserliana XXIII*, ed. Eduard Marbach (The Hague: Martinus Nijhoff, 1980). An English translation by John B. Brough, published by Springer, is forthcoming under the title *Phantasy, Image Consciousness, and Memory 1889-1925*. For Sartre, see Jean-Paul Sartre, *The Imaginary: A Phenomenological Psychology of the Imagination*, trans. Jonathan Webber (London and New York: Routledge Press, 2004). My understanding of Husserl follows the explanation given in Rudolf Bernet, Iso Kern and Eduard Marbach, *An Introduction to Husserlian Phenomenology* (Evanston, IL: Northwestern University Press, 1993), pp. 141-154. I have also been strongly

Phenomenological analysis operates at the personal level. When we describe experience we are describing experiential contents and activities as belonging to the whole person, and our descriptions have a holistic and normative character. We describe the interrelations of perceiving, intending, feeling, imagining, and acting, and we try to make sense of these interrelations in various norm-governed ways. By contrast, when we describe the neural processes on which experience depends, we are describing subpersonal phenomena, and our descriptions do not have this holistic and normative character. When, for example, in an experiment on mental imagery, I attribute to you a certain mental state, such as visualizing the rotation of some geometrical figure, I make an attribution at the personal level. Whether this attribution makes sense depends partly on what else I take you to believe (e.g., about object geometry and spatial relations, but also about your understanding of the task instructions). On the other hand, when I attribute to an area of your brain a certain pattern of electromagnetic activity, I make an attribution at the subpersonal level, and this attribution is not subject to these sorts of holistic and normative considerations.

Phenomenological analysis can do important philosophical and scientific work. It can help to clarify the conceptual relation between accounts of experience at the personal level and accounts of the brain at the subpersonal level, and it can help to guide experimental research in cognitive science.

In this paper, I sketch a phenomenological analysis of imagery experience. Its main upshot is to challenge the widespread belief in cognitive science that imagery experience is the experience of “phenomenal mental images.” As we will see, both pictorialists and descriptionalists, the two rivals of the imagery debate, accept this characterization of imagery experience; what they disagree about is whether the subpersonal representations used in visual problem-solving are depictive or propositional in form. I argue, however, that in visual imaging or visualizing, we do not experience phenomenal mental images (“pictures in the head”), but rather mentally represent visual experiences to ourselves in certain ways. The content of these experiences (either as actual visual experiences or as mentally represented ones) cannot be given in an image or picture. On the basis of this phenomenological analysis, I propose an alternative to both pictorialism and descriptionalism. My proposal also builds on the enactive or dynamic sensorimotor approach to perception in cognitive science.⁹ According to my enactive

influenced by Eduard Marbach’s analytical development of Husserl’s ideas (along with a phenomenological notation) in his *Mental Representation and Consciousness: Towards a Phenomenological Theory of Representation and Reference* (Dordrecht: Kluwer Academic Publishers, 1993). See also Marbach’s article “On Using Intentionality in Empirical Phenomenology: The Problem of ‘Mental Images’,” *Dialectica* 38 (1984): 209-229. This article as well as Marbach’s work overall has been an inspiration for me in this paper.

⁹ See Noë, *Action in Perception*. See also S.L. Hurley, *Consciousness in Action* (Cambridge, MA: Harvard University Press, 1998); Susan Hurley and Alva Noë, “Neural Plasticity and Consciousness,” *Biology and Philosophy* 18 (2003): 131-168; and J. Kevin O’Regan and Alva Noë, “A Sensorimotor Account of Vision and Visual Consciousness,” *Behavioral and Brain Sciences* 24 (2001): 939-1011. The enactive approach as a general research orientation in cognitive science was introduced by Francisco Varela, Evan Thompson, and Eleanor Rosch in *The Embodied Mind: Cognitive Science and Human Experience* (Cambridge, MA: The MIT Press, 1991).

proposal, visualizing is the vicarious exercise of the skillful sensorimotor knowledge actually exercised in perception.

I. Experience and the Imagery Debate

The subjective experience of mental imagery has occupied a problematic place in the imagery debate since this debate's inception in the early nineteen-seventies. On the one hand, everyone agrees that the experience of imagery exists and that any adequate theory of imagery must ultimately be able to account for it. On the other hand, the main concern of imagery theories has not been to explain imagery experience, but rather to explain the ability of individuals to solve problems in various kinds of cognitive tasks in which they report using imagery. Examples are judging whether two objects of different orientation have identical shapes by "mentally rotating" one to see whether it can be brought into correspondence with the other, or "mentally scanning" a visualized map in order to determine whether a particular object is present on it.¹⁰ Although imagery research relies on reports of imagery experience as a source of data, the two main rival theories of imagery, pictorialism and descriptionalism, have left imagery experience as such unaccounted for.

Pictorialism and descriptionalism are theories about the subpersonal representations and processes that are supposed to be causally implicated in imagery tasks. According to pictorialism (whose principal exponent is Stephen Kosslyn), these representations are depictive or pictorial, which means that they represent by virtue of their spatial format. In a depictive representation, each part of the object is represented by a pattern of points, and the spatial relations among these patterns correspond to the spatial relations among the object's parts.¹¹ It is well known, for example, that area V1 of the visual cortex in primates is organized retinotopically. In other words, neurons in this area are organized in a way that roughly preserves the spatial structure of the retina. Although

¹⁰ For discussion of these and other tasks involving imagery, see Stephen M. Kosslyn, Steven Pinker, George E. Smith, and Steven P. Schwartz, "On the Demystification of Mental Imagery," in Block (ed.), *Imagery*, pp. 131-150; Stephen M. Kosslyn, *Image and Mind* (Cambridge, MA: Harvard University Press, 1980), Kosslyn, *Image and Brain*; Pylyshyn, *Seeing and Visualizing*.

¹¹ How to specify precisely what makes a representation depictive is a difficult problem. Kosslyn (*Image and Brain*, p. 5) defines a depictive representation as "a type of picture, which specifies the locations and values of configurations of points in a space. For example, a drawing of a box would be a depictive representation. The space in which the points appear need not be physical, such as this page, but can be like an array in a computer, which specifies spatial relations purely functionally. That is, the physical locations in the computer of each point in an array are not themselves arranged into an array; it is only by virtue of how this information is 'read' and processed that it comes to function as if it were arranged into an array (with some points being close, some far, some falling along a diagonal, and so on). In a depictive representation, each part of an object is represented by a pattern of points, and the spatial relations among these patterns in the functional space correspond to the spatial relations among the parts themselves. Depictive representations convey meaning via their resemblance to an object, with parts corresponding to parts of the object." For critical discussion of this concept of depictive representation (especially the problematic appeal to the notion of resemblance between representation and represented), see Pylyshyn, "Mental Imagery: In Search of a Theory," and *Seeing and Visualizing*, pp. 328-333. See also Tye, *The Imagery Debate*, pp. 33-60.

this cortical representation of the retina is laid out in physical space, the depictive space need not be physical, according to Kosslyn, but could be specified purely functionally, like an array in a computer. On the other hand, according to descriptionalism (whose principal exponent is Zenon Pylyshyn), the mental representations involved in vision and imagery represent by virtue of their propositional structure. Pylyshyn argues that the notion of a purely functional space has no explanatory value in accounting for the actual format of mental representations.¹² He also argues that the activation of retinotopically organized brain areas in visual mental imagery (which remains controversial)¹³ does not show that imagery or vision involves depictive representations laid out in the physical space of the brain, for mental images and topographical patterns of activation in V1 fail to correspond in numerous ways (e.g., the 3D spatial structure of what we perceive or imagine was never present on the 2D retina or its retinotopic cortical projections).¹⁴ On Pylyshyn's descriptionalist view, imagery is the representation of how things look or would look, based on our tacit propositional knowledge of visual properties and relations.

Although scientific research on imagery designed to test these two theories must rely on first-person reports of imagery experience as an indispensable source of data, neither descriptionalism nor pictorialism provides any explanatory bridge back to imagery experience at the personal level from their postulated subpersonal representations. Imagery experience is used on the way in, but is left in limbo on the way out.

We can trace this situation back to Pylyshyn's opening round of the debate in 1973.¹⁵ Pylyshyn acknowledged that "imagery is a pervasive form of experience" and that "[w]e cannot speak of consciousness without, at the same time, implicating the existence of images."¹⁶ But he argued that imagery experience does not reveal the content of mental representations or the information-processing functions operating on those representations. Imagery experience is not so much silent, but positively misleading. The ordinary or commonsense conception of an image is that of a picture, but the mental representations mobilized in imagery tasks are best characterized as descriptive and propositional, not pictorial. Pylyshyn's conclusion was that the concept of a mental image is not a useful explanatory construct in psychology.

Kosslyn and Pomerantz, in their reply to Pylyshyn in 1977, defended the explanatory importance of imagery.¹⁷ They argued that introspection, when taken together with behavioral performance data, is an important source of evidence. They also remarked that the experience of imagery is undeniable and studying it in its own right is a

¹² *Seeing and Visualizing*, pp. 359-368.

¹³ See P.E. Roland and B. Guylás, "Visual Imagery and Visual Representation," *Trends in Neurosciences* 17 (1994): 281-287; Stephen M. Kosslyn, Giorio G. Garnis, and William L. Thompson, "Neural Foundations of Imagery," *Nature Reviews Neuroscience* 2 (2001): 635-642.

¹⁴ Pylyshyn, *Seeing and Visualizing*, pp. 387-426.

¹⁵ Zenon W. Pylyshyn, "What the Mind's Eye Tells the Mind's Brain: A Critique of Mental Imagery," *Psychological Bulletin* 80 (1973): 1-24.

¹⁶ *Ibid.*, p. 2.

¹⁷ Steven M. Kosslyn and James R. Pomerantz, "Imagery, Propositions, and the Form of Internal Representations," in Block (ed.), *Readings in the Philosophy of Psychology, Volume Two*, pp. 150-169.

legitimate enterprise.¹⁸ Yet they provided no phenomenological analysis of imagery or any scientific explanation of imagery experience constrained by this kind of analysis. Instead, they sketched a theory of imagery that relied on the problematic assumption that the *content* of imagery experience corresponds to the *format* of the underlying representation. This type of assumption has been called *analytical isomorphism*.¹⁹ Analytical isomorphism is the idea that successful explanation requires there be an isomorphism (one-to-one correspondence) between the phenomenal content of subjective experience and the structure or format of the underlying neural representations. This idea involves conflating properties of what is *represented* (representational *contents*) with properties of the *representings* (representational *vehicles*). Kosslyn and Pomerantz seem to have implicitly relied on analytical isomorphism when they proposed that an image is a temporary spatial representation in active memory generated from more abstract information in long-term memory. On this view, an image is a spatial pattern of activation in a visual buffer. Kosslyn and Pomerantz implied that the images the person experiences *are* these “surface images” in the visual buffer. In a subsequent paper, however, Kosslyn qualified the relation by explaining that the term “image” refers to representations in active memory, not an experience. In this way, the meaning of “image” becomes primarily subpersonal. Thus Kosslyn wrote: “The experience of ‘having an image’ is taken as an indication that an image representation is present in active memory; the question whether one can have an image representation without the experience is left open.”²⁰ Over the years Kosslyn has enlarged and refined his theory, but this gap between representation and experience has not gone away. Thus, in his 1994 book *Image and Brain*, he writes:

[M]ost interest in psychology has focused on only one facet of imagery—its role in information processing, not its phenomenology or role in emotional life. In this book we will focus on the nature of the internal events that underlie the experience of “seeing with the mind’s eye”; we shall not consider the qualities of the experience itself. The term “image” will refer to the internal representation that is used in information processing, not the experience itself. The experience of imagery is a sign that the underlying brain events are taking place, and hence plays an invaluable role in the research—but is not in its own right the present topic of study.²¹

¹⁸ *Ibid.*, p. 159.

