
Christopher John Broniak

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In loving memory of my parents

Esther Kallas Broniak (December 29, 1924--July 3, 1987)

and Leonard Robert Broniak (July 1, 1923--March 20, 1992)
TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>iii</td>
</tr>
<tr>
<td>LIST OF ILLUSTRATIONS</td>
<td>viii</td>
</tr>
<tr>
<td>LIST OF ABBREVIATIONS</td>
<td>ix</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Chapter</td>
<td></td>
</tr>
<tr>
<td>I. SO-CALLED &quot;PERCEPTUAL ERRORS&quot;: ILLUSIONS</td>
<td>5</td>
</tr>
<tr>
<td>Illusions of Ambiguity</td>
<td>7</td>
</tr>
<tr>
<td>Illusions of Organization</td>
<td>12</td>
</tr>
<tr>
<td>Illusions of Motion</td>
<td>17</td>
</tr>
<tr>
<td>Illusions of Constancy</td>
<td>18</td>
</tr>
<tr>
<td>Illusions and an Adequate Theory of Perception</td>
<td>25</td>
</tr>
<tr>
<td>II. CLASSICAL PHILOSOPHICAL THEORIES OF PERCEPTION</td>
<td>29</td>
</tr>
<tr>
<td>Common Sense Realism and Descartes's Dream Argument</td>
<td>30</td>
</tr>
<tr>
<td>Representational Realism: Primary and Secondary Qualities</td>
<td>34</td>
</tr>
<tr>
<td>From Idealism to Skepticism: Berkeley and Hume</td>
<td>40</td>
</tr>
<tr>
<td>Sense Data Theories of Perception</td>
<td>51</td>
</tr>
<tr>
<td>Perception: Like Sensation, Only Different</td>
<td>63</td>
</tr>
<tr>
<td>III. HUSSERL'S THEORY OF HORIZONS</td>
<td>71</td>
</tr>
<tr>
<td>An Exposition of Husserl's Theory of Horizons</td>
<td>73</td>
</tr>
<tr>
<td>Horizons and the Generation of Perceptual Meaning</td>
<td>89</td>
</tr>
<tr>
<td>Summary</td>
<td>95</td>
</tr>
</tbody>
</table>

vi
# LIST OF ILLUSTRATIONS

<table>
<thead>
<tr>
<th>Figure</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Müller-Lyer Illusion</td>
<td>8</td>
</tr>
<tr>
<td>2. Face/vase Illusion</td>
<td>9</td>
</tr>
<tr>
<td>3. Boring’s Old/Young Woman</td>
<td>10</td>
</tr>
<tr>
<td>4. Ambiguous Trident</td>
<td>12</td>
</tr>
<tr>
<td>5. Transparency Display</td>
<td>13</td>
</tr>
<tr>
<td>6. Illusory Contours</td>
<td>15</td>
</tr>
<tr>
<td>7. Fragmented Figure</td>
<td>16</td>
</tr>
<tr>
<td>8. Perspective and Context</td>
<td>19</td>
</tr>
<tr>
<td>9. James’s Diagram of Thought</td>
<td>135</td>
</tr>
<tr>
<td>10. Single Continuum of Actual Events</td>
<td>136</td>
</tr>
<tr>
<td>11. Second Dimension of Atemporality</td>
<td>138</td>
</tr>
<tr>
<td>12. The &quot;Development&quot; of Experience</td>
<td>156</td>
</tr>
<tr>
<td>13. Experience as Transposed Contextual Frames of Reference</td>
<td>159</td>
</tr>
<tr>
<td>14. Flowchart Diagram of the Perceiver’s Role in the Perceptual Process</td>
<td>162</td>
</tr>
</tbody>
</table>
# LIST OF ABBREVIATIONS

<table>
<thead>
<tr>
<th>Works of Edmund Husserl</th>
<th>Works of William James</th>
</tr>
</thead>
<tbody>
<tr>
<td>CM</td>
<td>BC</td>
</tr>
<tr>
<td>Cartesian Meditations</td>
<td>Psychology: Briefer Course</td>
</tr>
<tr>
<td>EJ</td>
<td>EPH</td>
</tr>
<tr>
<td>Experience and Judgment</td>
<td>Essays in Philosophy</td>
</tr>
<tr>
<td>FTL</td>
<td>EPS</td>
</tr>
<tr>
<td>Formal and Transcendental Logic</td>
<td>Essays in Psychology</td>
</tr>
<tr>
<td>Ideas I</td>
<td>ERE</td>
</tr>
<tr>
<td>Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy</td>
<td>Essays in Radical Empiricism</td>
</tr>
<tr>
<td>LI</td>
<td>MT</td>
</tr>
</tbody>
</table>
| Logical Investigations   | The Meaning of Truth: A Sequel to "Pragmatism."
| PΨ                      | Prag                   |
| Phenomenological Psychology | Pragmatism: A New Name for Some Old Ways of Thinking |
| Crisis                  | PP                     |
| The Crisis of European Sciences and Transcendental Phenomenology | The Principles of Psychology |
|                         | PU                     |
|                         | A Pluralistic Universe |
|                         | SPP                    |
|                         | Some Problems of Philosophy: A Beginning of an Introduction to Philosophy |
|                         | TT                     |
|                         | Talks to Teachers on Psychology and to Students on Some of Life's Ideals |
|                         | WB                     |
|                         | The Will to Believe and Other Essays in Popular Philosophy |

ix
The aim of this dissertation is to sketch a framework for developing an adequate philosophical theory of perception. In order to accomplish this aim, I have chosen the following four criteria:

1. A suitable philosophical perceptual theory can account for the occurrence of perceptual errors, illusions, and hallucinations.
2. It will show that perception is inextricably connected with other structures of consciousness, such as memory, imagination, emotion, and volition.
3. It will explicate the relationship between perception and activity.
4. It will include current research from the physiology and psychology of perception to support its philosophical claims.

I have selected these four criteria for a dual purpose. On the one hand, it seems to me that most philosophical theories of perception deal with one or the other of these four conditions quite admirably. In their own way, each has contributed to the development of a more satisfactory philosophical theory. On the other hand, it seems to me that the failure of most philosophical theories of perception lies in the narrowness of each of the particular intuitions that have guided their theoretical formation. Some of the mistakes these theories make arise from the theorists' desire to satisfy one of the above criteria as exhaustively as possible to the neglect of the others. Each of the criteria, in and of itself, is a legitimate necessary condition for an adequate theory of perception. But I think it is more important to evaluate the adequacy of a philosophical theory of
perception according to the degree to which it meets all four of these criteria. The true strength of these criteria lie in philosophers treating them as a group. Their power lies in the criteria's ability to counterbalance the headstrong intuitions motivated by the others and get those intuitions to join forces rather than exclude one another.

The dissertation is divided into five chapters. Chapter One introduces the reader to the complexity of perception as a philosophical issue. It does this by presenting a variety of types of visual illusions which continue to provoke philosophical inquiry and discussion. The point of the first chapter is to show why something like the first criterion is a necessary condition for an adequate theory of perception. Chapter Two surveys the extent to which some classical modern philosophers satisfy the first criterion with their theories of perception. Each in his own way makes a positive contribution to the development of perceptual theory. Invariably, however, these theories fail to grasp the significance of the function of contexts in explaining the occurrence of perceptual illusions. And to the extent that perceptual illusions are perceptual objects, these theories maintain that the exclusive awareness of the object independent of its relationships to its surroundings is all that a theory of perception need explain.

Clearly, an adequate theory of perception requires more than this. In addition to its "environment," at least part of what constitutes the context of a perceptual object is what a perceiving consciousness brings to the perceptual event. This is the reason for the second criterion above: an adequate theory will show that perception is intertwined with memory, imagination, emotion, and desire. Edmund Husserl's theory of the horizons of perceptual objects, presented in Chapter Three, satisfies criterion 2 by
demonstrating that perceptual objects are more than the explicit focal awareness of a perceiving consciousness. At least one of the positive consequences of Husserl's theory of horizons for an adequate theory of perception is that his method of inquiry, phenomenology, widens philosophical attention from the perceptual object to its context. At the same time, Husserl's philosophical intuition is also his undoing. The shortcoming of the theory of horizons lies in Husserl's preoccupation with displaying the logical foundations that underpin perceptual experience. His methodological interest in the formal/logical substructures of the conditions of possible experience guided Husserl to explicate the "law-like" character of perceptual awareness.

Such a preoccupation is at least as old as Descartes, so, in this respect, Husserl does not escape Descartes's shadow. To counterbalance this urge, the American pragmatism of William James demanded the third criterion: an adequate theory should clarify the relationship between perception and activity. The idea that inspired Husserl's notion of horizons was James's notion of the "fringes" of objects of consciousness. But James's pragmatic ideas about the aims and tasks of all kinds of inquiry yields a far richer account of the sort of contexts involved in coming to grasp a perceptual object. Chapter Four concentrates on James's theory of fringes. It also attempts to show how, given the philosophical interests of the pragmatic method, James's fringe theory has certain advantages over Husserl's horizon theory in the task to formulate a more adequate philosophical theory of perception.

Finally, I submit that the fourth criterion is required to bring the philosophy of perception and its issues into dialogue with some of the other current conversations in
the philosophy of mind concerning the mind/brain debate. In lieu of a separate chapter detailing the contributions of physiological and psychological research to this debate, I will incorporate their relevant findings throughout the dissertation. The fourth criterion bridges the first four chapters to the final chapter. In Chapter Five I offer my own philosophical theory of perception, which I label a contextual theory of perception. In that chapter I rely on the positive contributions of Husserl, James, and contemporary neurophysiology and experimental psychology to give a more complete account of the wide variety of processes simultaneously at work in the activity of perception. I review how my theory meets the four criteria stated at the outset of this introduction.

The dissertation progresses by building each chapter on the previous one as a kind of ongoing conversation. The problem of perceptual illusion (chapter 1) is addressed by several now well established philosophical theories of perception (chapter 2). The weaknesses of those theories are taken up by Husserl's theory of horizons (chapter 3). What Husserl misses in treating the contextual aspects of perception is taken up by James's theory of fringes (chapter 4). With the help of the classical modern philosophical tradition, Husserl's theory of horizons, James's theory of fringes, and the philosophical significance of the investigations currently being carried out in physiology and psychology, I present my contextual theory of perception (chapter 5). The end of the chapter evaluates how my contextual alternative more adequately satisfies the four criteria, and also indicates those points in my theory that require further development.
CHAPTER I

SO-CALLED "PERCEPTUAL ERRORS": ILLUSIONS

Historically, philosophers have been more interested in why we sometimes fail to perceive something the way it is than in why we usually succeed at this task. This is largely because the tradition is interested in particular epistemological questions: What are the sources of our knowledge? Can we accept any of these sources without question? With questions like these guiding its inquiry into perception, it is small wonder that philosophy is more curious about perception's inadequacies than its accomplishments. Philosophy's attempts to answer such questions have funded the basic distinction of appearance versus reality.

Philosophical theories of perception divide perceptual errors into two types: illusions and hallucinations. Of course, we have indications that the perceptual process is not perfect. There are times when things are not as they appear. When we believe that something appears (i.e., looks, sounds, smells, tastes, feels) to have one quality but actually has a different quality, we are misled by perceptual illusions. By contrast,

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1I have decided not to include dreams under the heading of "perceptual error." While dreams may be relevant for a more thorough understanding of perception, they are not "mistakes" of perception in the sense we usually attribute to things like illusions and hallucinations.
hallucinations are even further removed from "external reality": we hallucinate when our sensory experiences are unrelated to external events. Normally these experiences are so intense that we cannot distinguish them from external reality. Since hallucinations may be physiological malfunctions of the organism rather than a misrepresentation of its environment, I have decided to bypass hallucinations and instead focus on illusions as the dominant source of perceptual error.