¹⁹ See Luiz Pessoa, Evan Thompson, and Alva Noë, “Finding Out About Filling In: A Guide to Perceptual Completion for Visual Science and the Philosophy of Perception,” *Behavioral and Brain Sciences* 21 (1998): 723-802; Evan Thompson, Alva Noë, and Luiz Pessoa, “Perceptual Completion: A Case Study in Phenomenology and Cognitive Science,” in Petitot et al., *Naturalizing Phenomenology*, pp. 161-195. See also Alva Noë and Evan Thompson, “Are There Neural Correlates of Consciousness?,” *Journal of Consciousness Studies* 11 (2004): 3-28.

²⁰ Kosslyn et al., “On the Demystification of Mental Imagery,” p. 133.

²¹ Kosslyn, *Image and Brain*, p. 3.

Here we can easily see that the concept of a mental image has become completely subpersonal, while imagery experience at the personal level remains only a heuristic for getting at the subpersonal level.

This divergence between the personal and subpersonal levels is closely related to the familiar explanatory gap for consciousness. There is a conceptual and epistemological gap between accounts of neural and cognitive processes at biological and functional levels, and consciousness in the sense of subjective experience.²² Thus, in the case of mental imagery, no current scientific account of the mechanisms of imagery (“the internal representation that is used in information processing”) is sufficient to account for the subjective experience of imagery (“the experience itself”).

The chasm between the personal and subpersonal levels and the related explanatory gap between subjective experience and internal representation are also evident in Pylyshyn’s recent restatement of the descriptionist view.²³ What is distinctive about mental imagery, according to Pylyshyn, is not that it involves a special depictive form of representation, but rather that the contents of the thoughts we experience as images represent how things look or would look to us. Pylyshyn is aware that how things look is a matter of the phenomenal content of our conscious experience. He admits that “[a]s scientists we cannot ignore the contents of our conscious experience, because this is one of the principal ways of knowing what we see and what our thoughts are about.”²⁴ Nevertheless, he believes that the contents of experience are “insidious,” “misleading,” and “contaminate” many scientific theories of perception and imagery.²⁵ In his view, to allow subjective experience to guide or constrain scientific theories of the mind is to fall prey to a “phenomenological snare.”²⁶ Hence he does not allow that a phenomenological account of seeing and imagining could be profitably linked to a scientific account of perception and imagery.

I disagree. It is not only possible but also necessary to pursue phenomenology and experimental science as mutually constraining and enlightening projects. If our aim is to have a comprehensive understanding of the mind, then focusing on the nature of the internal events that underlie imagery experience, without considering the qualities of the experience itself, will not take us far.

A good way to start is by scrutinizing the phenomenological assumptions made by imagery theorists. Although descriptionists and pictorialists adopt different attitudes towards imagery experience, they share a deeper view of its phenomenal character and they assume a certain conception of what imagining is as an intentional act.

Descriptionists argue that our subjective experience of imagery is no guide to the

²² See Thomas Nagel, “What Is It Like to Be a Bat?” and Joseph Levine, “On Leaving Out What It’s Like,” both reprinted in Ned Block, Owen Flanagan, and Güven Güzeldere (eds.), *The Nature of Consciousness: Philosophical Debates* (Cambridge, MA: The MIT Press/A Bradford Book, 1997), pp. 519-528 and 543-555, respectively. See also Joseph Levine, *Purple Haze: The Puzzle of Consciousness* (New York and Oxford: Oxford University Press, 2001).

²³ See Pylyshyn, “Mental Imagery: In Search of a Theory,” “Return of the Mental Image,” and *Seeing and Visualizing*.

²⁴ Pylyshyn, *Seeing and Visualizing*, p. xi.

²⁵ *Ibid.*, pp. xi, 2.

²⁶ Pylyshyn, “Explaining Mental Imagery: Now You See It, Now You Don’t,” p. 112.

format of the underlying mental representations, whereas pictorialists argue that our imagery experience does correspond, at least partially, to this representational format. Nevertheless, everyone seems to agree that in imagery we experience “phenomenal mental images.”²⁷ The term “phenomenal mental image” has been used to refer to the “seeming objects of image experiences,” by contrast with the term “functional mental image,” which refers to the internal representations involved in imagery.²⁸ Usually phenomenal mental images are assumed to be objects we “see with our mind’s eye,” though it is also sometimes said that phenomenal mental images are not things we see, but things we *have*.²⁹ In either case it is taken for granted that the subjective experience of mental imagery is properly characterized as the experience of having (seeing or undergoing) a phenomenal mental image. It is important to notice that this assumption is a conceptual and phenomenological one about what constitutes imagery experience at the personal level. One way to put this assumption is that our imagery experience involves the belief that in such experience we see or have images in the mind. Descriptivists think this belief is strictly speaking false. According to descriptivism, the mental representations involved in imagery are not pictorial, introspection is misleading and

²⁷ Consider these five examples: (1) “The picture-in-the-head theory of images profits from the apparent *convergence* of experiment and introspection. As we look inward, our mental images often seem to us to be pictures in the head, and by golly, when the experimental results come in, they back up this introspective judgment.” In Ned Block, “Mental Pictures and Cognitive Science,” *Philosophical Review* 93 (1983): 499-542, reprinted in William G. Lycan (ed.), *Mind and Cognition: A Reader* (Cambridge, MA; Basil Blackwell, 1990), pp. 577-607, at p. 583. (2) “Kosslyn’s view has great initial plausibility. For we seem to be aware of images—pictures in the mind—playing an important role in thought.” In Kim Sterelny, “The Imagery Debate,” *Philosophy of Science* 53 (1986): 560-83, reprinted in Lycan (ed.), *Mind and Cognition*, pp. 607-626, at p. 608. (3) “The fact that we seem to use representations in our head in the same way that we use maps and diagrams is a special case of the similarity between perception and imagination. Just as we perceive the relative locations of two cities on a real map without apparent effort or inference, so too we seem to be able to employ the inner eye to perceive these locations on an inner, memory-generated, representation.” In Sterelny, “The Imagery Debate,” p. 615. (4) “Cognitive science is rife with ideas that offend our intuitions. It is arguable that nowhere is the pull of the subjective stronger than in the study of perception and mental imagery. It is not easy for us to take seriously the proposal that the visual system creates something like symbol structures in our brain since it seems intuitively obvious that what we have in our mind when we look out onto the world, as well as when we close our eyes and imagine a scene, is something that *looks like* the scene, and hence whatever it is that we have in our heads must be much more like a *picture* than a description. Though we may know that this cannot be literally the case, that it would do no good to have an inner copy of the world, this reasoning appears to be powerless to dissuade us from our intuitions.” In Pylyshyn, “Mental Imagery: In Search of a Theory,” p. 157. (5) “Nobody denies that when we engage in mental imagery we seem to be making pictures in our head—in some sense. The question is: Are we really? That is, do the properties in our brains have any of the properties of pictures?” In Daniel C. Dennett, “Does Your Brain Use the Images in It, and If So, How?,” *Behavioral and Brain Sciences* 25 (2002): 189-190, at p. 189.

²⁸ See George Rey, “Introduction: What Are Mental Images?,” in Block (ed.), *Readings in Philosophical Psychology, Volume Two*, pp. 117-127, at p. 124; Block, “Mental Pictures and Cognitive Science,” pp. 582-583.

²⁹ Block, “Mental Pictures and Cognitive Science,” p. 585.

unreliable, and our experience of imagery is a kind of illusion. Pictorialists, on the other hand, think this belief is true or at least partially accurate. According to pictorialism, the mental representations involved in imagery are pictorial, and introspection is sometimes reliable. We thus arrive at a number of deeper and questionable assumptions these theories share:

1. The phenomenal character of visual experience in general and imagery experience in particular is pictorial (what we see and visualize seems to us like the content of a picture); hence any phenomenological account of imagery experience must describe this experience as pictorial.
2. If the phenomenal character of experience at the personal level does not match or correspond to the internal representations in our brain at the subpersonal level, then our experience is illusory (it is not really what it subjectively seems to be).
3. Visual experience is permeated by the belief that certain kinds of representations are created in our brains during perception and imagery, namely, depictive or pictorial representations.
4. The phenomenal character of visual experience is intuitively obvious; hence there is no need for careful phenomenological analysis.

These ideas deserve to be rejected for a variety of reasons.³⁰ Firstly, it is hardly obvious that the phenomenal character of visual experience is pictorial. On the contrary, as I discuss in the next section, the content of our experience is not pictorial in a number of ways.³¹ Secondly, there is no need for a precise match between what we experience in perception and whatever internal representations there are in our brains. For example, we visually experience the world to be rich in detail not because we must represent all that detail inside our heads at any given moment, but because we have constant sensorimotor access to the presence and detail of the world, and we know how to make use of this access.³² Thirdly, whatever impression we supposedly have of there being pictorial representations in our head when we perceive is not a first-person impression of experience, but a third-person, theoretical belief. Hence the illusion is a theorist's illusion, not an experiential one.³³ Finally, these points are not intuitively obvious, but

³⁰ For extensive discussion, see the works cited in note 19. See also Noë, *Action in Perception*, Alva Noë, "Is the Visual World a Grand Illusion?", *Journal of Consciousness Studies* 9 (2002): 1-12, and Alva Noë, Luis Pessoa, and Evan Thompson, "Beyond the Grand Illusion: What Change Blindness Really Teaches Us about Vision," *Visual Cognition* 7 (2000): 93-106.

³¹ See Noë, *Action in Perception*, Chapter 2. See also Pylyshyn, *Seeing and Visualizing*, pp. 16-47.

³² See O'Regan and Noë, "A Sensorimotor Approach to Vision and Visual Consciousness."

³³ Dennett's response to this point is that the belief may be a theorist's belief, "but it turns out we are all theorists." See Daniel C. Dennett, "No Bridge Over the Stream of Consciousness," *Behavioral and Brain Sciences* 21 (1998): 753-756, at p. 754, and his "How Could I Be Wrong? How Wrong Could I Be?", *Journal of Consciousness Studies* 9 (2002): 13-16. According to Dennett, perceivers tacitly believe they have pictorial representations in their heads corresponding to the content of what they perceive, and perceptual experience is partly constituted by this belief. But this view is misguided. Perceptual experience is directed towards the world, not towards the brain. Beliefs about what goes on in the brain are no part of ordinary perceptual experience. In

emerge from careful phenomenological analysis (in tandem with experimental investigation). Although subjective experience is intimate and familiar, it hardly follows that its phenomenal character is easy to specify. We need to distinguish between what seems intuitively obvious and what requires careful phenomenological analysis to discern.

In the rest of this paper I build on these ideas and apply them to the analysis of visual mental imagery. In the next section, I sketch a phenomenological analysis of imagery experience, and then in the final section I put this analysis to work in the imagery debate. My strategy is a two-level one.³⁴ At the personal level, I argue that visual experience is not pictorial. The perceptual content of vision is not like the content of a picture, and visualizing is not an experience in which we see or have a mental picture. Visualizing is rather the activity of mentally representing to oneself a visual experience whose intentional character is modified in certain ways (to be specified in the next section). In visualizing, we enact a kind of *quasi-seeing*, and in quasi-seeing, we exercise “off-line” or vicariously the same sensorimotor abilities we exercise “on-line” in seeing. At the subpersonal level, I propose that we should not look for depictive representations in the brain corresponding to what we see or visualize. Instead, we should try to determine the functional processes that realize our sensorimotor abilities and that causally enable the exercising of these abilities in perceiving and imagining.

II. Phenomenology and Imagery Experience

In this section, I sketch the outlines of a phenomenological approach to imagery experience. Of particular importance is to differentiate three types of representational mental activity—remembering, imagining, and picture-viewing (seeing something as a picture).³⁵

To frame this discussion we can make use of Ernst Mach’s famous attempt to portray his own visual field.³⁶ Lying on a divan with his right eye shut, Mach tried to depict not his room, but the content of his (monocular) visual field. We can consider his drawing on several levels. Firstly, the drawing exemplifies a certain pictorial conception of visual experience: The content of perception is like that of a realistic picture. Secondly, given this conception, it is natural to think that were Mach to close his eyes and imagine his view of the room, he would, on the basis of memory, be creating or calling up a mental image, a picture in the head (probably sketchy and indistinct by comparison with perception). Thirdly, Mach’s drawing is itself a pictorial object; it is a material entity that depicts a certain scene. It is thus not simply an object of perceptual experience, but an

particular, perceptual experience involves no commitment to the belief that we have pictures (or any other kind of representation) in our brains when we see. See Noë, *Action in Perception*, pp. 55-59, Noë, “Is the Visual World a Grand Illusion?”, Noë, Pessoa, and Thompson, “Beyond the Grand Illusion,” and Thompson, Noë, and Pessoa, “Perceptual Completion.”

³⁴ I take this notion of a two-level strategy or account from S.L. Hurley, *Consciousness in Action*.

³⁵ See Marbach, *Mental Representation and Consciousness*.

³⁶ Ernst Mach, *The Analysis of Sensations and the Relation of the Physical to the Psychical*, trans. C.A. Williams (New York: Dover Publications, 1959). My use of Mach’s picture builds on Thompson, Noë, and Pessoa, “Perceptual Completion” (see pp. 194-195), and Noë, *Action in Perception*, Chapter 2.

object of pictorial experience. We need to look more closely at these three aspects of Mach's drawing.



The Visual Field as Depicted by Ernst Mach

Mach's drawing is meant to be a depiction of what it is like for him to see his study (with one eye), a depiction of the phenomenal content of his visual experience. The drawing also invites us, the external viewer of the picture, to imagine taking up Mach's position as the internal viewer of the represented scene, so that our visual experience would, as it were, coincide with his. There is readily available phenomenological evidence, however, that our visual experience is not like this depiction.³⁷ Consider that we have poor peripheral vision. Hold a playing card at arms length just within your field of view and you will not be able to tell its color, suit, or number. Stare at a word or phrase on a page of text and you will be able to make out only a few of the other words. These simple demonstrations show, contrary to Mach's drawing, that we do not experience the entirety of our visual field as having the clarity and detail of what we focally attend to.

Barry Smith has interpreted Mach's drawing as a depiction of Ewald Hering's definition of the visual field as "the totality of real objects imaged at a given moment on the retina of the right or left eye."³⁸ But this interpretation cannot be right. Given the poor resolution of peripheral vision, Mach must have moved his eye in order to draw the detail at the periphery. Furthermore, besides these *overt* shifts of *visual attention*, he must have made *covert* shifts of *mental attention* while holding his eye still (thereby changing his mental focus while holding peripheral vision constant). His drawing is thus a

³⁷ See Noë, *Action in Perception*, pp. 49-50, 69-72.

³⁸ Ewald Hering, *Outlines of a Theory of the Light Sense*, trans. Leo M. Hurvich and Dorothea Jameson (Cambridge, MA: Harvard University Press, 1964), p. 226, as quoted by Barry Smith, "Truth and the Visual Field," in Petitot et al. (eds.), *Naturalizing Phenomenology*, pp. 317-329, at p. 324.

representation that abstracts and combines the contents of many attentional phases of visual experience. It is a static representation of a temporally extended, dynamic process of sensorimotor and mental exploration. It tries to present all at once visual contents that at any given moment are not present to one in the way of a detailed picture.³⁹

Another important feature of Mach's drawing is his attempt to depict the indeterminacy of the peripheral visual field by means of fading to white.⁴⁰ This feature may also be an attempt to depict the field as unbounded or topologically open, in the sense that there is no boundary that is part of the field itself.⁴¹ The problem, however, is that it seems impossible to depict these kinds of features of experience in a picture. The visual field is unbounded and indeterminate in various ways, but not by becoming white in the periphery. How to characterize these features is a difficult matter, but they do not seem to be pictorial properties. They do not seem to be qualities representable within experience, but rather structural features of experience.

Mach's attempt to depict his visual field presupposes that we experience or can introspectively attend to our *visual field*. Yet what Mach could not help but depict is his *room* and a portion of his *body* from a certain vantage point. Experience is in this way often said to be "diaphanous" or "transparent."⁴² In trying to attend to the qualities of experience, we as it were see right through them to the qualities of what is experienced.

³⁹ Of course, picture-viewing also involves sensorimotor and mental exploration of the picture. My point, however, is that visual experience is not determinate in its contents in the way the surface of a picture is determinate in its qualitative features.

⁴⁰ Wittgenstein comments on this feature of Mach's drawing in his *Philosophical Remarks* (267) (Oxford: Basil Blackwell, 1975). According to Wittgenstein, Mach confuses a (visual) phenomenological mode of representation and a physical mode of representation. See Noë, *Action in Perception*, pp. 71-72.

⁴¹ See Smith, "Truth and the Visual Field," p. 324.

⁴² This idea goes back to G.E. Moore, "The Refutation of Idealism," in G.E. Moore, *Philosophical Papers* (London: Routledge and Kegan Paul, 1922): "When we try to introspect the sensation of blue, all we can see is the blue; the other element is as if it were diaphanous. Yet it *can* be distinguished if we look attentively enough, and if we know there is something to look for." (p. 25). Note that Moore here states that the visual sensation is *as if it were* diaphanous, but that it *can* be distinguished, a view in keeping with his sense-data theory of perception. H.P. Grice, on the other hand, in his expression of the diaphanous idea, implied that we cannot introspectively distinguish any sensation distinct from what we see: "such experiences (if experiences they be) as seeing and feeling seem to be, as it were, diaphanous: if we were asked to pay close attention, on a given occasion, to our seeing or feeling as distinct from what was being seen or felt, we should not know how to proceed; and the attempt to describe the differences between seeing and feeling seems to dissolve into a description of what we see and what we feel." See his "Some Remarks about the Senses," in R.J. Butler (ed.), *Analytic Philosophy* (Oxford: Basil Blackwell, 1962), reprinted in Alva Noë and Evan Thompson, *Vision and Mind: Readings in the Philosophy of Perception* (Cambridge, MA: The MIT Press, 2002), pp. 35-54, at p. 45. For discussion of the transparency thesis, see Amy Kind, "What's So Transparent about Transparency?," *Philosophical Studies* 115 (2003): 225-244; M.G.F. Martin, "The Transparency of Experience," *Mind and Language* 17 (2002): 376-425; Charles Siewert, "Is Experience Transparent?," *Philosophical Studies* 117 (2004): 15-41; and Daniel Stoljar, "The Argument from Diaphanousness," forthcoming in Maite Ecurdia, Robert Stainton, and Chris Viger (eds.), *Language, Mind and World, Canadian Journal of Philosophy, Supplementary Volume*.

Some philosophers rely on this idea to argue for representationalism, the thesis that the phenomenal character of experience is entirely a matter of the representational content of experience, or to put it another way, that the qualities of experience are one and the same as the qualities of the world represented by experience.⁴³ Most of the debates about representationalism have focused on the issue of qualia. Philosophers who maintain that experience has, in addition to its representational content, intrinsic sensational properties or qualia, reject representationalism.⁴⁴ I doubt there are qualia in the sense of nonintentional sensory qualities.⁴⁵ But I wish to present a different criticism of representationalism. This criticism is phenomenological and is directly relevant to the task of clarifying the phenomenal character of mental imagery. As I mentioned earlier, the phenomenal character of experience includes both the *qualitative character of what we experience* (e.g., sensory qualities of the world and our body) and the *subjective character of the mental acts whereby we experience* (e.g., perceiving, remembering, and imagining).⁴⁶ Representationalism neglects the subjective character of experience.⁴⁷ By

⁴³ See Gilbert Harmon, "The Intrinsic Quality of Experience," *Philosophical Perspectives* 4 (1990): 31-52, reprinted in Block et al. (eds.), *The Nature of Consciousness*, pp. 663-676; Michael Tye, *Ten Problems of Consciousness* (Cambridge, MA: The MIT Press/A Bradford Book, 1995), *Color, Content, and Consciousness* (Cambridge, MA: The MIT Press/A Bradford Book, 2000), and *The Imagery Debate*, Chapter 7.

⁴⁴ E.g., Ned Block, "Inverted Earth," in Block et al. (eds.), *The Nature of Consciousness*, pp. 677-693. For an overview of the debate between qualia realists and representationalists with regard to the transparency thesis, see Stoljar, "The Argument from Diaphanousness."

⁴⁵ I am unconvinced that there are qualitative properties of experience that exhibit no intentionality; see my *Colour Vision: A Study in Cognitive Science and the Philosophy of Perception* (London: Routledge Press, 1995), Chapter 6. I also believe, however, that not all intentionality is a matter of representational content, and thus that the notion of intentionality should not be equated with that of representation.

⁴⁶ My use of the term "subjective character of experience" is thus somewhat different from Nagel's (in his "What Is It Like to Be a Bat?"). Nagel introduced this term to refer to what a subject's experience is like for that subject. What experience is like in this sense involves both the qualitative properties of the subject's experience (qualia) and the subject's phenomenal first-person point of view. I use the term to refer specifically to how a given type of mental activity (e.g., seeing or visualizing) is implicitly and nonreflectively experienced from one's first-person perspective. My usage is close to Uriah Kriegel's in his "Naturalizing Subjective Character," *Philosophy and Phenomenological Research*, forthcoming. He uses "subjective character of experience" to mean the implicit and nonreflective "for-me-ness" of conscious experience. For both Kriegel and me, the phenomenal character of experience is the compresence (to use his formulation) of qualitative character and subjective character (for-me-ness). On this view, every conscious mental state (every mental state with phenomenal character) is implicitly and nonreflectively self-aware. This notion of nonreflective (or prereflective) self-consciousness is central to the accounts of consciousness in the phenomenological tradition from Brentano to Husserl to Sartre. For recent discussions, see Uriah Kriegel, "Consciousness as Intransitive Self-Consciousness: Two Views and an Argument," *Canadian Journal of Philosophy* 33 (2003): 103-132, and "Consciousness as Sensory Quality and as Implicit Self-Awareness," *Phenomenology and the Cognitive Sciences* 2 (2003): 1-26; Kathleen V. Wider, *The Bodily Nature of Consciousness: Sartre and Contemporary Philosophy of Mind* (Ithaca: Cornell University Press, 1997); Dan Zahavi, *Self-Awareness and Alterity: A Phenomenological Investigation* (Evanston,

contrast, phenomenological analysis focuses explicitly on the linkage between the qualitative character of what we experience and the subjective character of the mental activity whereby we experience it.