What has mattered to philosophy, first, is that both illusion and hallucination are matters of error. Second, the tradition has maintained that, as error, the fault lies not in our senses, but in the judgments we make about the information our senses provide us. Descartes is especially noted for the doctrine of suspended judgment: if you only look and listen and draw no conclusions, you will make no mistakes. But there is a problem here. Our theories about perception treat sensation and judgment as tidy, separate structures of perceptual awareness. But does this ever happen in practice? Is it possible to perceive without drawing any conclusions? It seems much more intuitively plausible, as Irvin Rock submits in The Logic of Perception, that part of the meaning of "perceive" is "infer," albeit in a very broad sense:

In suggesting that [perceptual] constancy can be explained by logical inference, . . . I obviously do not mean to imply that the process is one in which each premise is explicitly present in awareness or even that the process producing it always occurs as an explicit state or that the order of events follows the formal logic order. . . . [I]n thinking we do not believe we must go through the same process each time the same problem comes up. Analogously in perception, it is possible that the process runs off more or less directly by virtue of repeated
instances of the same kind of situation, based on memory of the earlier situation.²

Given this, at least part of what it means for a philosophical theory of perception to provide an adequate account of the possibility of nonveridical perceptual experience is to show how such errors arise as matters of the sorts of inference Rock describes. The following sections, which owe a great debt to Irvin Rock’s previously mentioned work, present four different types of perceptual (visual) illusions: illusions of ambiguity, of organization, of motion, and of constancy. A few examples illustrate each type. Each of the four types points to various aspects of the sorts of behavioral inferences involved in perception.

Illusions of Ambiguity

Consider the familiar illusion of the stick immersed in water. The stick looks bent in the water; pull the stick out, and it looks straight. Put it back in the water, and it looks bent again. We are quite certain that the stick is always straight, and that it only appears bent in the water. Yet our knowledge that the stick is straight does not straighten out the bent-in-water appearance.

Optics explains why a straight stick appears bent in water. To view the stick in the water is to see it under unusual conditions. But similar illusions can occur even under standard conditions. Take, for instance, one commonly studied illusion in the history of psychology, the Müller-Lyer illusion (Figure 1). The top line appears longer

than the bottom line, though the horizontal lines are the same length.

Both the bent stick and the Müller-Lyer illusions suggest that Descartes's notion of suspending judgment cannot resolve all cases of perceptual error. Even when perceivers are explicitly aware that the lines are of equal length (e.g., they measure both lines with a ruler), that conscious awareness does not override the appearance of one line being longer than the other. Both illusions show how perceptual dissonance persists in spite of specific counterevidence at the conceptual level of judgment.

Other illusions of ambiguity highlight a perceiver's effort to generate a variety of interpretations of the same stimulus. Two examples bring out the different degrees

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3But not all perceivers: the illusion does not work for perceivers from some cultures. "People in the Torres Strait region [between New Guinea and Australia] . . . could see at a glance that the lines were of equal length." Edmund Blair Bolles, A Second Way of Knowing: The Riddle of Human Perception (New York: Prentice Hall Press, 1991), 115. Bolles cites William Rivers' expedition to Torres Strait in 1898.

4Rock, 86.
to which we actively translate our experience. The first example, E. Rubin's famous figure of a vase or two profiles (Figure 2), highlights the extent to which the meaning given to the stimulus is forged out of a continuum. The poles of this continuum are the structure of the stimulus, at one extreme, and the selections of the perceiver at the other. As a continuum, the difference between "data-driven" and "concept-driven" perceptual processing is a matter of degree. In the face/vase illusion, the figure is organized so that a perceiver can give the same stimulus two different meanings. This illustrates the Gestalt psychology\(^5\) concept of figure vs. ground: You can see either the vase or the

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profiles, but not both simultaneously. By itself, the stimulus cannot explain why a perceiver experiences a particular percept (vase or profiles) instead of the other. Moreover, the percept can change: now we see a vase, but later we see the faces. Reversible figures like Rubin's face/vase drawing show that an adequate theoretical inquiry concerning the perceptual process necessarily involves meaning.

A second example of such a reversible stimulus is Edwin Boring’s illustration of an old and young woman (Figure 3). In this case, the ambiguity lies more in the

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6Rock, Logic of Perception, 73.

The perceiver's interpretation of the stimulus than in the structure of the stimulus itself. Compare figures 2 and 3. Figure 2 is much more symmetrical than figure 3. Figure 2 is much simpler than figure 3. The added complexity of figure 3 provides the perceiver a much wider variety of possible choices than figure 2. The difference between figure and ground is determined by choice. By attending to some of the stimulus's aspects, we select the figure. What we do not attend to becomes the ground. But the kind of choices we make in perception are far beneath the threshold of explicit conscious awareness. The figure-ground structure of perception is a product of nonconscious, habitual, "automatic" choices.

The most forceful illusions of ambiguity are those drawings that, at the level of conception, are utterly irresolvable images with respect to meaning. Their power lies in their use of three-dimensional spatial cues that, as independent pieces, are perceptually legitimate. But, to take the drawings as a whole, the visual cues conflict with the system of conceptual groupings at work with spatial objects. The "ambiguous trident" drawing in Figure 4 is an example of this sort of illusion.

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8While it is legitimate to raise the issue of freedom vs. determinism with respect to the nature of these choices involved in the perceptual process, it is not necessary for an adequate philosophical theory of perception to resolve this metaphysical question. In any event, this issue is beyond the scope of the present discussion.

9Carolyn M. Bloomer, Principles of Visual Perception (New York: Van Nostrand Reinhold Co., 1976), 78. She also notes how "pictorial depth perception is extensively conditioned by culture. African tribal subjects whose art did not include representation of visual space . . . saw no ambiguity in [the trident drawing] . . . and were able to draw it from memory more easily than westernized subjects." In addition, see Rock, 317-318.
Irvin Rock explains why it is important for theories of perception to separate the issue of perception of shape from the question of its categorization:

We perceive the individuality of an object, including its specific shape. Therefore, each member of a category looks different: we are aware of this, and it is important in our behavior. Besides, where form is the relevant dimension, the process of categorization begins with form perception. Therefore, we must first understand more about the basis of phenomenal similarities and differences among shapes before we can understand the emergence of specific categories. Finally, not all objects are familiar, particularly to the child, so that form perception without the final step of recognition occurs very often.\textsuperscript{10}

\textbf{Illusions of Organization}

A second set of illusions involves the problem of perceptual organization. Some theories of perception ignore the problem of perceptual organization. We generally experience the world as an organized one containing distinct and separate objects. Because of this typical perceptual experience, those theories implicitly believe that this

\textsuperscript{10}Rock, 44.
is the way the world is. They assume our perceptual powers cut nature "at its joints."
In other words, for these theories, the "problem" of perceptual organization is nothing
other than the faithful reproduction of the organization underlying the external world of
physical objects. Yet this experience cannot be accounted for solely in terms of an
environment imposing itself upon a passive awareness. Thus, due to naive realist
assumptions, such theories "fail to appreciate that perceptual organization represents an
achievement based on some kind of internal processing."\footnote{Ibid., 71.}

\textbf{Figure 5 Transparency Display}

Now processing takes time. Rock illustrates this with his distinction between
\textit{literal} and \textit{preferred} percepts. Consider the transparency display in Figure 5. On the
one hand, it looks like a drawing with four different shades of gray. But it can also be
described as a transparent gray rectangle in front of a black and white background. The
first description Rock calls the \textit{literal} percept; the second he calls the \textit{preferred} percept.
The literal percept is "closer" to the proximal stimulus in both space and time than the preferred percept. That is, literal percepts refer to an implicit two-dimensional context (the four-shades-of-gray description above). This stage of perception precedes the three-dimensional referential context (black/white figure behind transparent gray) of preferred percepts. The second percept, also known as the transparency effect, comes to be the more enduring and viable percept. The point of all this is twofold: first, the descriptions perceivers give to their objects can and do change over time; second, the changes in description seem geared to grasping a complicated situation in as brief and concise a manner as possible.

Again, the degree to which one percept emerges instead of another depends on both the stimulus and the perceiver. Research in the psychology of perception describes this situation in terms of the direction of perceptual processing. In those cases where the stimulus seems to provide an independent source of information for the percept, psychology talks of data-driven ("bottom-up") processing. Conversely, psychology describes cases in which the stimulus does not seem to provide such information as concept-driven ("top-down") processing.

Figures 6 and 7 are examples of illusions in which the stimuli suggest perceptual resolution. Compare the illusory contours of 6a and 6b. In both cases, a white triangle appears to overlap other figures. The continuation conditions are stronger in 6a than in

12Ibid., 100-101.

13For more information on concept-driven vs. data-driven cognitive processing, see Ulric Neisser, Cognition and Reality (San Francisco, CA: Freeman, 1976).
6b, and experimenters have shown that 6b takes longer to see than 6a.\textsuperscript{14} The literal percept of 6b is a two-dimensional account of three incomplete circles as the figures of a common white region or ground. The later, three-dimensional account reverses the figure/ground relationship between the circles and the white region to describe the figure as a white triangle overlapping a background of three complete black circles.\textsuperscript{15} Our ordinary conscious awareness suggests that we simply and immediately perceive a white triangle. But this explicit perceptual awareness is the result of earlier, implicit stages of the perceptual process.

Fragmented figures differ from illusory contours to the extent to which a perceiver enhances and enriches stimuli to perceive an object. It takes more time to


\textsuperscript{15}Rock, 104-105.
Figure 7 Fragmented Figure  
(Verville and Cameron 1946)

recognize Figure 7 than it takes to recognize the white triangle above. The point of fragmented figures is to bring out how recognition is not equivalent to perception but is the result of an extended process involving a variety of aspects and stages. The initial experience of this figure is different from the experience of it as recognized. It is fair to assume that some sort of "grasp" of data occurs before its recognition and identification.\(^{16}\) Thus, an adequate philosophical theory of perception must do two further things: (1) it should give an account of this pre-recognitional state of affairs; and (2) it should explain how perception advances from this earlier stage to the later stage of recognition. These are two points at which current physiological and psychological research (criterion 4 of the introduction) are of central importance.

\(^{16}\)Ibid., 11-13.
Illusions of Motion

Idiosyncrasies in the physiology and psychology of human vision make illusions of motion possible. The most familiar of these illusions is the experience of watching a theater motion picture. A movie film is made up of a series of still pictures, called frames. Each frame represents slight changes of position and location from the preceding one. When the series of pictures is viewed in rapid succession (e.g., at 48 frames per second), the illusion of motion occurs. This effect of motion is due to a phenomenon called persistence of vision. Retinal stimulation continues for anywhere between one/50th and one/30th of a second beyond the initial stimulus exposure. This retinal lag in time means that, when separate images are shown rapidly enough, the retinal stimulations merge into one another, and the image is experienced as continuous.\(^{17}\)

Two other examples of apparent motion are the waterfall effect and the phi phenomenon. Look steadily at something as it flows along; my favorite example is that of a news "crawler," where text flows across a band of lights from right to left. After following the text for three or four minutes, turn away from the crawler and center your attention on some fixed object. The object will appear to move in the opposite direction. The phi phenomenon "is frequently used by commercial signs and marqueses: single lights are flashed on and off in succession, giving the impression of a moving image such as an arrow."\(^{18}\) Both the waterfall effect and the phi phenomenon are significant

\(^{17}\text{Bloomer, 98 and 100.}\)

\(^{18}\text{Ibid., 101.}\)
examples of the ways in which perceivers nonconsciously adapt to their perceptual situation.

Illusions of motion are important for what they tell us about perceptual determination of changes in relational information between subject (or observer) and object. Independently of our theater experience, the motion picture frames are nothing but a collection of still photographs. But the observer perceives moving pictures, not framed still pictures. Examples of apparent motion, e.g., motion pictures, animation, the phi phenomenon, and the waterfall effect, are examples of changes in relational information between the subject and the object.

**Illusions of Constancy**

Examples of changes in relational information between an object and its surroundings are called changes in context. In the perception of apparent motion, for instance, the perceiver is confined by the limits of the sense organs. By contrast, the Ames distorted room uses the perceiver’s acquired habits of perspective and context to give the illusion of objects that shrink or grow depending upon their location in the room. The icon on the far right in figure 8 appears larger than the icon on the far left, though all the icons are the same size.

By contrast, illusions of constancy provide us the experience of stable, enduring objects in spite of contrary phenomenal facts. We ignore the elliptical shape of a penny.

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19 Rock, 213.

20 Ibid., 319.
viewed at an angle, knowing that the penny's "true" shape is a circle. This is not nearly as trivial a matter as one might suppose. Given the constant flow of changing retinal patterns, it seems surprising that we should ever come to believe in the existence of a relatively fixed and stable world. And yet this is precisely the sort of background belief perceivers bring to the perceptual event.  

Like the experience of apparent motion, the experience of perceptual constancy is also relevant to the notion of context, although for just the opposite reasons. In the perception of apparent motion, the perceiver ordinarily does not attempt to impose a "literal" explanation (e.g., by referring to the physiological limits of her visual system) upon her experience. "I don't really see a moving arrow of lights; what I really see are a bunch of lights flashing in such a way that there appears to be a moving arrow." Certainly she can explain it this way. But my point is that the perception of apparent

21 Bloomer, 50.
motion requires her to ignore such an explanation. With only a little effort, she can see a bunch of flashing lights, independently of seeing the moving arrow. In this way, the phenomenon of apparent motion illustrates the "overlap" between a physical, mind-independent world and that world as it is experienced. I take the realist view that the more coherent account of the logical relation between these two worlds is that the second requires the first, but the first does not require the second. But I think this is a relatively unimportant matter to the extent that we are talking about perception. To this extent, the two worlds are, for all practical purposes, one and the same.

The phenomenon of perceptual constancy, I believe, makes just the opposite point. "I don't really see an elliptical penny, even though I presently see an ellipse. What I really see is a round penny, because the real shape of the penny is the shape that it has independently of any particular view of it." The perceiver ignores the multitude of possible perspectives; or more accurately, she gives one of the views of the penny the status of "actual," "real," or "true" penny-shape. In the case of apparent motion, a perceiver can, at least to a degree, overcome the illusory effect by keeping in mind the physiological limits of vision while viewing the present stimuli. In the case of perceptual constancy, the perceiver has already overcome the "illusory effects" of ever-changing retinal patterns. In the case of apparent motion, the physiological constraints of the organism give the data the initial "advantage" in the perceptual event. We regain the advantage once we realize that what we are looking at isn't really a puddle of water, but a mirage; isn't really a moving arrow, but a bunch of flashing lights. In the case of perceptual constancy, the physical constraints of the stimuli (viz., that they are subject
to appear in an indefinite number of ways) "give" the organism the advantage in the perceptual event.

The experience of perceptual constancy is relevant to context as an example of the difference between the world as it is experienced and the world as it is meant. And the same remark I made above regarding the relationship between a physical world and an experienced one also holds for these worlds as well. To the extent that we are talking about perception, all three of these worlds are, for all practical purposes, one and the same.22

John Austin called attention to the question of constancy in perception by asking what a cloud's "real" shape is.23 The constancy so easily assumed in human perception has proven extremely difficult to simulate in computer models of visual perception:

One weapon the military wants is a missile that selects its own target. For such a missile to work, it must first see the object [e.g., a tank] and then recognize it as a target... So far, developers have found terrible difficulties in getting machinery to distinguish tanks from cows... The problem facing developers is the one raised by John Austin: What is the real shape of a tank... [Tanks] may be seen from any angle, moving in any direction, and may be partially obscured by trees or towers.24

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22This and the previous remark are more fully elaborated in the fifth chapter.


24Bolles, 15. He writes: "Researchers may one day hit upon some mathematical procedure that can let a machine correctly classify an object as a tank or a cow, but that procedure will reflect an internal wisdom. It will assume some structural secret about reality that has been gained by experience."
Despite the past twenty years of developing ever more sophisticated kinds of machine vision and artificial intelligence, researchers continue to grapple with "the problem of invariance":

The image projected on the retina changes in response to many variables that are independent of the objects imaged--distance, viewing angle, lighting conditions, intervening objects--and cognitive processes need a more invariant representation that removes these complications.\(^{25}\)

The quantifiability of nature is only one set of constancies perceivers carve out of their experience. Other sets are continually sought by scientists, artists, and ordinary everyday people trying to make sense of their surroundings. The particular structure of our sense organs helps us to perceive the world as a collection of natural categories, types, and kinds. Again, where these categories seem to us to correspond to natural differences, attempts at computer simulations suggest just the opposite conclusion. One thing that makes it so difficult for computer programmers to simulate human perception is that what appears to us as fixed and stable "appears" to a computer as sheer chaos.\(^{26}\)

For example, my computer can be trained to recognize voice commands, but its training is very specific. It learns to distinguish my saying "open file" from my other voice commands. But it doesn't learn to recognize someone else's saying "open file" (unless

\(^{25}\)Leif H. Finkel and Paul Sadja, "Constructing Visual Perception" (American Scientist, v. 82 (May/June 1994), 224-237), 236. They write: "there are three great problems . . . in the transformation from sensation to cognition." The other two are the problem of "segmentation and grouping--deciding which features belong to the same object"; and the problem of integration, i. e., how a single perception results from simultaneous multiple brain processes. Ibid.

\(^{26}\)"Machines require standardized input, but we live in an unstandardized world." Bolles, 12.
the new person has spent time training the machine to recognize them). Ordinary human perceivers do not have this problem.

The intensity of the stimulus, its timing, observable dimensions, signal-to-noise ratio, temperature, shape—these details fluctuate widely and unpredictably. People avoid the problem of unstandardized reality by perceiving stable meanings. The perception of constant details is one of our most remarkable breaks with physical reality.  

Like constancy, category is a useful illusion. For example: a physicist's account of color is that its variety of shades and hues is all of one kind of thing (visible electromagnetic wavelengths) whose differences are a matter of degree (e.g., wavelengths in the range of 560 to 580 nanometers = "yellow"; in the 620 to 640 range = "red"; etc.). In normal human color vision, colors appear in the spectrum as distinct kinds because, given the physiological structure of its sense organs, the organism brings to the phenomena categories that help the organism organize its world. Talk of "categorical perception" in the literature of cognitive psychology refers to the phenomenon of recognition of stability across nonuniform physical stimuli.  

For example, Douglas Nelson and Peter Marler's experiment suggests categorical perception in wild swamp sparrows. Analyses of recordings of the birds' territorial songs "revealed that [the] notes can be sorted into approximately six types or categories." Choosing the two most extreme categories for the greatest amount of

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27 Ibid., 100.


contrast, they then lengthened or shortened the duration of a particular note on the recording. One control and three test cases were arranged. In all three tests, the physical difference between the notes were equal. In two of the tests, the change in notes remained within each of the categories. In the third test, the distortion crossed a categorical boundary. Nelson and Marler reasoned that, if the sparrows were responding solely to the physical difference between the notes in their songs, there would be no significant difference of the birds’ responses to the test case across the categorical boundary from their responses to the tests within categories. But the test case where the physical difference crossed a categorical boundary generated a significantly greater behavioral response than the other cases. The researchers concluded that sparrows categorize what they sense: "The reliability of judgments made by birds about the categorization and sequencing of song notes is thus augmented by categorical perception, much as humans enhance sensitivity to phonemic contrasts in speech." This research is significant because it suggests that conscious awareness does not simply react to the physical changes in its environment, but that it transforms its physical world into a meaningful world.

Perceptual "illusions" such as categories and constancies keep consciousness oriented to its surroundings in the here and now, and enable it to manage those surroundings more effectively. Imagine how chaotic perceptual experience could be:

Suppose shapes changed every time we moved our head and colors changed every time the lighting changed. A sense of knowing what endures and what can be counted on would seem like a dream. Even

30Ibid., 977.
as it is, many people prefer the changeless realm of mathematical relations or the fixed meanings of heaven to the transitory pace of the natural world. 31

Illusions and an Adequate Theory of Perception

Perceptual illusions comprise an unusual but relatively small part of our perceptual experience. Because they are unusual, they rise above the surface of our ordinary awareness, like an iceberg rising above the surface of the water. What we don’t notice about perception is what lies below our explicit conscious awareness, the ordinary accomplishments and fulfillments that even the most sophisticated computers only begin to emulate. Contemporary neurophysiological and psychological research indicates that unconscious operations are involved in the perceptual process which lie well below the threshold of explicit conscious awareness. 32

The suggestion that unconscious activity, beyond the control of explicit cognitive awareness, is at work in perception has only reinforced some theorists’ belief that one must address certain metaphysical questions in order to formulate an adequate theory of perception. They cast the problem of perception as an effect of the problem of (the nature of) reality. They ask questions like, "Are our perceptions the mere passive reflection of objective reality, or are they imposed by our conceptual structure? Does

31 Bolles, 103.

32 "The perception of meaningful wholes in the visual world apparently depends on complex operations to which a person has no conscious access." Anne Treisman, "Features and Objects in Visual Processing" (Scientific American, v. 255 n. 5 [November 1986], 114B-125), 114B.
perception commit us to realism or idealism?" But this strategy to develop an adequate
theory of perception, I think, cannot succeed.

Such a strategy has two weaknesses. The less serious weakness is its view of
perception as a by-product of metaphysics. Its hope is that, if the metaphysics can be
worked out, an adequate theory of perception will follow. But I think this gives short
shrift to the problem of perception as its own legitimate sphere of philosophical inquiry.
Obviously, as a matter of inquiry, perception is closely related to the questions not only
of metaphysics but of logic, epistemology, ethics, and aesthetics as well. And its
relations to those questions are certainly important in developing a completely satisfactory
philosophical theory of perception. But to view perception as explainable by way of the
theoretical frameworks of these areas of philosophy is wrong-headed. Quite the contrary:
it is my belief that an adequate philosophical theory of perception may well be the
starting point for getting an even better handle on perennial questions concerning truth,
beauty, goodness and reality.

The strategy's more serious weakness is one that, at least since Hume, all
philosophical inquiry must constantly guard against: the either/or fallacy. It is part and
parcel of the philosophers' trade to sort the complexity of the issues before them with
tools of reason, such as the logical principle of noncontradiction. To be sure, several
venerable distinctions of the tradition, such as subject/object, real/ideal, actual/possible,
temporal/eternal, etc., still serve us well in our desire to understand our world. But the
fire that warms is also the fire that burns. That is, these very "tools" (distinctions,
ideas, rules, etc.) that serve us so well in helping us deal with our world in some cases can be woefully useless, even downright dangerous, in other cases.

An either/or fallacy underlies traditional philosophical attempts to develop an adequate theory of perception. As D. W. Hamlyn writes, historically the problem of perception has been posed as ultimately resolvable either as a matter of sensation (data) or as a matter of judgment (thought). But the more I examined the perceptual process, the more I became convinced that perception is a matter of both. In my view, perception is a less definite field of experience out of which the more definite fields of sensation and judgment arise. At bottom, it is our need for information that makes perception a matter of both concepts and data. Consequently, the ontological question of the nature of reality makes no relevant difference to the problem of perception. Even if we could find out whether perception is conclusively a matter of sensation or one of judgment, that determination alone would not answer the question of the origin of the differences and similarities attributed within perceptual experience. The examples of perceptual illusion support the claim that perception is more a matter of both sensation and judgment than either one or the other.

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33D. W. Hamlyn, Sensation and Perception: A History of the Philosophy of Perception (London: Routledge and Kegan Paul, 1961). In addition, even though Irvin Rock comprehensively examines both the sensory and the thought-like processes involved in perception, he still seems to accept the legitimacy of setting the problem up on this disjunction insofar as he argues for the "thought-like" character of perception.

The point of this chapter was to introduce the reader to the complexity of perception as a matter of philosophical investigation by examples of perceptual illusions of ambiguity, organization, motion and constancy. All four kinds of illusion illustrate the need for an adequate philosophical theory of perception to take account not only of the perceptual object but also of its context, the ever-changing relational information between perceiver, object and surroundings. What is centrally important about the notion of context for the construction of a theory of perception is its methodological implication, namely, to construct a theory that accounts for the relations between perceiver, object and surroundings, as well as the terms they relate. In the next chapter I survey some classical philosophical theories of perception, recognize their positive contributions toward a more adequate theory, and outline some of the problems those theories create for a satisfactory account of perception.
CHAPTER II
CLASSICAL PHILOSOPHICAL THEORIES OF PERCEPTION

At least since Descartes, perceptual illusions have motivated modern philosophers to identify perception with its objects. The tradition is filled with perceptual theories that attempt to answer the question of how perception works by means of answering an altogether different question, namely, the question of the nature of the perceptual object. By contrast, if a theorist takes the position that perception is not the mere passive receptive awareness of stimuli but is instead an activity (operation, function) of awareness "coming to grips" with some of the data present to it, the search for an answer to the question "what is perception?" shifts from the nature of the perceptual object to the nature of the perceptual process, viz. the transaction between the physical and the mental poles of experience. The thesis of this chapter is that many traditional philosophical theories of perception are inadequate because they misunderstand the epistemological question of the nature of perception as an ontological question of the nature of reality. The more adequate philosophical question for theories of perception is "how does perception work? The objection that this is not a philosophical question but rather a psychological one misses the ongoing interconnections between perceivers, objects and meanings. The problem of perception falls into all three of these areas.
Consequently, the question of how perception works is not solely a matter of subjective awareness, nor is it solely a matter of the nature of the object. How perception works is a matter of subject, object, and the interplay between them.