To bring out the import of this point we need to consider more carefully the claim that experience is transparent. Its *locus classicus* in recent philosophy is the following passage from Gilbert Harman:

When Eloise sees a tree before her, the colors she experiences are all experienced as features of the tree and its surroundings. None of them are experienced as intrinsic features of her experience. Nor does she experience any features of anything as intrinsic features of her experience. And that is true of you too. There is nothing special about Eloise's visual experience. When you see a tree, you do not experience any features as intrinsic features of your experience. Look at a tree and try to turn your attention to intrinsic features of your visual experience. I predict you will find that the only features there to turn your attention to will be features of the presented tree, including relational features of the tree "from here."⁴⁸

Harman's main concern in this passage is to undercut the sense-datum theory of perception, according to which the colors we are aware of are inner and mental properties, not properties of external objects. Nevertheless, it is not clear what the exact argument of this passage is supposed to be or how it is supposed to support representationalism.⁴⁹ I wish to focus on two core phenomenological claims that can be extracted from this passage (often repeated by other representationalists).⁵⁰ The first concerns experience in the sense of *awareness* (presented in the third-person about Eloise); the second concerns *attention* (presented as a prediction about what one will find in one's own first-person case):

IL: Northwestern University Press, 1999), "Back to Brentano?" *Journal of Consciousness Studies* 11 (2004): 66-87, and *Subjectivity and Selfhood: Investigating the First-Person Perspective* (Cambridge, MA: The MIT Press/A Bradford Book, forthcoming).

⁴⁷ This statement needs qualification. By "representationalism" in this context I mean externalist representationalism, as advocated by Harman and Tye (see note 43). For a detailed representationalist account of subjectivity, defined as the possession of a phenomenal first-person perspective, see Thomas Metzinger, *Being No One: The Self-Model Theory of Subjectivity* (Cambridge, MA: The MIT Press/A Bradford Book, 2003). Metzinger's account focuses on the phenomenal *content* of the first-person perspective, but does not analyze the intentionality of mental *acts* as these are experienced in their subjective performance.

⁴⁸ Harman, "The Intrinsic Quality of Experience," p. 667.

⁴⁹ See Kind, "What's So Transparent about Transparency?"; Siewert, "Is Experience Transparent?"; and Stoljar, "The Argument from Diaphanousness."

⁵⁰ In addition to Tye's writings (cited in note 43) see Fred Dretske, *Naturalizing the Mind* (Cambridge, MA: The MIT Press/A Bradford Book, 1995) and William G. Lycan, *Consciousness and Experience* (Cambridge, MA: The MIT Press/A Bradford Book, 1996).

Extreme Transparency of Awareness: We are not aware of (intrinsic mental features of) our experience, but only of the objects and properties presented by that experience.

Extreme Transparency of Attention: We cannot attend to (intrinsic mental features of) our experience, but only to the objects and properties presented by that experience.

Harman's passage clearly suggests these extreme transparency claims (as do statements by other representationalists).⁵¹ I call them *extreme* in order to distinguish them from the following two *moderate transparency* claims:⁵²

Moderate Transparency of Awareness: We are not usually explicitly aware of (intrinsic mental features of) our experience, but only of the objects and properties presented by that experience.

Moderate Transparency of Attention: We can (with effort) attend to (intrinsic mental features of) our experience, but not by turning our attention away from what that experience is *of* (i.e., what is presented by that experience).

I submit that the extreme transparency claims are demonstrably false and the moderate ones true.

Consider visual experience. When I see the bottle of wine in front of me on the table, I experience (am visually aware of) *the wine bottle*. But I also experience *my seeing*. In experiencing my seeing in this way I do not need to introspect or reflect; my awareness is instead an implicit and nonreflective one. I experience my seeing by living it nonreflectively. Suppose, now, that I close my eyes and visualize the wine bottle. The intentional object of my mental state is still the bottle (the bottle is "the seeming object of my image experience," not a mental picture of the bottle). But now what I implicitly and nonreflectively experience is *my visualizing*. Clearly, there are significant differences in the intentional content of the visualization and the perception. The most striking is that the bottle as visualized does not have the immediacy and presence of the bottle as perceived; rather, it has a peculiar kind of phenomenal absence. As Sartre puts it: "in so far as he *appears to me as imaged*, this Pierre who is present in London, *appears to me as absent*. This fundamental absence, this essential nothingness of the imaged object, suffices to differentiate it from the objects of perception."⁵³ It is important also to notice

⁵¹ Thus, Harman says, "Nor does she experience any features of anything as intrinsic features of her experience. And that is true of you too." Similarly, Ian Gold, citing Harman, writes: "Experience, it is sometimes said, is 'diaphanous': one sees through it to the object or property the experience is representing. The experience itself has no properties accessible to the experienter." See his "Interpreting the Neuroscience of Imagery," *Behavioral and Brain Sciences* 25 (2002): 190-191, at p. 190.

⁵² See Kind, "What's So Transparent about Transparency?," p. 230. She distinguishes between "strong" and "weak" transparency claims, whose formulation differ from mine above.

⁵³ Sartre, *The Imaginary*, p. 180.

the distinct experiential features of the intentional acts themselves. For example, the visual perception feels involuntary and effortless, whereas the visualization feels voluntary, effortful, and needing to call upon memory.⁵⁴ In these ways, I am aware not simply of the intentional objects and properties presented by my experience, but also of features of my experience, or better yet, of my experiencing. These features include the specific intentional act or attitude component of the experience (perceiving or visualizing or remembering, etc.), associated qualities of this act (being effortless or effortful, etc.), and the invariant phenomenal quality of “mineness” or “for-me-ness” that characterizes all my experiencing (it is my seeing and my visualizing).⁵⁵

We could summarize this line of thought by saying that the extreme transparency of awareness thesis neglects that constitutive feature of experience we can call (following Husserl and Sartre) *prereflective self-consciousness*. In my visual experience of the wine bottle, I am *explicitly aware* of the bottle, but also *implicitly aware* of my visual experience of the bottle.⁵⁶ This sort of implicit awareness is a kind of self-consciousness (I am implicitly aware of the visual experience as *mine*). But it is not a reflective or introspective self-consciousness, because there is no phenomenally conscious reflection or introspection that takes the experience as its object.⁵⁷ Rather, the experience itself is

⁵⁴ I do not mean to imply that all imagining is voluntary and effortful in this way. Daydreaming, reverie, and fantasy are usually not. Cf. also Sartre, *The Imaginary*, pp. 18-19: “In most cases, no doubt, the [mental] image springs from a deep spontaneity that cannot be assimilated to the will... But involuntary and voluntary images represent two closely related types of consciousness, of which one is produced by a voluntary spontaneity and the other by a spontaneity without will.”

⁵⁵ Barry Dainton has criticized what he calls *awareness-content dualism* in theories of consciousness. Crucial to this dualism as Dainton describes it is the view that awareness is a bare act devoid of any intrinsic phenomenal characteristics. My differentiation of experience into intentional-act and intentional-object poles involves no commitment to this notion of bare awareness. See Dainton’s *Stream of Consciousness* and “The Gaze of Consciousness,” *Journal of Consciousness Studies* 9 (2002): 31-48.

⁵⁶ Uriah Kriegel, in his “The Functional Role of Consciousness: A Phenomenological Approach,” *Phenomenology and the Cognitive Sciences* 3 (2004): 171-193, interprets this implicit self-awareness as a form of marginal or peripheral awareness (see also his “Consciousness as Intransitive Self-Consciousness: Two Views and an Argument,” and “Consciousness as Sensory Quality and as Implicit Self-Awareness”). This view can also be found in Aron Gurwitsch, *The Field of Consciousness* (Pittsburgh, PA: Duquesne University Press, 1964). The problem with this view is that it treats one’s implicit awareness of one’s experiences on the model of one’s implicit awareness of objects in the background of perception. Various arguments can be given to show that experiences are not given as *objects* in implicit self-awareness and that prereflective self-consciousness does not have a subject/object structure. See Zahavi, “Back to Brentano?,” *Self-Awareness and Alterity*, and *Subjectivity and Selfhood*.

⁵⁷ Notice I say that the experience is not the object of another higher-order *phenomenally conscious* mental state. The reason is that I do not wish to beg the question against the higher-order thought theory of consciousness. According to this theory, a conscious mental state is one that is the object of an accompanying higher-order cognitive state that is not itself a conscious state. Thus this theory attempts to explain *intransitive* consciousness (a mental state’s being a conscious mental state) in terms of *transitive* consciousness (a mental state is intransitively conscious just in case one is transitively conscious of it, and to be transitively conscious of it is to have an accompanying higher-order thought that one is in that very state). This theory is meant to

prereflectively self-aware. In Sartre's words: "every positional consciousness of an object is at the same time a non-positional [nonobject-directed or intransitive] consciousness of itself."⁵⁸ This type of self-consciousness is arguably a constitutive feature of phenomenal consciousness.⁵⁹ It is hard to make sense of the thought that one could have a conscious perception without experiencing one's perceiving, or that one could have a conscious mental image without experiencing one's imagining, or that one could have a conscious memory without experiencing one's remembering. But if conscious experience is necessarily self-aware in this way, then contrary to the extreme transparency thesis, we are implicitly aware of constitutive features of our experience and not simply of the objects and properties our experience presents.

It also seems clear, contrary to the extreme transparency of attention thesis, that we can become explicitly aware of features of our experience by attending to them (instead of attending simply to the objects presented by that experience). In seeing, I attend to features of what there is to see. But I can also attend to how seeing feels, to what the activity of seeing is like for me, and to the ways it feels different from freely imagining and from remembering. In attending to experience in this way, I can become explicitly aware of features I do not normally notice (attend to), precisely because they usually remain implicit and prereflective.

The moderate transparency of attention thesis is compatible with these points. It acknowledges that we can (with effort) attend to experience. But it also makes the point that we cannot do so by turning our attention *away from* what that experience presents. Some philosophers do talk about turning attention away from the experienced object to the (self-aware) intentional act. But this way of speaking does not seem apt. Usually when we talk about turning our attention away from one thing to another we imply that we *ignore* or *look away from* the first in favor of the second. It seems impossible, however, to ignore the experienced object when we attend to features of the experience.⁶⁰ This truth is what the transparency metaphor aims to convey. Thus the right way to

be a substantive hypothesis about what intransitive consciousness is, not a phenomenological description. My point in the text, however, is a phenomenological one: It is that experience involves an implicit self-awareness that is not a function of conscious reflection or introspection. The higher-order thought theory is free to acknowledge this phenomenological point, but would aim to explain or analyze implicit self-awareness in terms of transitive consciousness and accompanying (nonconscious) higher-order thoughts. I think such accounts are unsuccessful, but I have not argued for this claim in this paper. For the higher-order thought theory, see David Rosenthal, "A Theory of Consciousness," in Block et al. (ed.), *The Nature of Consciousness*, pp. 729-753. For rebuttals of the higher-order thought theory on behalf of a one-level account of consciousness as intransitive self-consciousness, see Kriegel, "Intransitive Self-Consciousness: Two Views and an Argument," and Dan Zahavi and Josef Parnas, "Phenomenal Consciousness and Self-awareness: A Phenomenological Critique of Representational Theory," *Journal of Consciousness Studies* 5 (1998): 687-705.