What follows is a review of some major classical theories of perception in philosophy: common sense (naive) realism, John Locke's representative (critical) realism, George Berkeley's subjective idealism, and David Hume's skepticism. I also briefly treat the sense-data theories of perception as formulated by twentieth century philosophers G. E. Moore, Bertrand Russell and A. J. Ayer. To be sure, by dealing with the problem of perception as generally resolvable in terms of the nature of the perceptual object, these theories makes some progress in dealing with the problem of perceptual illusions, and thus contribute positively to the advancement of an adequate theory of perception. At the same time, however, these theories fail to satisfy the second, third and fourth criteria specified in the introduction because they lose sight of perception as a cognitive process and give in to the temptation to account for perception solely in terms of the objects with which it deals.

**Common Sense Realism and Descartes's Dream Argument**

Common sense realism holds that in sense-perception we are directly aware of the existence and nature of the surrounding physical world. "Common sense proceeds on the assumption that the world presented to us through sense perception is purely and simply 'there', . . . in the exact manner it is sensed, in complete independence of our
conscious awareness."¹ As a philosophical theory, common sense (or "naive") realism claims that this assumption is central to an adequate understanding of perception.

In their book, D. J. O'Connor and Brian Carr write that common sense realism makes the following five assumptions: (1) Physical objects exist independently of their being perceived. (2) They are public, i.e., they can be perceived by any number of observers. (3) Physical objects are "neutral" between senses of the same person. E.g., one can see, touch, smell and taste the same apple. (4) They have location and extension in both time and space. Lastly, (5) physical objects are solid, in two senses: of occupying a volume of space, and of being impenetrable.²

The paradigm figure in the history of philosophy credited for taking the naive realist view to task as a philosophical theory of perception is, of course, René Descartes. In his Meditations on First Philosophy, Descartes sought to establish an absolutely certain and unquestionable foundation for knowledge. In his first Meditation, Descartes devises two arguments to question our ordinary accepted sources of knowledge. The first argument is directed to sense experience: Much of what we commonly consider knowledge we get from the senses. But Descartes pointed out that sometimes our senses deceive us. For example, while dreaming, we sometimes think that we are experiencing


the real world. We cannot be certain that what we are experiencing is not simply a dream. Therefore, Descartes argues, the information the senses provide is subject to error in judgment.

This argument does not apply to our second source of knowledge, the "eternal truths" of logic and mathematics. For this type of knowledge neither asserts nor implies the existence of objects in the world of public experience. For example, propositions of arithmetic or of pure geometry would be true even if there was no physical world to experience. So these sorts of propositions appear indubitable. But, Descartes replies, we can suppose an evil spirit who is supremely powerful and intelligent, who does his utmost to deceive us. There is no reason such a powerful and malevolent being could not exist and deceive me on all such simple non-empirical propositions. The first of these arguments is more relevant to the issue of perception.

Descartes's Dream Argument is a model example of what the literature in philosophy of perception has entitled the "argument from illusion." It operates on the claim that, to the perceiver, genuine perceptual experiences cannot be distinguished from illusory ones. In view of this, two very different situations confront the common sense realist. For naive realism, normal cases of perception consist of a relation between perceiver and external object. But with dreams and hallucinations, there is no physical

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4Ibid., first meditation, 80. Referred to as Descartes's Evil Genius (or Evil Demon) Argument.
object. Any explanation of perceptual error for the common sense realist relies solely on the perceiver’s mental state.⁵

Because of his desire to secure sense knowledge on a foundation of certitude, Descartes submitted that "ideas" act as intermediaries between the perceiving consciousness and perceived object. He maintained that the existence and nature of these ideas are independent of the nature of the perceptual state of the perceiver. "Ideas" are mental representations that may or may not be causally connected to a physical object that exists independently of mind. In either case, whether actually perceiving a tree or dreaming that one perceives it, the person has the idea "tree." While the connection between idea and external object remains in doubt, the connection between perceiver and idea is clear, distinct, infallible and beyond doubt. Descartes’s realism has an advantage over naive realism to the extent that perceptual error occurs in the connection between "idea" and physical object. Without an intermediary "idea," the naive realist has no explanation.

Moreover, a cursory examination of the assumptions O’Connor and Carr presented above shows how difficult it is for naive realism to account for interpretation. Note that all five assumptions emphasize the physical object. There is no indication of what, if any, active role the perceiver plays in dealing with these objects. The common sense realist account of perception says nothing about whether different perceivers perceive the same physical object in different ways. An adequate philosophical theory

of perception, which explains both perceptual error and interpretation, must account for these differences.

The philosophy of perception classifies Descartes's theory of sense perception as a kind of representationalism (also called critical realism or representative realism). Representative realism holds that in perception we are indirectly aware of the physical objects around us in virtue of a direct awareness of internal objects. Both common sense realism and critical realism claim that physical objects exist and, when unperceived, their properties persist. The critical realist differs from the common sense realist with the claim that we are only indirectly aware of physical objects. What we are directly aware of is an intermediary object, such as an "idea," sense-datum, percept or appearance. The common sense realist rejects the notion of an intermediary object.

To be sure, common sense realism is supported by an enormously strong intuition that the physical world in some sense lies open for direct inspection. But the rise of modern scientific inquiry, with its desire to quantify nature in the hope of unlocking its secrets, began to favor representational realism. Representationalism gained further credibility with John Locke's elaboration of the distinction between primary and secondary qualities of perceptual objects.

**Representational Realism: Primary and Secondary Qualities**

In giving an account of how we get knowledge from sense experience, Locke's intent is epistemological, not psychological. "[Locke] sets out, that is, not to describe

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"Ibid., 145."
the processes whereby people actually do acquire knowledge, but to give an account of the logical presuppositions of our claims to knowledge. 7

Locke's assertion that what the mind knows are "ideas" 8 immediately connects his philosophy with a representative theory of perception. These seem to be his premises: "that of which I am aware is present to my awareness; it is therefore present within my awareness; if it is within my consciousness, it is a mental datum; therefore, it is an idea." 9 Locke believed that the mind at birth is a blank slate. Its first and foremost source of knowledge is sensations. 10 This characterization of mind serves two purposes for Locke's classical empiricist theory of knowledge. One is to block Descartes's rationalist appeal to "innate ideas." Its more important purpose is to give an account of how sensory data lead to the constitution of meaning. 11

Locke gives an example to question the common sense supposition that things are as we perceive them. First, put your hands in two different containers of water (e.g., right hand in hot water, left hand in cold water). Then, remove them and place

7Hamlyn, 94.

8An idea is "the object of understanding whenever a man thinks; I have used it to express whatever is meant by phantasm, notion, species, or whatever it is the mind can be employed about in thinking." John Locke, An Essay Concerning Human Understanding (originally published 1689; edited by A. D. Woozley; New York: Meridian Books, 1964), bk. II, chap. I, § 8, p. 66.

9Gallagher, 72.


11Gallagher, 71.
both hands into a third container of lukewarm water. The right hand feels the water as cool; the left hand feels it as warm.12 O'Connor and Carr lay out Locke's argument:

(1) It is impossible for the same thing to have incompatible properties at the same time.
(2) Properties P and Q are incompatible (e.g., hot and cold).
(3) One and the same thing is sensed as P and as Q.
(4) A sensed property is really an intrinsic property of the thing perceived.13

The fourth premise is the naive realist claim. Locke's example supports the first three premises. As the authors note, if (1) and (2) and (3) are the case, then (4) cannot be so. Sensed properties of material objects also depend on the conditions of the perceiver. Thus, some sensed properties are not, strictly speaking, properties of the object.14

But Locke maintains that there are certain qualities that belong essentially to bodies, which are inseparable from them, so that a body could neither be conceived nor exist without them. These qualities include solidity, extension, figure, motion or rest, and number. Locke calls them "primary qualities," and concludes that our ideas of such qualities represent what is found in bodies themselves.15

Not all of our ideas, though, are so objectively well founded. Features such as color, sound, and taste are not essential to the idea of body. They are simply sensations caused in us by the primary qualities and are not on an equally objective footing. These

13O'Connor and Carr, 93-94.
14Ibid., 94.
Locke calls "secondary qualities."\textsuperscript{16} Color, taste, sound and smell, heat and roughness are not independent properties of the object which it can retain unperceived. The object only has them in relation to the perceiver.\textsuperscript{17} Locke confines the directness of our perception of the world to the primary qualities, those properties of the perceived object that are independent of the conditions of particular perceivers.\textsuperscript{18}

Locke's distinction between primary and secondary qualities arises out of the "double meaning" of the language of human sense experience.

Words relating to human sense experience such as heat, light, sound and the rest have a double meaning. In the physical sense, they relate to various forms of energy; in the psychological sense, they refer to specific and unique types of sensory experience. The colour green for the physicist is an electromagnetic radiation of about 530\(\mu\) wave length; but for the ordinary man it is the characteristic sensation that we get from looking at fresh grass.\textsuperscript{19}

In the twentieth century, physics and physiology are often accepted as satisfactory fields of inquiry to account for the psychological sense of "green." But this was not so for eighteenth century British empiricism. The distinction between primary and secondary qualities separated the bare Newtonian "real world" of extended bodies in nature from the "mental world" of our sensations. "Objectivity" was reduced to Newtonian physics, and everything else was deemed subjective. Beginning as early as Galileo and Hobbes, this belief dominated both philosophy and science throughout the


\textsuperscript{17}Dancy, 148.

\textsuperscript{18}Ibid.

\textsuperscript{19}O'Connor and Carr, 97.
eighteenth century. But in our ordinary, everyday experience of the world, both primary and secondary qualities seem equally important. Given our usual perceptual experience, how are we to make sense of the scientific conception of the world? How can one imagine the sort of separation that the scientific view calls for? For example, what would a world be like that had primary qualities but not secondary ones?

D. W. Hamlyn's analysis of Locke's version of representative realism underscores a principal objection against its claim as an adequate philosophical theory of perception, namely, that it gives no account of how our ideas represent to us an external world:

Like Descartes, [Locke] treats ideas . . . as at best representative of things outside the mind. And his main theory admits of no way of finding out about those things independently of ideas of sense. As an empiricist, Locke should insist that knowledge can come only through ideas of sense.

Both Locke and Descartes agree that the only properties [that can belong to objects of perception] are primary qualities. Hence they maintain that we have a justification for the belief that our ideas of primary qualities do in fact correspond to the properties of things. But the argument is invalid. The considerations which apply to our ideas of the qualities of objects in general apply equally to our ideas of the qualities possessed by the constituents of physical and physiological processes, even if these are imperceptible. A representative theory of perception cannot, without further access to the objects of which our ideas are said to be representative, distinguish between the ideas of those things; all ideas should be treated alike.

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21Dancy, 149.

22Hamlyn, 95.

23Ibid., 101-102.
At the heart of representational realism lies a contradiction. On the one hand, it explicitly assumes that there are things independent of experience. It also believes that we can and do experience these things. In physics, we call them "bodies" and attempt to show how they interact with us to produce sensations. But then it goes on to argue that all anyone can ever directly know are their own sensations. Representational realism, Cartesian or Lockeian, "is in the impossible position of holding that I both do and do not know more than my own sensations."\(^{24}\)

Finally, Hamlyn reviews two questions Locke leaves unanswered which require clear and unambiguous answers for an adequate theory of perception. The first concerns whether perceptual consciousness is at bottom active or passive. Locke’s view of the mind as a *tabula rasa* suggests that perception is completely passive.\(^{25}\) But several other passages in Locke’s *Essay Concerning Human Understanding*\(^{26}\) suggest that perception is active, always bringing with it some form of awareness. The textual evidence for Locke’s answer to the question "passive or active?" does not explicitly decide the matter.

While caused by the effects of things upon our bodies, perception is still an activity of the mind, at least to the extent that the mind must pay attention. . . . It is not clear how it is possible to have an idea that is not attended to, if having an idea and perceiving are the same. This point is vital for Locke’s theory of perception. The causal theory of perception conflicts with the view that perception involves an activity

\(^{24}\)Gallagher, 87.


\(^{26}\) *Enquiry Concerning Human Understanding*, bk. II, chap. VI, § 2; bk. II, chap. XIX, § 1; bk. II, chap. XXI, § 5; bk. II, chap. VIII, § 1; bk. II, chap. IX, § 1; and bk. II, chap. IX, § 3.
of the mind, and Locke can never completely decide whether to think of perception as purely passive, or in some respects active.  

The second question concerns the difference between sensing and perceiving. Hamlyn rightly insists that an adequate philosophical theory of perception must clarify this difference.

[Locke] maintains that the mind must attend to bodily impressions if there is to be perception. . . . To feel a pain is to have a sensation: it is not in itself to perceive anything. The causal theory of perception applies to perception what may be true of sensation, to wit, that certain effects which things have on our bodies produce an experience which we call a sensation or feeling. Even so, to have the experience our attention must be directed towards it, or at any rate not directed away from it. . . . Any feelings or sensations that the fire may produce in us will be akin to pain, but to feel the fire as warm or to feel its warmth is not just to have those feelings. Or rather, pain and similar feelings fall under the concept of sensation, but when we talk of feeling the warmth of the fire we talk of what we perceive by feeling, and hence we invoke the concept of perception. . . . The causal theory of perception inevitably results in the running together of the concepts of sensation and perception. 

From Idealism to Skepticism: Berkeley and Hume

Locke’s distinction between primary and secondary qualities supported materialism’s claim that, as an explanatory concept, matter was of greater value than mind. With the notion of primary qualities, Locke appeals to the "objective" concepts of Newtonian physics. By contrast, secondary qualities are Locke’s way of distinguishing what consciousness "adds to" objective reality. One of the criticisms against this

27Hamlyn, 98.


distinction is whether it would ever intuitively arise out of ordinary experience. For example: what would it mean to experience a thing's size without experiencing its shape? For George Berkeley, this question makes no sense. 30 If all qualities are ideas, what reasons do we have to suppose that primary qualities are more valuable in providing an account of perception than secondary ones? In this way, Berkeley aimed to overthrow materialism by showing that what the materialist means by matter does not exist. 31

Locke should have noticed that his reasoning involved him in the strange result that matter as such turned out to be an unobservable; it always remained an "I know not what," a useless appendage to what was directly given--mind and its ideas. . . . [Berkeley] is not denying that the world exists, that things are real. He is really asking what we mean by the statement that the world is real. . . . All I mean by the apple is a set of ideas (experienced data) which form a constant constellation in my experience. If I insist that the apple is real, that it exists, Berkeley is far from denying it. He will only ask me to point out some feature which is contained in the term apple which is more than an idea. 32

Berkeley felt that Locke's theory of knowledge had certain negative metaphysical implications, not the least of which was the elimination of mind (or God) as having any significant role in providing an adequate philosophical account of perception. Kenneth Gallagher provides an excellent synopsis of the bishop's argument against the threat of reductive materialism:

Existence, [Berkeley] states, is actually inconceivable except in terms of ideas. For whatever we know we know in terms of experience.


31 Gallagher, 76-77.

32 Ibid., 79. He cites Berkeley, Principles of Human Knowledge, §§ 5-6, 24-25.
Every assertion we make can only have meaning for us if it applies to something in our actual experience. Grant, however, that experience always ends in "ideas," and then the statement that anything else exists becomes empty. All we can mean by existing is what we directly experience as existing. What we experience is psychic, mental.\textsuperscript{33}

Hamlyn rightly notes that, for Berkeley, "The ideas which we have in perception are utterly passive, for perception is an entirely passive affair." He makes this clear by contrasting Berkeley's view of perceptual objects (ideas) with objects (ideas) of memory and imagination. "Ideas which are in any sense ideas of perception do not depend on the will, while those of memory or the imagination do, and hence imply activity on our part."\textsuperscript{34} Berkeley's account renders perception as a passive concern because his characterization of mind as a disembodied, immaterial substance dominates his explanation. From this point it is relatively simple for Berkeley to show that the common sense realist assumption of a physical world existing independently of mind has no defense.

We can have no knowledge of any physical things except by way of idea, and hence we can have no independent knowledge of things apart from ideas. Since by perception we can have reason to believe only in what we perceive, and since all perception consists in the having of ideas, we can justifiably believe in their existence. But we have no justification for believing in a material substance lying behind those ideas. The existence of ideas, Berkeley thinks, is a matter of their being perceived.\textsuperscript{35}

\textsuperscript{33}Ibid., 77-78.

\textsuperscript{34}Hamlyn, 105. He cites Berkeley's Principles, §§ 30-33, 35-37. Hamlyn also cites Berkeley's Three Dialogues Between Hylas and Philonous (originally published 1713; edited by Colin Murray Turbayne; Indianapolis: Bobbs-Merrill, 1965), third dialogue, 185 ff.

\textsuperscript{35}Ibid., 106.
Because perceptual ideas (objects) are not wholly dependent upon our will, Berkeley argued, some other will (namely, God's) produces these ideas in our minds. To explain the apparent ongoing existence of perceptual objects independent of human consciousness, Berkeley simply asserted that they depended upon God's ongoing perception of them. The bishop restricts the activity of experience to mind and mind alone. Even ideas, regarded as the finished products of minds, are by definition passive. Moreover, Dancy appropriately notes that Berkeley's appeal to God's ongoing perceptual activity is a veiled attempt to persuade realists that the continuous character of physical objects need not require any ultimate independence of mind.

Berkeley's idealism is appealing for its attempt to make sense of perception by appeal to a single principle of explanation. But Hamlyn's critique points out several errors in the bishop's arguments that stand in the way of Berkeley's view to provide an adequate philosophical theory of perception. For instance, when Berkeley maintains that the feelings of pain and intense heat are indistinguishable from one another,

[Berkeley] draws the invalid conclusion that the heat of the fire itself is only a sensation in the mind. Whether or not feelings of intense heat and feelings of pain are distinguishable is a debatable point, but qua feelings they are both to be distinguished in fact from the heat which causes them. The argument is thus to the effect that since an object which possesses a quality to an extreme degree can cause an experience

36Ibid.

37"Berkeley's claim that God is a permanent perceiver of all possible ideas . . . ensures that physical objects have a continuous existence analogous to the sort of existence which the realist would claim for them; it is no more than analogous because for the realist objects are continuous and independent, while for Berkeleyan idealism they are continuous and dependent." Dancy, 156.

38Berkeley, Dialogues, first dialogue, 203ff.
which is undoubtedly subjective, that quality must be subjective. The conclusion manifestly fails to follow.  

Another shortcoming that Hamlyn points out is Berkeley’s attempt to persuade us that any account of human perception cannot help but be mired in contingency.

[Berkeley] points to a variety of cases in which the qualities of objects appear different to different people or under different conditions; how we perceive those qualities is thus dependent on the conditions of perception. From this he draws the conclusion that it is impossible to say that any of the qualities as perceived are the real properties of the objects. This conclusion is invalid, since it does not follow from the fact that we perceive things in different ways that none of the ways is the right way. . . . Berkeley, however, concludes that, because of their variability, the apparent qualities of things must really be sensations in the mind.

A third defect of Berkeley’s view concerns the bishop’s attempt to interpret perception exclusively in terms of sensations.

Because there cannot be a quality which is not a quality of something, Berkeley’s view that there are no objects to possess qualities means that the notion of a sensible quality in effect ceases to have application in his theory. Sensations, on the other hand, do not have to be sensations of anything—a pain is not a pain of anything. This fact reveals yet again the difference between a perceived quality and a sensation. A perceived quality must be attributable to an object; a sensation is an experience which a subject may have.

What is of particular interest for our purposes is Hamlyn’s discussion of the relationship between sensation and perception. Like other classical empirical philosophical theories

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39Hamlyn, 107.

40See, for example, the case of varying distances: Berkeley, Dialogues, first dialogue, 141-143.

41Hamlyn, 107-108.

42Ibid., 108.
of perception, Berkeley's intuition was that we build up perceptual awareness out of the bits and pieces of experience called sensations.

Berkeley's final view . . . is that each sense is responsible for separate and distinct sensations, and these are connected only by experience. To perceive an object is merely to have a bundle of ideas or sensations. The only permanence given to that which we should ordinarily call an object is that God has the constituent ideas when we do not. . . . Provided that we understand by 'sensation' a kind of idea put into our minds by God, Berkeley's view provides an almost perfect example of an attempt to assimilate perception to sensation throughout.\(^{43}\)

But the most critical blow to Berkeley's project, I feel, lies with Hamlyn's observation that Berkeley denies perception the power of actively dealing with its objects. Unfortunately, Berkeley seemed convinced that the only spheres that could lay claim to activity were the ones that were completely dependent upon the wills of individual minds. And Berkeley's predilection for comparing perception with imagination only further reinforced his conviction.

Because ideas are the only real things, and because these are immediately perceived, we can have real knowledge. But, while on [Berkeley's] view, we immediately perceive only ideas, not all ideas are the objects of immediate perception; some may be ideas of the imagination. . . . The distinction between perception and imagination . . . ultimately turns on the fact that the latter is dependent upon our spirit or will. Because our spirit is active in imagining, in a way in which it is not when we perceive, we must by our very nature be aware of which is going on in any particular case.\(^{44}\)

The metaphysical comfort Berkeley takes in God allows him to formulate a subjective idealist view of perception. But this is not an option for David Hume.

\(^{43}\)Ibid., 115-116.

\(^{44}\)Ibid., 110.
"[Hume] agrees with [Berkeley] that the only way to circumvent the difficulties of the representative theory of perception is to insist that we have knowledge of our perceptions only, i.e. we have no knowledge of independently existing objects."\(^{45}\) So, while Hume asks the same questions of Locke that Berkeley asked, Hume also raises the skeptical objection concerning the possibility of knowledge from sense experience. If all we ever directly know are "internal" representations, how can we know if an "external" world exists? "For all we know, since we never perceive it directly, there is no such thing as a physical world at all."\(^{46}\)

Empirical knowledge, according to Hume, consists of two kinds of truths, \textit{a priori} relations of ideas, and \textit{a posteriori} matters of fact. There are direct and indirect ways of establishing these truths. The direct means for establishing matter-of-fact truths is observation, that is, to give an account of our immediate sensory impressions. The indirect means for establishing matter-of-fact truths requires "moral" reasoning.\(^{47}\)

Hume claims that the "foundation" for all "moral" (practical) reasoning is the principle "that instances, of which we have no experience, must resemble those, of which we have had experience, and that the course of nature continues always uniformly the same."\(^{48}\) Now something like this uniformity principle, Hume maintains, has to

\(^{45}\)Ibid., 119.

\(^{46}\)Dancy, 164-165.

\(^{47}\)O'Connor and Carr, 11.

\(^{48}\)David Hume, \textit{A Treatise of Human Nature} (originally published 1739; edited by L. A. Selby-Bigge; Oxoford: Clarendon Press, 1978), Book I, Part III, Section VI (abbreviated I.iii.6), 89 (emphasis dropped).
underlie every inductive argument from previous experience to a conclusion about areas of the world not experienced.\textsuperscript{49} Now, such a principle could never be shown to have the logical force of an \textit{a priori} truth, such as the principle of non-contradiction. But as a practical principle for guiding action, it has its place in moral (i.e. practical) reasoning.

To explain the inferences we make from experience, Hume constructed an associationist view of the nature of the mind. "After the constant conjunction of two objects, heat and flame, for instance, weight and solidity, we are determined by custom alone to expect the one from the appearance of the other. . . . All inferences from experience, therefore, are effects of custom, not of reasoning."\textsuperscript{50} Of course, to respond that our inferences are not simply habits, but rather a process of reasoning from presuppositions we cannot justify, amounts to the same thing: "the inferences we make from experience are unwarranted, and empirical skepticism is the only rational conclusion."\textsuperscript{51}

For Hume, "perception" refers to any content of the mind. Perceptions are of two kinds: impressions and ideas.

[W]e may divide all the perceptions of the mind into two classes or species, which are distinguished by their different degrees of force and vivacity. The less forcible and lively are commonly denominated \textit{thoughts} or \textit{ideas}. . . . By the term \textit{impression}, then, I mean all our more lively perceptions, when we hear, or see, or feel, or love, or hate, or desire, or will.\textsuperscript{52}

\textsuperscript{49}O'Connor and Carr, 11.