⁵⁸ Jean-Paul Sartre, *Being and Nothingness*, trans. Hazel Barnes (New York: Philosophical Library, 1956), p. liii.

⁵⁹ For arguments for this claim, see Kriegel, "Intransitive Self-Consciousness," Zahavi and Parnas, "Phenomenal Consciousness and Self-Awareness," and Zahavi, *Subjectivity and Selfhood*.

⁶⁰ See Siewert, "Is Experience Transparent?", pp. 35-37.

pursue phenomenological analysis is not to turn our attention *inward* (as the notion of *introspection* implies), but to direct our attention to the *appearance* of the object, or the *appearance of the world* more generally, while vigilantly keeping in mind that appearances are objective correlates of subjective intentional acts (e.g., how something looks is correlated to and is a function of how one looks at it). Clearly, the sort of attention in play here is *cognitive* or *mental attention*, not perceptual attention.⁶¹ In attending to features of my visual experience, I do not (and cannot) look away from what that experience presents. Rather, I shift my mental or cognitive attention to how things look given my perceptual attitude. In this way, features of experience on the side of the intentional act, which usually remain implicit or latent, can be made explicit and available for phenomenological consideration. In sum, the way to think about what we do when we attend directly to features of our experience is not that we turn away from the *outer* and ignore it in favor of the *inner*, but rather that we make *explicit* or *manifest* features that are usually *implicit* or *latent*.⁶²

Let us return to Mach's drawing with these ideas in hand, considering it now as a picture seen by us. Following Husserl, we can distinguish three types of intentional objects implicit in the experience of seeing something as a picture (e.g., a portrait, photograph, or landscape painting).⁶³ Firstly, there is the physical and perceptible *pictorial vehicle*, in our case, Mach's drawing on paper (the original and its reproductions). Secondly, there is the *pictorial image*, which also appears perceptually, but is not apprehended as a real thing like the pictorial vehicle. In our example, the pictorial image is Mach's field of view *as depicted*. Whereas the pictorial vehicle is something we can touch or move, the pictorial image as such is not. It is unreal, or as Sartre more provocatively puts it, "a nothingness."⁶⁴ Finally, there is the *pictorial subject* or referent—the person himself or herself who is the subject of the depiction (e.g., in a portrait), or the scene itself (e.g., in a landscape painting). In our example, the pictorial subject is Mach's actual field of view. The pictorial subject is absent and may or may not exist.

The phenomenological problem of the intentionality of picture-viewing is the problem of how these distinct types of intentional objects and their correlative intentional acts combine to form the complex experience of seeing something as a picture.

⁶¹ Stoljar makes a similar point in his "The Argument from Diaphanousness," section 5.2.

⁶² There is a large phenomenological literature on whether this activity of making features of experience explicit and available for phenomenological consideration is primarily descriptive or interpretive, and whether it must involve an objectifying (and hence distorting) form of reflection. This important issue is beyond the scope of this paper. For some recent discussions, see Peter Poellner, "Nonconceptual Content, Experience and the Self," *Journal of Consciousness Studies* 10 (2003): 32-57; Beata Stawarska, "Memory and Subjectivity: Sartre in Dialogue with Husserl," *Sartre Studies International* 8 (2002): 94-111; and Dan Zahavi, "How to Investigate Subjectivity: Heidegger and Natorp on Reflection," *Continental Philosophy Review* 36 (2003): 155-176.

⁶³ See Bernet et al., *An Introduction to Husserlian Phenomenology*, pp. 150-152.

⁶⁴ Sartre, *The Imaginary*, pp. 11-14, 125-136.

Let us distinguish between intentional acts of “presentation” and “re-presentation.”⁶⁵ Perception is presentational; imagination, memory, and picture-viewing are re-presentational. In perception one has an experience as of something present to one and of oneself as having direct access to it. In re-presentational experience, on the other hand, one has an experience as of something absent and of oneself as mentally bringing it into a kind of quasi-presence by way of a mediating intentional activity. For example, one images or visualizes something by mental representing a possible visual experience of it, and one remembers a past occurrence by mentally representing to oneself one’s previous experience of it. Note that the definitive feature of re-presentational experience is that the object is experienced as absent and as needing to be mentally evoked or brought to presence, but not that it needs to be brought to presence *again*. The latter characteristic belongs to memory, but not to every type of re-presentational experience (such as freely visualizing or fantasizing). Note also that re-presentational experiences do not float freely, as it were, but arise on the basis of ongoing presentational experiences of one’s actual surroundings.

Picture-viewing comprises both presentation and re-presentation in a complex way. The physical picture is present to perception, while the absent pictorial subject is re-presented, brought into presence by the pictorial image. In viewing and appreciating a picture, we are interested mainly in neither the physical picture nor the pictorial subject as such, but rather in the pictorial image that appears in the physical picture and represents the pictorial subject. The intentional object of picture-viewing is thus in a way double, for it comprises both the pictorial subject and the pictorial image of that subject appearing in the physical vehicle of the picture. One could argue that this physical vehicle counts as a pictorial entity thanks to the apprehension of an image appearing in it. On this view, imagination, in the sense of the mental apprehension of an image, is a necessary constituent of pictorial experience.

My concern here is not to defend this claim about pictorial experience, but rather to argue that imagining in the sense of visualizing has a different intentional structure from picture-viewing.⁶⁶ This point can be introduced by turning to the mental activity of remembering.

Suppose Mach, having finished his drawing, later remembers having drawn his visual field while seated in his study. In what does the experience of this sort of mental

⁶⁵ See Marbach, *Mental Representation and Consciousness*, Chapters 2 and 3. This distinction is between what Husserl calls *Gegenwärtigung* (presentation) and *Vergegenwärtigung* (representation).

⁶⁶ The claim that imagination is a necessary constituent of pictorial experience is controversial. Now classic discussions are Kendall L. Walton, *Mimesis as Make-Believe: On the Foundations of the Representational Arts* (Cambridge, MA: Harvard University Press, 1990); Richard Wollheim, *Art and its Objects*, second edition (New York: Cambridge University Press, 1980) and *Painting as an Art* (Princeton: Princeton University Press, 1987). For recent discussions, see Dominic Lopes, *Understanding Pictures* (Clarendon: Oxford University Press, 1996); Robert Hopkins, *Picture, Image, and Experience* (New York and Cambridge: Cambridge University Press, 1998); Richard Wollheim, “On Pictorial Representation,” *Journal of Aesthetics and Art Criticism* 56 (1998): 217-226; Jerrold Levinson, “Wollheim on Pictorial Representation,” *Journal of Aesthetics and Art Criticism* 56 (1998): 227-233; and Kathleen Stock, “On the Role of Imagining in Pictorial Experience,” *Journal of Aesthetics and Art Criticism*, forthcoming.

activity consist? How is remembering different in its subjective character from perceiving and picture-viewing?

As noted above, perceptual experiences have a directness and immediacy that make them presentational in character rather than re-presentational.⁶⁷ In remembering, however, situations and events are experienced not as present, but as past. They are necessarily re-presented by experience instead of presented. The phenomenological question is how this re-presentation subjectively works. According to the image theory of memory, when one remembers one apprehends a mental image of something experienced in the past. One problem with this theory is that in memory one does not take oneself to be imagining something that seems like what one remembers; one takes oneself to be remembering something as it occurred. The standard way to deal with this problem is to insist that what one remembers is the past occurrence, not the mental image, but that one remembers the past by virtue of the mental image. But this move highlights a deeper problem, which is that the image theory fails to account for how an image had in the present can yield a memory experience as of something past. Husserl's account of memory as the re-presentation of a *past experience* aims to overcome this difficulty.⁶⁸ Consider that when you remember a past occurrence or situation, you also implicitly remember your earlier experience of it. Mach remembers his field of view as it appeared to him from his couch, but he does so by way of implicitly remembering his earlier visual experience. Thus, in memory, one apprehends something absent (the past) not by means of an image (a mental picture), but through the mediation of an experience (e.g., a perceptual experience) that is taken to have occurred in the past and that is reproduced in the present in a modified way, namely, as purely re-presented and thus nonactual. In other words, the experience in its re-presented form is not an actual experience (i.e., an actual token experience resembling the past token experience), but rather an *as-if* or *quasi-experience*, or better yet, a *quasi-experiencing*. The experience does not actually occur, or the experiencing is not actually performed, for it is only intentionally implied in the remembering.⁶⁹ On this view, to say that I remember X is to say that I mentally represent X by re-presenting an experience of X believed to have actually occurred in the past.⁷⁰ It is important to note that the intentional object of the memory is usually the past

⁶⁷ Cf. John Searle, *Intentionality: An Essay in the Philosophy of Mind* (Cambridge: Cambridge University Press, 1983), pp. 45-46: "If, for example, I see a yellow station wagon in front of me, the experience I have is directly of the object. It doesn't just 'represent' the object, it provides direct access to it. The experience has a kind of directness, immediacy and involuntariness which is not shared by a belief which I might have about the object in its absence. It seems therefore unnatural to describe visual experiences as representations... Rather, because of the special features of perceptual experiences I propose to call them 'presentations'. The visual experience I will say does not just represent the state of affairs perceived; rather, when satisfied, it gives direct access to it, and in that sense it is a presentation of that state of affairs."

⁶⁸ See Marbach, *Mental Representation and Consciousness*, pp. 78-83. See also Rudolf Bernet, "Unconscious Consciousness in Husserl and Freud," *Phenomenology and the Cognitive Sciences* 1 (2002): 327-351, also in Donn Welton (ed.), *The New Husserl: A Critical Reader* (Bloomington and Indianapolis, IL: Indiana University Press, 2003), pp. 199-219.

⁶⁹ See Marbach, *Mental Representation and Consciousness*, p. 61.

⁷⁰ *Ibid.*, pp. 80-81. Marbach's formulation is that my remembering X is my representing X by means of representing a *perceiving* of X believed to have occurred in the past. I have replaced

occurrence, not the past *experience* of it (unless the two are one and the same, e.g., a past pain one experienced). The re-presenting of the past experience usually operates only implicitly and prereflectively. Furthermore, the earlier experience is not literally reproduced or recreated in the memory. Rather, the intentionality of memory, in referring to the past, implies the correlative experience of that past. Husserl's way of expressing this point is that the memory does not *really* contain the past experience, but rather *intentionally implicates* it.⁷¹

A tempting way to link this idea to cognitive science would be to say that memory does not involve “on-line” sensory experience—sensory experience appropriately constrained by current sensorimotor interaction with the environment—but rather “off-line,” simulated sensory experience, or better yet, emulated sensory experience. An emulation represents an activity by reenacting it in a circumscribed and modified way (e.g., as an internal process that models, but does not loop through, peripheral sensory and motor systems).⁷² Remembering could involve emulating earlier sensory experiences, and in this way reenacting them.