\textsuperscript{50}David Hume, \textit{An Enquiry Concerning Human Understanding} (originally published 1748; edited by Charles W. Hendel; Indianapolis: Bobbs-Merrill, 1955), Section V, Part I, page 57.

\textsuperscript{51}O'Connor and Carr, 12.

\textsuperscript{52}Hume, \textit{Enquiry Concerning Human Understanding}, § 2.
The regularity and harmony we experience in concert with our impressions and ideas, Hume maintained, were due to certain psychological laws governing the human mind. These are the principles of association, "namely, resemblance, contiguity in time or place, and cause or effect." As psychological regularities, these laws and the knowledge dependent upon them could always only be contingent, and not hold the incorrigibility of logical or mathematical relations. "This transition of thought from the cause to the effect proceeds not from reason. It derives its origin altogether from custom and experience." By means of the common sense belief that a world of physical objects exists independently of our experience, for all practical purposes we resolve "the conflict between what reason tells us about the interrupted existence of our perceptions and what imagination or our nature leads us to believe."

While Hume's skeptical argument raises some important difficulties for an adequate philosophical theory of perception, the argument is not guaranteed. For example, Hamlyn points out that Hume "holds to the view that reason can give no justification of our belief in material objects, but realizes also that it is both natural and meaningful to maintain that there are such material objects."

In his urge to retain our natural beliefs about the world, while at the same time insisting that the only objects of perceptions are impressions, Hume contrives to sit on the fence. On occasion he talks of material objects, or what we should ordinarily call such, as mere bundles of

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55 Hamlyn, 120. He cites *Treatise*, I.iv.2.
impressions. . . . But the general trend of Treatise I.iv.2 seems to the contrary effect.\textsuperscript{56}

According to Hume, what minds deal with are streams of particulars. Our experience is always of particular bits and pieces, waiting for us to put them together. Our immediate contact requires us to step back from it in order for us to be in a position to generalize about it. Now Hume maintains that these "laws" of moral reasoning, such as the principle of uniformity, or the notion that the future must resemble the past, are simply convenient habits of mind gathered over time. If we insist that their necessity is more than mere practicality, then, Hume says, we go too far.

For every "law" of both common sense and science feels itself to be a pronouncement about the unobserved events of the past and future, as well as about spatially remote and unobservable events. But as such, according to Hume, it is proceeding on the assumption that the future must resemble the present, and this must remain forever an assumption.\textsuperscript{57}

In addition, Hume's atomistic view of experience, as a bunch of bits and pieces the mind huddles together, only makes matters worse. Whatever experience provides Hume seems to regard as hopelessly random and arbitrary. And if what experience provides is arbitrary, then our common sense "laws" of uniformity and predictability seem even less plausible.\textsuperscript{58} One of the effects of Hume's atomism is to reduce (if not altogether eliminate) the notion of observation. The mind itself is nothing but a bundle of impressions. Gallagher points out that "even on the philosophical assumption that

\textsuperscript{56}Ibid., 122.

\textsuperscript{57}Gallagher, 210.

\textsuperscript{58}Ibid., 211.
there are permanent natures," Hume’s skeptical objection concerning the possibility of
knowledge from sense experience still looms large, because

there is ample reason to believe that our inductive knowledge of [such permanent natures] is extremely limited. In the case of physical "laws" which are based on these natures, we must also stop short of claiming an unconditional necessity. . . . It would seem that reasoning which is inductive in the usual sense and nothing more is going to be confined to an approximate and probable conclusion.³⁹

The strength of Hume’s argument ultimately relies upon the degree to which one accepts ordinary experience as a mere sequence of events without meaningful interrelationships. For an organism, which I take has certain goals (e.g., survival) it aims to accomplish, "meaningful" relationships for the organism stand out as useful tools for satisfying these goals. This in part illustrates how biological perceptual systems differ from artificial ones (e.g., those simulated by a computer). Theoretically speaking, artificial perceptual systems seem much more ready to accommodate Hume’s atomistic account of experience than biological ones.

The most damaging consequence of Hume’s skepticism for an adequate philosophical theory of perception goes beyond Descartes’s methodic doubt. It shares its force with Descartes’s Dream Argument, namely, that a physical world may not exist. But Hume takes this possibility one step further: even if one grants the existence of an independently existing physical world, the skeptic insists that we can never be sure that our experience of it is ever anything more than a random, haphazard association of ideas.

³⁹Ibid., 213.
Sense Data Theories of Perception

The landscape of possibilities for an adequate philosophical theory of perception shifted dramatically with the twentieth century's rising interest in logical positivism. One of the effects of this movement for theories of perception was to question the starting point of both Locke's representative realism and Berkeley's idealism: "that is, the belief that what we are directly aware of is our own idea." G. E. Moore and Bertrand Russell introduced the notion of the sense datum in an attempt to bypass this belief and to establish a "common ground" for perceptual theories. O'Connor and Carr apply the term "to the contents of felt sensory experiences--patches of color, smells, sounds, and the rest. . . . Sense data have just those properties that parts of our sensory fields are found to have, and no more." In Some Main Problems of Philosophy G. E. Moore uses the example of seeing an envelope to define what he means by sense data:

I saw a patch of a certain whitish colour, having a certain size, and a certain shape, a shape with rather sharp angles or corners and bounded by fairly straight lines. These things: this patch of a whitish colour, and its size and shape I did actually see. And I propose to call these things, the colour and size and shape, sense-data, things given or presented by the senses--given, in this case, by my sense of sight.

Moore's analysis of sensation contradicts Berkeley's claim that "to be is to be perceived." For Berkeley, a perceptual object is identical with the perceptual act:

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60Ibid., 87-88.

61O'Connor and Carr, 99.


63See note 67 below.
there is no distinguishing the activity of perceiving from the object perceived. Moore’s analysis of sensation argues for the claim that some element of the perceptual process is independent of perceptual awareness, namely, a mind-independent physical object that sensation reaches. It is just this idea of the possibility of a world independent of mind that Berkeley’s theory of perception cannot address. By contrast, Moore’s functional account of sensation highlights the distinction between perceptual acts of awareness and the objects of those acts: X is one thing, and the perception of X is another.

For Russell, the concept "sense-datum" applied to a thing’s size, shape or color. Our knowledge of sense-data is immediate, not inferred. Immediate, non-inferential awareness Russell termed "knowledge by acquaintance"; inferential awareness he named "knowledge by description."⁶⁴ Russell’s notion of knowledge by acquaintance is characteristic of the sense-data theorists’ interest to establish an absolutely irrefutable foundation for theories of perception:

But if we are to obtain a description which we know to be applicable, we shall be compelled, at some point, to bring in a reference to a particular with which we are acquainted. . . . The fundamental principle in the analysis of propositions containing descriptions is this: Every proposition which we can understand must be composed wholly of constituents with which we are acquainted.⁶⁵

At least one of the intentions of sense-data theory was to undercut the threat of subjectivism posed by the argument from error. Moore tries to avoid the Cartesian problem of getting outside one’s private circle of sensations to an external realm by


⁶⁵ Ibid., 55 and 58.
claiming that "to have a sensation is already to be outside that [private] circle." But while this claim works when sense data refer to physical objects, the claim seems less obvious in the case of dreams and hallucinations. Gallagher notes the problems that arise in using a common thread to account for both "abnormal" and ordinary perception:

If a sense datum is common to both veridical and delusive experience, it evidently cannot underwrite an immediate contact with the world of independently existing material objects. In later theory, the sense datum begins to function as a kind of "third thing" interposed between awareness and physical objects. In this manner, many of the difficulties it was introduced to eliminate filter back into the theory.

It seems to me that sense-data theories of perception are formulated for the express purpose of overcoming the problem of a world of physical objects external to and independent of our awareness for their existence. For this is the same problem that confronts Descartes, Berkeley and Hume (albeit in different ways for different reasons). Descartes's "idea" as representation cuts the perceiver off from the physical world. Ideas get into consciousness, but they cannot get back out to the world. Berkeley makes the next critical advance upon the perceptual object by arguing that we have no evidence that a world independent of mind exists. And Hume carries this to its skeptical conclusion: even if a physical world does exist independently of our awareness, we have no independent evidence that such a world is what we are aware of when we believe we are aware of it, or even that we are able to be aware of such a world. Pushed to this limit, the concept of sense-data marks an important attempt to overcome skepticism.


67 Gallagher, 90.
Sense-data function to meet Berkeley's objection (and support Moore's belief) that a physical, mind-independent world of objects does exist and also provide the Cartesian a way for mind to get back out to that world. Berkeley and Hume called into question two of the three components of perception: the object perceived, and the relation between object and perceiver. Sense-data are supposed to surmount Berkeley's and Hume's doubts: they are "evidence" that a world of physical objects external to and independent of awareness does exist; and they guarantee the connection between object and awareness by claiming a dual ontological status: sense-data are both physical and mental, neutral.

Because sense-data are neutral, it is important for the theory to specify the relations between perceivers, sense-data, and external world. O'Connor and Carr describe how three different versions of sense-data theories would do this:

(1) Realist theories claim that sense perception is a direct relation between the observer and the material object which exists independently of him. . . . Sense data are literally parts of the surfaces of objects in the case of sight and touch.

(2) Representative theories claim that perception is a three-term relation between observer, his sense data and the material object which he perceives.

(3) Phenomenalist theories claim that material objects are simply ordered collections or "families" of sense data and that the relation of perceiving is a two-term relation between the observer and his sense data. Material objects, for the phenomenalist, have either no independent existence or are no more than, in Mill's phrase, "permanent possibilities of sensation." 68

68 O'Connor and Carr, 99-100.
Notice how the first view parallels what we have been calling the common sense or naive realist theory of perception. The second imitates representative realism, of the kinds espoused by Descartes and Locke. And the third version mimics Berkeley's idealist theory, in which material objects do not exist independently of mind. Of course, we must be careful here. A realist version of a sense-data theory of perception is one thing, while a realist theory of perception is quite another. And I think this is especially the case for those who would draft Berkeley into the phenomenalist camp of sense-data theories. For although there are similarities between subjective idealism and phenomenalism, there is at least one important difference: the concept of sense-data is much more recent than Berkeley. For my purposes, then, I prefer to refer to Berkeley as an idealist rather than a phenomenalist. What follows is meant to distinguish my particular use of the term "phenomenalism" as a philosophical theory of perception which is altogether distinct from Berkeleyan idealism.

Phenomenalism differs from common sense realism and representationalism with respect to each's account of the nature of the perceptual object. For the common sense realist, the perceptual object is the external, mind-independent, physical object. For someone like Locke, the perceptual object consists of mind-independent "objective" (primary) qualities as well as mind-dependent "subjective" (secondary) qualities. But for the phenomenalist, "a physical object is no more than a set of actual and possible sense data." Phenomenalism explains perception exclusively in terms of minds and sense data.

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69 "The term 'sense-datum' was probably first introduced into philosophy by G. E. Moore in lectures given in 1910-11 . . ." Hamlyn, Sensation and Perception, 174.
"The objects are abandoned as unknowable and therefore unexplanatory."70  "Sensa are held to be the only objects of perceptual awareness, and from our knowledge of our own sensa we infer the presence and nature of the material objects which cause them."71

O'Connor and Carr claim that phenomenalism has occurred in two forms: a "factual" form and a "linguistic" form.72 This distinction is useful for our purposes. What we immediately and directly experience, according to the phenomenalist account, are sense-data. The "factual" version of phenomenalism has its roots in the psychologistic convictions of John Stuart Mill:

The conception I form of the world at any moment comprises, along with the sensations I am feeling, a countless variety of possibilities of sensation . . . These various possibilities are the important thing to me in the world. My present sensations are generally of little importance and are, moreover, fugitive; the possibilities, on the contrary, are permanent, which is the character that mainly distinguishes our idea of substance or matter from our notion of sensation.73

As a factual account, O'Connor and Carr are quick to note that to construe the notion of "object" in this way

contradicts three basic beliefs about material objects shared by both forms of realism and ordinary common sense: (i) that such objects are independent of the observer; (ii) that they are public, in being

70Ibid., 106.
71Dancy, 168.
72O'Connor and Carr, 106.
accessible to any number of observers; (iii) that they have causal properties in that they are able to affect other material objects.\textsuperscript{74}

Like other versions of sense-data theories, factual phenomenalism relies upon a single theoretical construct (viz., sense-data) to account for both "true" and "false" perceptual experiences. This is consistent with the problem of illusions from chapter one: perceptual illusions, which do not fall cleanly on either side of the perceptual fence, have reinforced some theorists' belief that an adequate theory of perception must address the metaphysical aspects of the problem of perception. And these theorists are absolutely correct to do so, since perceptual objects are part and parcel of the perceptual process. By focusing their efforts primarily upon answering the question of the nature of the perceptual object, sense-data and other classical theories of perception make an important positive contribution to the advancement of perceptual theory.

But ultimately, these theories of perception have too narrow a view of what constitutes a "true" or "false" perceptual experience. Their concentration on the perceptual object while ignoring its context only reflects how ingrained the ontological passion is in traditional philosophical theories of perception. Not swayed by Berkeley's or Hume's arguments against the possibility of showing the connection between thing and thought, sense-data theories concluded to invent theoretical entities that would correspond to all possible worlds, whether they existed independently of mind or not. It seems to me that, while much more complicated, the much more fruitful approach is to address

\textsuperscript{74}O'Connor and Carr, 106.
the matter of the object's context, where we saw in the case of illusions that the same object can appear differently to different perceivers under different conditions.

So factual phenomenalism is at odds with intuitions that are not easily dislodged from any adequate philosophical theory of perception. Its ultimate weakness is related to the thesis of this chapter, namely, that some philosophical theories of perception are inadequate because they interpret the question of the nature of the perceptual process (an epistemological question) as the question of the nature of the perceptual object (an ontological question). Professor Hamlyn's observation concerning the concept of the sense-datum highlights my point.

As it is always logically, if not practically, possible to raise doubts about what we suppose ourselves to see, we may in the search for the sense-datum find ourselves progressively reducing our claims to what we directly perceive. But the distinction between logical and practical possibility is here important. There comes a stage when it is in practice impossible to have doubts concerning what one is seeing; but this is no guarantee that one has reached the stage at which one can be said to perceive the thing in question directly (in the meaning of that word which is here in question). In other words, the question what we directly perceive is a metaphysical question, not a practical one. And it may well be asked what it has to do with perception in the ordinary sense. 75

The linguistic version of phenomenalism modifies the factual version's claim that material objects are nothing but "permanent possibilities of sensation" by introducing the role of language. Linguistic phenomenalism maintains that "all statements about material objects can be analyzed or translated into statements about actual and possible sense
The foremost proponent of linguistic phenomenalism is A. J. Ayer. The philosophical argument Ayer makes for the legitimacy of a concept such as sense-data for a theory of perception advances by questioning the certitude of perceptual claims. For instance, suppose you see a tree in a garden. The argument from illusion raises the possibility that you are mistaken, that you only think you see a tree in a garden. So you make a more certain claim: it appears you see a tree in a garden. Since we can be more confident about what appears to be the case than what is the case, why not give the appearance some logical preeminence in providing an adequate account of perception? And underscore its importance with a special name: sense-datum.

Whenever anyone perceives, or thinks that he perceives, a physical object, he must at least be, in the appropriate sense, perceiving a seeming-object. These seeming-objects are sense-data; and the conclusion may be more simply expressed by saying that it is always sense-data that are directly perceived.

Both versions of phenomenalism reject the assumption that a material world of objects independent of minds must exist in order to provide the ground necessary to support "permanent possibilities of sensation." In turn, this rejection becomes the basis for the strongest criticism against phenomenalism as a philosophical theory of perception. Factual phenomenalism only reinforces Hume's view of conscious experience

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76 O'Connor and Carr, 107.


78 Ayer, The Problem of Knowledge, 106.

79 Dancy, 157.
as discontinuous. Mill's appeal to possible sense data to fill the gaps between actual ones only aggravates matters, because possible sense data are even less public, less independent and less causal than actual sense data. Linguistic phenomenalism fares no better:

Exponents of this version of phenomenalism have tried to show that any physical object statement can be translated, without loss of meaning, into a logically equivalent statement about sense data. . . . [But] it is impossible to find a uniquely descriptive set of sense datum statements that will identify a particular physical object without covertly re-introducing into the analysis the notion of a physical object.\[81\]

Hamlyn reaches the same conclusion:

Sense-data must be basic in that, if a justification of our claims to perceive physical objects is to be provided by reference to them, an application must be given to the notion of a sense-datum which is independent of our knowledge of physical objects. Ayer has not done this; for he started from the notion of physical objects in considering the reduction of perceptual claims. . . . On the account given in the *Problem of Knowledge*, sense-data are defined in terms of the appearances of physical objects. The only account given is phenomenological, so that to make reference to sense-data is to say how things appear to us. It is not claimed that sense-data are objects of direct perception, and thus incapable of giving rise to error.\[82\]

I take Hamlyn's point to be that Ayer's arguments for his brand of phenomenalism are circular in their reasoning. For on the one hand, the phenomenalist claim that physical objects are logical constructions built up from sense experience, a lâ Mill's "permanent possibilities of sensation." At the same time, it would seem that, since Ayer uses physical objects in giving an account of sense-data, he seems to be making the

\[80\]O'Connor and Carr, 107.

\[81\]Ibid., 107.

\[82\]Hamlyn, 179.
contradictory claim that our very concept "sense experience" ultimately depends upon the concept "physical object." The reasoning appears circular: if sense-data are logically prior to physical objects, then an account of sense-data "Independent of our knowledge of physical objects" should at least be possible.

Moreover, for linguistic phenomenalism, this contradiction becomes even more pronounced since it does not address the nature of the relationship between language and world. The problem of the connection between perceiver and perceived is one step removed by factual phenomenalism, where the account of the physical object shifts from mind-independent referent (for the ordinary realist) to that of the object as a "permanent possibility of sensation." Linguistic phenomenalism removes the problem another step, to statements about these permanent possibilities. But the relationship between language and world is simply too complicated to be explained adequately by reducing this relationship to either one (the world, factual phenomenalism) or the other (language, linguistic phenomenalism) of the relation's terms. Ayer's move to cast the problem exclusively as a linguistic dispute can be acknowledged for its intent to make a complicated matter simple. But this is small consolation for the consequences that Ayer's linguistic reduction creates for an adequate philosophical theory of perception.

With the momentum of the early twentieth century's philosophical move to language, Ayer recast the realist / phenomenalist conflict concerning the perceptual object in a linguistic light. Whether we are common sense realists and maintain that the immediate object of perception is a physical object, or we are phenomenalists and claim it is a sense-datum, Ayer argues, makes no practical difference:
It does not greatly matter whether we say that the objects which figure in [the evidence of our senses] are theoretical constructions or whether, in line with common sense, we prefer to say that they are independently real. The ground for saying that they are not constructions is that the references to them cannot be eliminated in favour of references to sense-data. The ground for saying they are constructions is that it is only through their relationship to our sense-experiences that a meaning is given to what we say about them.83

Ayer's version of linguistic phenomenalism tries to forego the problem of the existence of a mind-independent world by claiming that what the common sense realist means by saying "there is a tree in the garden" can be adequately expressed in phenomenalist terms. But R. J. Hirst demonstrates that all this does is translate the meaning "object" into sense-datum language without relinquishing any part of what the material-object statement means to assert.84 Hirst's argument is indebted to Ludwig Wittgenstein's demonstration that the notion of a private language makes no sense:

When one says "He gave a name to his sensation" one forgets that a great deal of stage-setting in the language is presupposed if the mere act of naming is to make sense. And when we speak of someone's having given a name to pain, what is presupposed is the existence of

83A. J. Ayer, The Problem of Knowledge (New York: St. Martin's Press, 1965), 147. In support of Ayer, Jonathan Dancy argues from analogy to contemporary physics that phenomenalism has no theoretical need of an independent ground for the permanent possibility of experience. In physics, "electric charge" vs. its effects, Dancy writes, are indistinguishable (163). But this analogy is misleading. Contemporary physics assumes that there is no absolute "gap" between observers and what they observe. The concept of a dispositional property requires a mind-independent or mind-external element of sense experience to the extent that the observing (the act of directed awareness) is theoretically distinct from the disposition's effects (the object of the awareness). To say that minds can have dispositional properties is to cast mind as an object of some subsequent act of awareness (e.g., introspection). The functional character of mind is the sense in which minds require opposition: the activity of mind requires a "medium" we call "world" through which mind is able to act.

the grammar of the word "pain"; it shows the post where the new word is stationed.

Look at the blue of the sky and say to yourself "How blue the sky is!" --When you do it spontaneously--without philosophical intentions--the idea never crosses your mind that this impression of color belongs only to you. And you have no hesitation in exclaiming that to someone else. And if you point at anything as you say the words you point at the sky. 85

In short, if phenomenalism is to lay claim as an adequate philosophical theory of perception, then it cannot play fast and loose with its account of the relationship between language and world. Linguistic phenomenalism cannot escape the problems that face factual phenomenalism for the same reasons that language cannot escape world. Language can modify and change the world, but it cannot create it ex nihilo. If you accept the premise that "it is a basic function of language to describe the world" 86, then "a pre-perceptual language is impossible." 87

Perception: Like Sensation, Only Different

We have reviewed several different philosophical theories of perception: common sense realism, representative realism (of Descartes and Locke), subjective idealism (Berkeley), Humean skepticism, sense-data realism (Moore and Russell), and linguistic phenomenalism (Ayer). They all commit the same mistake: they attempt to


86O'Connor and Carr, 107. Purely semantic theories of language or meaning, of course, do not accept such a premise.

87Hamlyn, 181.
resolve the **epistemological** issues of perception by means of **ontological** theoretical constructs. To be sure, as an epistemological problem, perception has its ontological component: the perceptual object. But, just as an elephant’s trunk is only a part of the elephant, so too the perceptual object is only a **part** of the problem of perception. All of these theories want to show how consciousness connects (or does not connect) to a world that exists independently of our perception of it. But they go on to assume that **relations** (the "connections," or lack thereof) are "things" of the same kind as the "things" they connect. In other words, these theories regard relations as if they were simply another piece of ontological furniture. As a result, what is relational (i.e., **contextual**) within a perceptual event is either mistakenly cast as another object (e.g., Locke’s secondary qualities) or is overlooked altogether. By dealing with the question, "What is the nature of the perceptual object?", these theories miss the more relevant question, "What is the nature of perception?" What does it mean to perceive something? What are the conditions necessary for the possibility of perceptual experience?

The temptation to give an account of perception in ontological rather than epistemological terms shows itself most clearly in O'Connor and Carr’s review of how sense-data function in perception. They assume that sense data are: (1) distinct from material objects (supported by the argument from illusion); (2) private to the individual of whose sense field they form a part (supported by studies of the physical and physiological mechanisms involved in sensation); and (3) immediately or directly present

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88 In Berkeley’s theory, God’s mind bridges the gap between perceivers and what they perceive.
to consciousness.\textsuperscript{89} Now the third assumption, they note, amounts to the claim that "the visual field is more primitive than the visual world." By "visual field" O'Connor and Carr mean the visual world's "basic, unconceptualised raw material." Their language mirrors William James from the \textit{Principles of Psychology}.\textsuperscript{90} This underscores a central tenet for any adequate philosophical theory of perception, namely, the methodological belief that perception is an inseparable mix of both sensation and judgment:

Our visual fields as now given to us are so conceptually saturated, so moulded by learning the structure of the visual world, that it is almost impossible for us to prescind from the conceptual load that gives meaning to what is presented to us. . . . If we distinguish the conceptualised visual world from the unconceptualised world of raw sense data, we can see that the visual stance appropriate to one is quite different from that appropriate to the other. We sense sense data; we perceive objects. And when we perceive something or purport to perceive it, we clothe a portion of our visual field with concepts.\textsuperscript{91}

On the face of things, it would appear that the development of a philosophical theory of perception has three options. It could deal with the problem of perception as primarily one of sensation, not unlike Locke's version of realism. Or it might give an account of perception as primarily one of belief, a lâ€”Berkeley. Finally, a truly adequate

\textsuperscript{89}O'Connor and Carr, 111.