The experience of recollection thus involves a kind of “doubling of consciousness,”⁷³ for in being the conscious re-presentation of a past occurrence, remembering is also the conscious re-presentation of a previous consciousness. (Here we touch upon the complexities of internal time-consciousness, which are beyond the scope of this paper.)⁷⁴ Seeing something as a picture, on the other hand, involves a double intentional object—the pictorial subject plus the pictorial image appearing in the physical vehicle. *There is thus a clear sense in which picture-viewing can be said to involve a mental image, for the image in a picture is arguably nothing other than an intentional correlate of the mental activity of picture-viewing.* This image has a clearly identifiable vehicle, namely, the physical material of the picture. Remembering, however, lacks this threefold structure of vehicle/image/referent. Moreover, appealing to mental images does not explain the intentionality of memory. The problem with the image theory of memory is that it turns memory into a kind of pictorial experience, and thereby distorts its intentional structure and subjective character.

The same points hold for imagining or visualizing: Imagining is not a species of pictorial experience. In visual imagining, one apprehends something not by means of a mental image, but through the mediation of another intentional act, namely, the re-

“perceiving” by “experiencing,” because one can remember experiences that are not perceptual experiences (e.g., pains, hallucinations, dreams, etc.).

⁷¹ For Husserl's notion of intentional implication, see Edmund Husserl, *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy. First Book*, trans. F. Kersten (The Hague: Martinus Nijhoff, 1983), §99, p. 244 (henceforth referred to as *Ideas I*), and Marbach, *Mental Representation and Consciousness*, pp. 34-36, 69-70.

⁷² See Rick Grush, “The Emulation Theory of Representation: Motor Control, Imagery, and Perception,” *Behavioral and Brain Sciences* 27 (2004): 377-396.

⁷³ Bernet, “Unconscious Consciousness in Husserl and Freud,” p. 336.

⁷⁴ Edmund Husserl, *On the Phenomenology of the Consciousness of Internal Time (1893-1917)*, trans. John Barnett Brough (Dordrecht: Kluwer Academic Publishers, 1991). See Dan Zahavi, “Inner Time-Consciousness and Pre-reflective Self-awareness,” in Welton (ed.), *The New Husserl*, pp. 157-180.

presenting and thus quasi-enacting of a visual experience.⁷⁵ What needs to be clarified is how this sort of mental re-presentation differs from remembering.

Suppose Mach, while drawing his visual field, becomes distracted and visualizes his books rearranged on the shelves. We can suppose that he is not remembering any particular past arrangement and that he has no intention of actually rearranging them. He simply visualizes how they would look in a different arrangement. In this way, imagining (more precisely, imaging) does not require belief in the factual reality of the experience it re-presents and thereby intentionally implies. In other words, there is no implication either that such an experience has occurred in the past (as in remembering) or that it will occur in the future (as in anticipation or expectation). Rather, in imagining, this doxastic feature of belief in the actual (past or future) occurrence of the experience that is being mentally re-presented is “neutralized.”⁷⁶ On this view, to say that I imagine X is to say that I mentally represent X through a neutralized quasi-experiencing of X.⁷⁷ For example, in imagining the Eiffel Tower, I represent to myself a visual experience as of the Eiffel Tower, where I remain noncommittal about the actual occurrence of such an experience.

Thus, in both visual remembering and visualizing, one’s experience can be described as one of *quasi-seeing*. In remembering, this quasi-seeing involves believing that the occurrence and the corresponding visual experience existed in the past, whereas in purely imagining, this sort of belief is not in play and one is noncommittal.⁷⁸

⁷⁵ Visualizing is clearly not the only sort of imagination. For phenomenological treatments of how visual imaging is related to other forms of imagination, see Edward Casey, *Imagining: A Phenomenological Study* (Bloomington and Indianapolis: Indiana University Press, 1976/second edition, 2000); McGinn, *Mindsight*; and Sartre, *The Imaginary*.

⁷⁶ For this notion of the “neutrality modification” applied to belief, see Husserl, *Ideas I*, §109, pp. 257-259. For discussion of the role that neutralization plays in imagination, see Marbach, *Mental Representation and Consciousness*, pp. 75-76.

⁷⁷ Marbach, *Mental Representation and Consciousness*, p. 75. His formulation is: “I represent x by means of representing a neutralized quasi-perceiving of x.” Strictly speaking, the “quasi” or “as-if” aspect is already implicit in the experience’s being re-presented and thereby intentionally implied, not actually performed. I have replaced “quasi-perceiving” with “quasi-experiencing,” for one can imagine experiences that are not perceptual experiences (e.g., pains, hallucinations, dreams, etc.).

⁷⁸ This account accepts what Martin, in “The Transparency of Experience,” calls “The Dependency Thesis,” which states, “to imagine sensorily a ϕ is to imagine experiencing a ϕ ” (p. 404). According to this thesis, we visualize objects by imagining visually experiencing them. Martin, however, takes this thesis to imply that “one kind of phenomenally conscious state, an event of imagining, takes as its object another type of conscious state of mind, a sensory experience” (ibid.). On my view, although we visualize objects *by* imagining visually experiencing them, the sensory experience is not the intentional *object* of the imagining (unless one is explicitly imagining a sensory experience, e.g., a pain); the intentional object is the visualized object. The imagined sensory experience is part of the quasi-seeing that occurs in imagining, and this quasi-seeing is experienced intransitively and prereflectively, not as an object of the transitive imagining consciousness. I take this intentional structure to be part of the reason why, as Martin puts it, “imagery seems to give us the presence of an imagined scene rather than a mere imagined experience of the scene” (p. 416)—though as noted earlier, this presence is also a peculiar kind of presence-in-absence, as Sartre would put it (see *The Imaginary*, pp. 11-14, 126-127, 180).

Several comments about this noncommittal quality are in order. Firstly, the neutralization or suspension of belief that makes for this noncommittal quality belongs to the way the *sensory experience* is mentally represented, in other words to the *quasi-seeing*. It is thus independent of belief in the existence or nonexistence of the *object* or *scene* that one imagines. I believe that the *Eiffel Tower* exists in Paris. Nevertheless, in visualizing a possible view of the Eiffel Tower from (say) Trocadero, I re-present a *visual experience* whose actual occurrence at any time in the past or future I am in no way committed to. On the other hand, if I imagine a flute-playing centaur (see Husserl, *Ideas I*, §23), then not only is my quasi-seeing as of the centaur neutralized, but I also take the object of my imagining to be purely fictional. Thus, in neutralized quasi-seeing, there remain various ways in which the object or scene can be represented. For example, I can take it to exist (the Eiffel Tower), to not exist but to be possible in this world (a fantasy house in which I could live), or to not exist and to be purely fictional (a flute-playing centaur).⁷⁹

Secondly, neutralization does not imply that one is noncommittal with respect to the *imagined scene*. For example, in visualizing the Eiffel Tower as seen from Trocadero, I am not noncommittal about whether the imagined scene contains a tower seen from across the river Seine. In other words, my commitment to these features is not itself imagined, but actual.⁸⁰

Nevertheless, thirdly, there are different ways in which the act of imagining can “posit” its object. Sartre distinguishes four ways: “it can posit the object as nonexistent, or as absent, or as existing elsewhere; it can also ‘neutralize’ itself, which is to say not posit its object as existent.”⁸¹ The first three types of positing concern the imagined object and are all variations on the way it appears as absent in imagining. The fourth type concerns the positing act itself and has a different structure.

In the first type, the object is posited as nonexistent, and hence not able to be perceptually present at all. Such objects are fictions (e.g., a flute-playing centaur).⁸² In the second and third types, the object is posited as existing, and so as something that could be

⁷⁹ Marbach, *Mental Representation and Consciousness*, pp. 76-77. He distinguishes between “imagining a real possibility concerning, e.g., a thing, event, situation, etc. that one believes to exist in the real world” and “imagining a mere possibility, i.e. something purely fictional.”

⁸⁰ Martin, “The Transparency of Experience,” makes this point and uses it to construct an argument against representationalism analogous to the representationalist’s phenomenal transparency argument against the sense-datum theory.

⁸¹ Sartre, *The Imaginary*, p. 12.

⁸² *Ibid.*, p. 20. The status of fiction in relation to the imagination is a distinct problem in its own right and beyond the scope of this paper. As Beata Stawarska observes in “Pictorial Representation or Subjective Scenario? Sartre on Imagination,” *Sartre Studies International* 7 (2001): 87-111, “One wonders... whether it is... justified to subsume the *non-existence* of purely fictional characters under the heading of ‘absence.’ It seems more appropriate to take *non-existence* as the contrary of *existence* and to ascribe *absence* and *presence* (existential categories) to beings that are posited as *existent* only. A centaur cannot be absent (nor present) since it does not belong to the class of things posited as existent” (p. 101). Indeed, Sartre himself notes, “It is only on the ground of sensory intuition that the words ‘absent’, ‘far from me’, can have a sense, on the ground of a sensory intuition that gives itself as not being able to take place” (*The Imaginary*, p. 13).

brought into one's presence and perceived. On the one hand, the object could be posited simply as absent with no further qualification; on the other hand, it could be posited as absent and elsewhere. For example, in now imagining my friend Alva, I can posit him simply as absent, or as absent and in Berkeley.

The fourth type of positing is suspension of belief in the existence of the object, but without positing its nonexistence. So defined, suspension can occur not only in imagination, but also in perception: "This is what happens in perception when I see a man coming towards me and I say 'It is possible this man is Pierre'. But, precisely, this suspension of belief, this abstention, concerns *the man approaching*. Of this man, I doubt that he is Pierre; I do not thereby doubt that he is a man. In a word, my doubt necessarily implies a positing of existence of the type: a man coming towards me."⁸³ Sartre's example of neutralization in imagination is a case of picture-viewing:⁸⁴ "if I look at the photos in a magazine, they can very well 'say nothing to me', which is to say I look at them without positing their existence. Thus, the people whose photographs I see are indeed reached through these photographs, but without my positing their existence, just as the Knight and Death are reached through Dürer's engraving, but without my positing them."⁸⁵ Sartre's point is that I can look at the photographs and see them as photographs of people, not simply as glossy papers, but without thinking that these people are alive or dead, existent or nonexistent. Rather, I remain noncommittal; my pictorial experience simply does not go into or broach this matter.⁸⁶

There is thus a difference between the way Sartre employs the idea of neutralization and the way I presented it above. On the one hand, as Sartre makes clear, "what distinguishes the different positional types is the thetic character of the intention,

⁸³ Sartre, *The Imaginary*, p. 13.

⁸⁴ Sartre's account of imagination contains a tension between assimilating imagining to a kind of pictorial consciousness, and conceiving of imagining as a *sui generis* type of mental activity that cannot be analyzed in pictorial terms. See Stawarska, "Pictorial Representation or Subjective Scenario," and Gregory McCulloch, *Using Sartre: An Analytical Introduction to Early Sartrean Themes* (London and New York: Routledge Press, 1994), Chapter 5.

⁸⁵ *The Imaginary*, p. 24. Earlier in the text (p. 20) Sartre uses the figures of the Knight and Death in Dürer's engraving as an example of objects that are posited as nonexistent, i.e., as fictions.

⁸⁶ Nevertheless, Sartre states in a footnote (p. 197, n. 10): "This suspension of belief remains a positional act." As he also makes clear later in the text: "one of the essential factors of the imaging consciousness is belief. This belief aims at the object of the image. All imaging consciousness has a certain positional quality in relation to its object. An imaging consciousness is, indeed, consciousness of an *object as imaged*, and not consciousness of an *image*" (p. 86). Suspension of belief is positional because it is a feature of what Sartre calls positional or thetic consciousness, that is, object-directed consciousness (consciousness that posits an object). But image consciousness also includes (as does all consciousness) a nonpositional or nonthetic consciousness of itself, that is, an intransitive (nonobject-directed) and prereflective self-consciousness: "the imaging consciousness that we produce before a photograph is an act and this act includes a nonthetic consciousness of itself as spontaneity. We have consciousness, of some sort, of *animating* the photo, of lending life to it in order to make an image of it" (p. 25). This remark indicates that, for Sartre, prereflective self-consciousness does not have a subject/object structure (and therefore cannot be analyzed as a form of marginal, peripheral, or background awareness; see note 57).

not the existence or nonexistence of the object.”⁸⁷ In other words, the noncommittal quality belongs to the intentional *act* rather than the intentional *content*. On the other hand, what Sartre takes to be neutralized is belief in the existence or nonexistence of the imagined *object* (e.g., the people in the photograph), whereas in my presentation what is neutralized is belief in the actuality of the re-presented *sensory experience*. In other words, the noncommittal quality pertains to the quasi-seeing constitutive of visual imagining. It is thus firmly on the act-side rather than the content-side of the intentional structure.

The foregoing analysis of visual imagining as *noncommittal quasi-seeing* tries to capture both the important similarities and differences between perceptual experience and imagery experience. On the one hand, quasi-seeing involves visual experience, but on the other hand, this visual experience is only intentionally implied, not actual. That it is internal to the nature of visual imagining that there is a mentally represented visual experience whenever one visually imagines an object or scene may account for the similarities between visual perception and visualization (e.g., shared perspectival content).⁸⁸ Yet that the visual experience is only intentionally implied means that its content is determined primarily by the imagining intention and the knowledge that intention contains.⁸⁹ Hence, unlike perception, the intentional content of one’s imagining is not constrained by one’s current sensorimotor activities and dependencies—ones “sensorimotor contingencies.”⁹⁰ In particular, there is no correlation (or merely a temporary, accidental one) between what one is visualizing and how one is sensing and moving in relation to one’s environment. To borrow an example from Elisabeth Pacherie, “I can, for instance, close my eyes and imagine a cube, I can even imagine myself turning around the cube, I can during this exercise move my head and my body in different ways, but unless by coincidence or because of my deliberately intending it to be so, my movements will not be correlated with the sequence of images of the cube that I imagine I am moving around.”⁹¹

⁸⁷ Ibid., p. 24.

⁸⁸ See Martin, “The Transparency of Experience,” pp. 407-413.

⁸⁹ See Sartre, *The Imaginary*, p. 57: “The image is defined by its intention. It is the intention that makes it the case that the image of Pierre is consciousness of Pierre. If the intention is taken at its origin, which is to say as it springs from our spontaneity, it already implies, no matter how naked and bare it may seem, a certain knowledge: it is, hypothetically, the knowledge (*connaissance*) of Pierre... But the intention does not limit itself, in the image, to aiming at Pierre in an indeterminate fashion: he is aimed at as blond, tall, with a snub or aquiline nose, etc. It must therefore be charged with knowledge (*connaissances*), it must aim through a certain layer of consciousness that we can call the layer of knowledge. So that, in the imaging consciousness, one can distinguish knowledge and intention only by abstraction. The intention is defined only by the knowledge since one represents in image only what one knows in some sort of way and, reciprocally, knowledge here is not simply knowledge, it is an act, it is what I want to represent to myself... Naturally, this knowledge should not be considered as added to an already constituted image to clarify it: it is the active structure of the image.”

⁹⁰ O’Regan and Noë, “A Sensorimotor Account of Vision and Visual Consciousness.”

⁹¹ Elisabeth Pacherie, “*Leibhaftigkeit* and Representational Theories of Perception,” in Petitot et al. (eds.), *Naturalizing Phenomenology*, pp. 148-160, at p. 158.

The supposition that the intentional content of an imagining episode is determined primarily by an intention unconstrained by current sensorimotor contingencies might also explain another widely-noted difference between imagery experience and perceptual experience, namely, a certain unexplorability of the imagined object by contrast with the explorability of the object for perception.⁹² In perception, objects not only appear perspectively, but present profiles that vary with one's movement. We experience objects as having "sensorimotor profiles," as things whose appearances would vary in precise ways as we move around them, or as they move in relation to us.⁹³ Perception thus implies "the necessity of *making a tour* of objects."⁹⁴ On the other hand, although the object as imagined appears perspectively, "we no longer need to make a tour of it: the imaged cube is given immediately for what it is."⁹⁵ Whereas my seeing something as a cube is revocable—I could be mistaken, the object could show itself to be something else as I explore it—my imagining a cube is not revocable in this way. There is no possibility of still-to-be-disclosed profiles that could show the object not to be a cube, for to say it is no longer a cube, but rather (say) a diamond, is to say that I am now imagining a diamond, i.e., that the intention of my imagining has changed and now determines a new intentional object. Exactly the same is true if I visualize a cube now from this angle, now from that angle: I do not explore or make a tour of the cube, but change what I imagine by changing my imaginative intention.⁹⁶ Although such intentions clearly embody sensorimotor knowledge, the movement from one to the next, unlike in perception, is not correlated to the sensorimotor dependencies that currently figure in one's relation to one's surroundings.

It is time to state the main upshot for the imagery debate of this phenomenological analysis of imagery experience. *This analysis of imagery experience in remembering and imagining makes no mention of phenomenal mental images.* In remembering and imagining, one apprehends an object (or event or state of affairs) not through a mental image (a picture in the head), but by representing another intentional act (and by necessity that act's intentional object). One might object that although mental images are not the intentional objects of remembering and imagining experiences, and so are not inwardly "seen," they are nonetheless "had" or "undergone" in those experiences. But if the content of perceptual experience is not pictorial, then there is no good reason to assume that the content of quasi-seeing in remembering or imagining is pictorial. Exactly where, then, in experience is the mental image or inner picture supposed to be found, and exactly what role is it supposed to play? Despite the widespread assumption to the contrary in cognitive science (see Section I and note 27), imagining and remembering are

⁹² See Casey, *Imagining*, pp. 91-93.

⁹³ See Noë, *Action in Perception*, p. 117.

⁹⁴ Sartre, *The Imaginary*, p. 8.

⁹⁵ *Ibid.*, p. 9.

⁹⁶ Because of these characteristics of imagining—the determination of its content by knowledge and intention, as well as the essential unexplorability of the imagined object—Sartre describes the intentional attitude of imagining as one of "quasi-observation," by which he means an attitude of observation, but an observation that does not teach anything (*The Imaginary*, p. 10). As McGinn, *Mindsight*, pp. 19-20, notes, this formulation should be modified to allow for the possibility of cognitive enhancement (e.g., problem solving) by imagining.

not properly described as pictorial in their phenomenal character (unless, of course, one is imagining or remembering looking at a picture).

III. The Imagery Debate Revisited

What is initially striking about this phenomenological analysis of imagery experience, from the perspective of the imagery debate, is that it supports the claim, made by descriptionists, though not proprietary to them, that visualizing is not the inspection of a mental image, but rather the mental representation of what it is like, or was like, or would be like, to see something, given one's tacit knowledge of how things look and one's sensorimotor skills.⁹⁷ Thus this phenomenological analysis undermines a principal motivation for analytical isomorphism in imagery research, namely, the assumption that imagery experience is the experience of a phenomenal mental image, or that the content of imagery experience is given by an image. Analytical isomorphism seeks to find depictive structures in the brain corresponding to the supposedly imagistic or pictorial content of imagery experience. It is, of course, an empirical question whether topographically organized areas of the visual cortex are involved in one or another type of visual imagining. But evidence for their involvement cannot be taken to mean that activity in these areas corresponds to the content of what we experience when we visually imagine a scene.⁹⁸ In visualizing a scene we represent to ourselves a visual experience of the scene, and neither the content of the visual experience nor that of the quasi-seeing in which it is represented is given by an image or picture.

Although this line of thought supports descriptionism, it also suggests that the descriptionist, tacit knowledge account of mental imagery is vague and underspecified. According to Pylyshyn, the "null hypothesis" is that all cognition makes use of the same representational format.⁹⁹ What is distinctive about imagery is that the content of one's thoughts concern how things look. To decide, however, whether to accept or reject this null hypothesis in any given case, we need to know exactly what the subject is mentally doing. According to the tacit knowledge proposal, when subjects are asked to visualize something, they in effect ask themselves what it is like to see it, and then simulate as many of the relevant aspects as they can, given their knowledge of how things look, how that knowledge is organized, and their repertoire of psychophysical skills. The problem with this proposal, from a phenomenological point of view, is that it does not specify in nearly enough detail what the individual subject is mentally doing during a particular episode of imagery experience. As we have seen, one can simulate seeing something in

⁹⁷ I take descriptionism to involve the further substantive hypothesis that the tacit knowledge is propositional in form and that the subpersonal format of mental representation is symbolic (language-like).

⁹⁸ Cf. Pylyshyn, *Seeing and Visualizing*, pp. 400-416. In these pages, Pylyshyn details numerous ways in which two-dimensional retinotopic displays "could not possibly correspond to what we mean by a mental image" (p. 405).

⁹⁹ Pylyshyn routinely conflates this hypothesis with the substantive hypothesis that all cognition involves the same *propositional* format, namely, a "language of thought." But to pretend that the language of thought hypothesis does not have its own deep conceptual problems (where does the semantics of the symbols come from?), analogous to those that plague pictorialism, is sheer bluster.

various ways—by imagining it (where this means noncommittal quasi-seeing according to various “positing attitudes”), by remembering it, and by seeing it in a picture. One can also reiterate these types of mental activities in complicated ways: One can remember imagining something; one can imagine remembering something; one can visualize looking at a picture; one can remember visualizing looking at a picture, and so forth. These mental activities all have different subjective characters and intentional and cognitive structures.

This point casts light on the intentional structure of imagery experience in standard imagery tasks. Consider Shepard and Metzler’s well-known mental rotation task.¹⁰⁰ Subjects looked at pairs of two-dimensional, perspective line-drawings of three-dimensional shapes. The shapes were at different orientations, and the task was to determine whether the two shapes were the same. What Shepard and Metzler found is that the time it takes to decide whether the two shapes are identical increases linearly as the angle between them increases, no matter whether the rotation is in the plane or in depth. Although introspective reports were not collected in the original study,¹⁰¹ many people report visualizing one or both shapes being rotated in order to perform the task. This task involves a combination of picture-viewing and visual imagining, because one sees the 2D display as a 3D image and then visualizes movement in the picture. In other words, one *visualizes the rotation of a pictorial image*. Consider now Kosslyn’s well-known map scanning experiments.¹⁰² Subjects memorize a simple picture of an island with various objects on it. Once they have learned to draw the map from memory, they are asked to visualize it, fix their attention on one landmark, mentally “scan” to another landmark, and report when they can “see” this second landmark in their “mind’s eye.” The reaction time to report “seeing” the second landmark is measured and found to be a linear function of the distance between the two landmarks in the original map. This task combines picture-viewing, remembering, and visualizing, for one must *visualize a remembered picture*. Thus, in these imagery tasks, subjects appear to be *simulating or mentally representing the perception of a picture*. What these tasks elicit, therefore, is neither simply perception, nor visual remembering, nor visual imagining, but both actual and imagined pictorial experience.

As Pylyshyn has discussed, there is a widespread tendency to interpret the results of these experiments according to analytical isomorphism, in other words as showing that we rotate and scan phenomenal mental images isomorphic to depicture structures in the brain.¹⁰³ One wonders whether this tendency is motivated by the fact that in these experiments subjects are perceiving and visualizing pictures. By contrast, in the case of motor imagery, there is less temptation to assume that one is moving a motor image instead of emulating what it is like to perform a motor action.

¹⁰⁰ Roger Shepard and Jacqueline Metzler, “Mental Rotation of Three-Dimensional Objects,” *Science* 171 (1971): 701-703.

¹⁰¹ Contrary to Dennett’s description of this experiment in his *Sweet Dreams: Philosophical Obstacles to a Science of Consciousness* (Cambridge, MA: The MIT Press/A Bradford Book, 2005), p. 51.

¹⁰² As described in Kosslyn et al., “On the Demystification of Mental Imagery.”

¹⁰³ See Pylyshyn, “Mental Imagery: In Search of a Theory,” p. 180, and *Seeing and Visualizing*, p. 356.

The foregoing phenomenological analysis of imagery experience has important implications for empirical research on imagery. At the personal level, we need more refined and precise descriptions of what subjects are mentally doing in various imagery tasks. Such descriptions should include the overall intentional structure of a given imagery task, as well as variations in subjective experience across individuals and from trial to trial for a given individual. Constructing such descriptions requires gathering first-person reports from individual subjects about how they experience their cognitive activity from trial to trial in a given experiment, and then working with those subjects to define invariant intentional and phenomenal structures of their experience. Recent experimental work on the neurodynamics of conscious visual perception has shown that such phenomenal invariants can be used to detect and interpret novel patterns of neural activity that correlate with mental activity and behavior.¹⁰⁴ Without this phenomenological window on brain activity, these patterns would remain lost in the highly variable neural signals, usually treated as noise. This approach of combining first-person data informed by phenomenological analysis with third-person neurophysiological and behavioral data defines the research program known as *neurophenomenology*.¹⁰⁵

A neurophenomenological approach to mental imagery would start with a careful phenomenological analysis of imagery experience at the personal level and use this analysis to guide investigations of the brain processes at the subpersonal level that subserve imagery.¹⁰⁶ The analysis presented in this paper, as we have seen, dispenses

¹⁰⁴ See Antoine Lutz, Jean-Philippe Lachaux, Jacques Martinerie, and Francisco J. Varela, "Guiding the Study of Brain Dynamics by Using First-Person Data: Synchrony Patterns Correlate with Ongoing Conscious States During a Simple Visual Task," *Proceedings of the National Academy of Sciences USA* 99 (2002): 1586-1591, and Diego Cosmelli, Olivier David, Jean-Philippe Lachaux, Jacques Martinerie, Line Garnero, Bernard Renault, and Francisco Varela, "Waves of Consciousness: Ongoing Cortical Patterns During Binocular Rivalry," *Neuroimage* 23 (2004): 128-140. For discussion of this work, see Antoine Lutz and Evan Thompson, "Neurophenomenology: Integrating Subjective Experience and Brain Dynamics in the Neuroscience of Consciousness," *Journal of Consciousness Studies* 10 (2003): 31-52, and Evan Thompson, Antoine Lutz, and Diego Cosmelli, "Neurophenomenology: An Introduction for Neurophilosophers," in Brooks and Akins (eds.), *Cognition and the Brain*, pp. 40-97.

¹⁰⁵ See Lutz and Thompson, "Neurophenomenology," Thompson et al., "Neurophenomenology: An Introduction for Neurophilosophers," Francisco J. Varela, "Neurophenomenology: A Methodological Remedy for the Hard Problem," *Journal of Consciousness Studies* 3 (1996): 330-350, and "The Specious Present: A Neurophenomenology of Time Consciousness," in Petitot et al. (eds.), *Naturalizing Phenomenology*, pp. 266-314. See also Dan Lloyd, "Functional MRI and the Study of Human Consciousness," *Journal of Cognitive Neuroscience* 14 (2002): 818-831, and *Radiant Cool*.

¹⁰⁶ An important topic I reserve for another paper is to compare phenomenological analysis as it informs neurophenomenology and Dennett's heterophenomenology. For an early presentation of heterophenomenology, then called simply the phenomenological approach (and contrasted with the scientific approach), see Daniel C. Dennett, "Two Approaches to Mental Images," in his *Brainstorms: Philosophical Essays on Mind and Psychology* (Cambridge, MA: The MIT Press/A Bradford Book, 1981), pp. 174-189. For perceptive criticism of heterophenomenology with reference to imagery experience, see Eduard Marbach, "Troubles with Heterophenomenology," in Roberto Casati, Barry Smith, and Graham White (eds.), *Philosophy and the Cognitive Sciences*.

with the construct of the phenomenal mental image, understood as a pictorial *entity* or *content* in consciousness, and instead directs us to analyze imagining as a type of mental *activity* whereby one relates to something not immediately present.¹⁰⁷ But if we replace the static image construct with a dynamic model of visual imagery as the mental activity of visualizing, and if the intentional content of that activity cannot be given in an image, then there seems no good reason to go looking for depictive representations in the brain corresponding to what we see or visualize.

This line of thought is clearly critical of pictorialism, but does it support descriptionism? According to descriptionism, in visualizing we represent how things look based on our tacit propositional knowledge of visual properties and relations. There is reason to believe, however, that our tacit knowledge of visual properties and relations is at base not descriptive and propositional, but skillful and sensorimotor.¹⁰⁸ According to the dynamic sensorimotor approach to perception, also known as the enactive approach, to perceive is to exercise one's skillful bodily mastery of sensorimotor contingencies or ways that sensory experience varies as a function of bodily movement. Such bodily mastery is a matter of practical, rather than propositional, sensorimotor knowledge. At the personal level, perceiving is a way of acting, constituted in part by the perceiver's skillful knowledge of the ways sensory experience and motor experience vary as functions of one another. In Susan Hurley's formulation, perception and action are constitutively interdependent, not merely linked in an instrumental, means-end fashion.¹⁰⁹ What one perceives depends directly on how one moves—perceptual content can change as a result of movement, even when sensory stimulation is held constant¹¹⁰—and how one moves depends directly on what one perceives. At the subpersonal level, the brain

Proceedings of the 16th International Wittgenstein Symposium (Hölder-Pichler-Tempsky, 1994), pp. 247-264.

¹⁰⁷ It is detrimental to both sides of the imagery debate to point out that already in 1940 Sartre had used phenomenological analysis to expose what he called “the illusion of immanence,” by which he meant the cognitive illusion of taking mental images to be pictorial items in consciousness. One form this illusion can take is supposing that the qualities of the object one imagines also belong to one's mental image, or as we would say today, confusing properties of what is represented with properties of the representing. But Sartre went further than this familiar point. He argued that a mental image properly understood is not a *content contained in consciousness*, but rather an *intentional act of consciousness*: “The word ‘image’ could only indicate therefore the relation of consciousness to the object; in other words, it is a certain way in which the object appears to consciousness, or, if one prefers, a certain way in which consciousness presents to itself an object. To tell the truth, the expression ‘mental image’ gives rise to confusion. It would be better to say ‘consciousness-of-Pierre-as-imaged’ or ‘imaging-consciousness-of-Pierre’. As the word ‘image’ is long-standing, we cannot reject it completely. But, to avoid all ambiguity, I repeat here that an image is nothing other than a relation” (*The Imaginary*, p. 7). Nonetheless, Sartre compromised this insight by falling back into treating imaging consciousness as a species of pictorial consciousness. See Stawarska, “Pictorial Representation or Subjective Scenario.”

¹⁰⁸ See Noë, *Action in Perception*, O'Regan and Noë, “A Sensorimotor Approach to Vision and Visual Consciousness,” and Alva Noë, “Against Intellectualism,” *Analysis*, forthcoming.

¹⁰⁹ Hurley, *Consciousness in Action*.

¹¹⁰ For an experimental example, see Mark Wexler, Francesca Panerai, Ivan Lamouret, and Jacques Droulez, “Self-Motion and the Perception of Stationarity,” *Nature* 409 (2001): 85-88.

processes implicated in perception are understood not in terms of their intrinsic neurophysiological properties or as mere neural correlates of mental states, but rather in terms of how they participate in dynamic sensorimotor patterns involving the whole active animal.¹¹¹

According to the enactive approach, there is no percept in the sense of an end-product of perception, whether in the form of an inner picture or description of the scene before one. Instead, there is the continual activity of perceiving, understood as sensorimotor exploration. Similarly, as we have seen, there is no phenomenal mental image in the sense of an end-product of imagining, but instead the activity of visualizing, understood as noncommittal quasi-seeing. Can such quasi-seeing can be understood in dynamic sensorimotor terms?

To address this question in any adequate way would require another paper. Nevertheless, it seems reasonable to hypothesize that the procedural systems underlying our skillful bodily mastery of sensorimotor contingencies are activated in visualizing in much the same way as in perceiving, the difference being that in visualizing they are not modulated by sensory stimulation and motor action. Rather, they emulate such sensorimotor activity in its absence. In keeping with the phenomenological analysis of imagery experience, this proposal postulates no mental images as end-products of visualizing, but instead the actual and vicarious exercise of skillful sensorimotor knowledge.¹¹²

In this paper, I have stressed for heuristic purposes the differences between perceiving and visualizing, as well as some of the differences among imagining, remembering, and picture-viewing. These differences are largely static, conceptual ones, having to do with the different intentional structures of these mental activities. If we were to analyze perception and imagination from a more dynamic perspective, however, then we would need to take account of how they influence and permeate each other, how they alternate and feed each other in our mental lives.¹¹³ This important topic lies far beyond the scope of this paper, but I hope to have shown how we might begin to approach it using the combined resources of phenomenological analysis and cognitive science.

¹¹¹ See Hurley and Noë, “Neural Plasticity and Consciousness.”

¹¹² See Nigel J.T. Thomas, “Are Theories of Imagery Theories of Imagination? An Active Perception Approach to Conscious Mental Content,” *Cognitive Science* 23 (1999): 207-245, and “The False Dichotomy of Imagery,” *Behavioral and Brain Sciences* 25 (2002): 211. Thomas’ “perceptual activity theory” of imagery is close to a dynamic sensorimotor or enactive approach to imagery.

¹¹³ See P.F. Strawson, “Imagination and Perception,” in Lawrence J. Foster and J.W. Swanson (eds.), *Experience and Theory* (London: Duckworth, 1970), pp. 31-54.