\textsuperscript{90}A blind man may know all \textit{about} the sky's blueness, and I may know all \textit{about} your toothache, conceptually; . . . But so long as he has not felt the blueness, nor I the toothache, our knowledge, wide as it is, of these realities, will be hollow and inadequate. Somebody must \textit{feel} blueness, somebody must \textit{have} toothache, to make human knowledge of these matters real." William James, \textit{The Principles of Psychology} (three volumes; originally published New York, 1890; eds. Frederick H. Burkhardt, Ignas K. Skrupskelis, and Fredson Bowers; Cambridge, MA: Harvard University Press, 1981), II, 656. "New born infants and patients blind from birth recovering from surgery to restore their sight are doubtless the only human creatures with unconceptualized visual fields." O'Connor and Carr, 111.

\textsuperscript{91}O'Connor and Carr, 112.
philosophical theory of perception might opt to develop its account along both of these lines. Dancy shows why a "pure sensation" account of perception must ultimately fail:

Given the view that perception involves the occurrence of some characteristic form of sensation, it seems that [a visual] sort of sensation cannot occur without a belief, or at least a tendency to form a belief, about the nature of the object causing the sensation. So pure sensation is not cognitive enough to stand as a model for perception. Perception is not the occurrence of sensation about which one may or may not be led or tempted to form a belief. To perceive is to (be tempted to) believe.

In other words, unlike sensation, perception involves interpretation. Recall Kanizsa's illusory triangles from the first chapter. We sense pac-man-like black circles and black lines on a white page. We see (perceive) triangles that aren't there. We sense what is explicit in Kanizsa's drawings, the incomplete circles and lines. But we see (perceive) what is implicit before us, the relations between the explicit terms present to us. Now keep in mind that a great deal of what we perceive is learned behavior, even though we learn it very gradually and very tacitly. The only information sense ever provides us about the world is raw data. As raw data, it is very limited: a patch of blue, not an azure sky; an aroma, not a cup of coffee. Perceptual processes "cook" this raw information into something consciousness finds much more appetizing: the familiar world of physical objects. The raw circles and lines of Kanizsa's drawings are transformed to fit this more familiar world.

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92 Dancy, 171.

93 Ibid.

94 O'Connor and Carr, 114-115.
It is not necessary for an adequate philosophical theory of perception to solve the problem of whether an external world of mind-independent physical objects exists. Those theories that successfully navigate around this problem are not in a position to have to show whether a particular perceptual belief is true: the perception simply is. I say this for two reasons. First, on a purely theoretical level, the logical possibility of something like Descartes' Evil Demon always exists—things may be other than what they appear to be. To determine whether what appears is true is an epistemological enterprise over and beyond the more immediate concern of the usefulness of the belief that "[one’s] perceptual state, if successful, constitutes a particularly direct form of contact with the world."  

It is the usefulness of this belief that comprises my second, much more practical reason for arguing for the importance of leaving aside the problem of the existence of an external world for the development of an adequate philosophical theory of perception. I take it that the central task of perception is NOT to separate perceivers from what they perceive (which the problem of the existence of the external world seems to suggest), but rather to CONNECT perceivers with what they perceive in interesting and ever more satisfying ways. At least since Nietzsche, what is philosophically interesting about consciousness, whether we’re talking about concepts, emotions, memories, or percepts, is that consciousness aims more at transforming what it deals with than simply

95Dancy, 178.

duplicating its environment. Mind values duplication only to the extent that it can use the duplication in order to more adequately cope and deal with its environment. For instance, I might point out that videocameras "see" and "remember" far more thoroughly than any human perceiver. But as perceivers, our interests are much different from those of the camera. The camera passively records what is before it. But because of our interests, we cannot help but affect what is before us, influencing it in ways that we give it meaning for us.

Causal theories of perception regard the relational character of perception as an object. They replace the act of perception with "original" data (e.g., simple ideas, sense-data) out of which perceivers construct perceptual objects. For example, what a perceived tree means in a causal theory is the physical, concrete object that exists independently of the mind that perceives it. But this realism presupposes two things. First, it assumes that a realm of material objects exists external to conscious experience. Second, it maintains that such objects are nothing but the impressions those objects leave upon a wholly passive, tabula rasa consciousness. Causal accounts are inadequate because they do not address the issue of perceptual meaning. Without this, we get only the object's side of the story of perception.

Perceptual meaning is an effect, generated through the transaction between mind and world. The temptation to render an account of perception exclusively in terms of the object pole of experience is the temptation to reduce a relation to only one of the terms it relates. These theories all assume that a perceptual object merely impresses itself upon a passive perceiver. They also assume that a perceptual object does not vary
across different situations in which perceptual awareness encounters it. As a result, the classical philosophical theories of perception fail to recognize the influence of perceptual activity. Perceivers do not simply receive sensory information but act upon that information. The interests perceivers bring to the perceptual event quite literally make the data different from what they are independent of those interests.

Because active, interested perceivers are involved, an adequate philosophical theory of perception will be more likely if it regards the perceptual object as a focal point of perceptual awareness embedded within and constituted by the relations of interest which the perceiver implicitly grasps. It is this background of relations of interest that I refer to as the context of the perceptual object. Traditional theories of perception have sought to define perceptual objects independently of these webs of interest. I take the tactic that perceptual objects are like Kanizsa’s triangles: take away the surrounding interests, and (for all practical purposes) you effectively eliminate the perceptual object.

This relational character of perception, that perceptual objects are products of the transactions between worlds and interests, presents a third possibility overlooked by the classical philosophical theories of perception. For these traditional theories, the problem of perception posed itself as an unresolvable dilemma between sensation and judgment. Their operating methodological belief is that these two independent and mutually exclusive powers of consciousness are so wholly unlike each other that a coherent account of perception could not possibly embrace both. But this is precisely the way out of the fly-bottle: Perception is a matter of both thought and sensation, because perception (both temporally and logically) precedes both. It is the conflict between the
so-called mental and physical poles of experience that generates a third possibility: the meaning pole of experience. In the next chapter, Edmund Husserl’s phenomenology of perception focuses upon this meaning dimension of perception by bracketing the question of the perceptual object’s mind-independent existence. And he explores the relational character of perceptual experience with his theory of the horizons of perceptual objects.
CHAPTER III
HUSSERL'S THEORY OF HORIZONS

The classical philosophical theories of perception reviewed in the last chapter assume that a perceptual object is that which a perceiver specifically selects from the data available to it. This explicit data stands out over and against the remaining field of perception. These traditional theories of perception tended to restrict their concept of the perceptual object to a perceiver's explicit focal awareness, yet overlooked the significant offerings of the implicitly grasped data which constitutes the background of the perceptual object. These theories regard backgrounds as a mere by-product of (and, consequently, secondary to) perceptual foregrounds. This in turn encourages the notion that perceptual backgrounds have little if any influence over how consciousness gives meanings to its objects. In short, these theories maintain that only the perceiver's explicit awareness provides the meaning of a presently existing, relatively enduring, physical, external, mind-independent object. The generation of perceptual meaning is restricted to a perceiver's explicit center of attention.

By contrast, Edmund Husserl's concept of the horizons of perceptual objects offers some very good reasons why we should not simply accept the assumption that the meaning of a perceptual object results only from the focus of conscious awareness.

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Backgrounds of implicit perceptual awareness, co-present with explicit foregrounds, also contribute to the meaning of the object. Husserl maintains that the object’s surrounding, implicit background of relations and possibilities provides an integral basis for the constitution of the meaning of that object.

In this chapter I provide an exposition of Husserl’s theory of horizons as it relates to the meaning of perceptual objects. This exposition illustrates the second of the four criteria listed in the introduction for developing an adequate philosophical theory of perception, viz., that such a theory should show how perception is intimately connected with other structures of consciousness. He formulated this theory to stress the role backgrounds play in the generation of perceptual meaning. Basically, I wish to answer to two questions. First, what are perceptual horizons? And second, how do horizons contribute to the meaning of perceptual objects? The first section of the chapter responds to the first question with Husserl’s account of the logical, spatial, and temporal relations that envelope the perceptual object. It begins by using the phenomenological distinction between acts and objects of consciousness to establish the epistemological thrust of Husserl’s investigations into perception. With this in mind, it then presents what Husserl means by the notion of horizon in general. Following this are descriptions of Husserl’s more specific notions of spatial and temporal horizons, respectively. The chapter’s second section maintains that horizons make meaning possible by bridging the supposed gap between the sense-data and the concept-like dimensions of perception. In

1Although I rely primarily on Husserl’s texts for his account of horizons, I am also greatly indebted to David Bell’s account of the matter. See David Bell, Husserl (London and New York: Routledge, 1990).
this way, horizons are vehicles for a perceiver to shift back and forth between "concrete" perception (also known as empirical intuition) and "abstract" perception (also known as eidetic intuition). I hold that the defining characteristic of horizons, the quality of possibility, links eidetic and empirical intuition.

An Exposition of Husserl's Theory of Horizons

Perception: Ontological vs. Epistemological Concerns. Realist and idealist theories of perception, as I noted in the previous chapter, have approached the question of the nature of the perceived object independently of the relational character of perception. In light of this approach, three candidates for the immediate object of perceptual awareness stand out: the physical, mind-independent object (realism), representational ideas, and sense-data. But too much of an ontological emphasis upon the nature and function of perception has some undesirable consequences. On the one hand, realist perceptual theories subordinate the meaning-creating activity of consciousness to a presumed mind-independent, physical, "external" world. The permanence and stability of perceptual experience is assumed to be a function of the object, while the mind is condemned to a life of passively receiving the object. On the other hand, some sense-data theories raise a problem realists avoid, viz., the problem of the connection between mind-dependent and mind-independent objects.

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The conspicuously distinct categories fashioned by the philosophical tradition, such as subject and object, form and content, necessity and contingency, self and other, etc., are all subsequently discriminated from an otherwise undifferentiated chaos—what experience (hypothetically) would be like prior to such distinctions.³ The tradition only attributes traits of experience to one category or the other (e.g., subjects are active, objects passive [or vice-versa]). But such boundaries are not absolute to lived experience, so activity and passivity intermingle, belonging to both subject and object.

In opposition to ontological theories of perception, phenomenology undertakes to describe perception in its lived immediacy, avoiding the divisions introduced by traditional philosophical distinctions such as form v. content, self v. other, "internal" v. "external," etc. By its very nature, perception is as much a matter of epistemology⁴ (or meanings) as it is of ontology (or "objects," extramental or otherwise). Husserl investigates the process of perception within a decidedly epistemological context. For Husserl, the natural world is a correlate of consciousness.⁵ In other words, according to Husserl, the natural world is philosophically significant because of the meanings

³This is William James's notion of "pure experience": "the immediate flux of life which furnishes the material to our later reflection with its conceptual categories." William James, Essays in Radical Empiricism (originally published New York, 1912; eds. Frederick H. Burkhardt and Ignas K. Skrupskelis; Cambridge, MA: Harvard University Press, 1976; referred to as ERE below), 46. I am not aware that Husserl has an explicit account of any similar notion.

⁴"Epistemology" of a descriptive rather than normative sort, i.e., to provide an account of the conditions for the possibility of perceptual experience, rather than whether a perception does or does not accurately correspond with some sort of object.

⁵Edmund Husserl, Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy (first book: General introduction to a pure phenomenology; trans. F. Kersten; The Hague: Martinus Nijhoff, 1980), § 47. Referred to as Ideas I below.
consciousness gives to it. By contrast, what a world is or would be independent of consciousness Husserl considers to be a question of secondary importance. Remembering the epistemological emphasis of Husserl’s work is crucial for an adequate understanding of his account of horizons of perceptual experience.

The phenomenological distinction Husserl uses to accentuate the epistemological character of perception is that of acts versus objects of consciousness. For Husserl, intentional acts are epistemologically prior to intentional objects, since acts encompass both the subjective and objective poles of experience.

Acts must be present, before we can live in them or be absorbed in performing them, and when we are so absorbed (...) we mind the objects of these acts, we are primarily or secondarily oriented towards them, perhaps thematically concerned with them.6

Intentional objects are wholly "contained" within intentional acts. Some elements of acts that do not belong to objects include the conditions under which an act is performed, e.g., seeing an apple when one is hungry, hearing a phone ring when one is lonely, etc.

The meaning of an intentional object is partly due to the particular "grasp" consciousness has of it. For example, the object of my perceiving a tree is altogether different from that of my remembering a tree. The relationship between intentional acts and their objects makes a difference for theories of meaning. Is the "tree" in this example the same object for every intentional act? Or does the object depend upon the act of which it is an object? Ordinarily, we believe that the common ground between the

perceived tree and the remembered tree is the mind-independent, physically existing tree. But what we generally overlook is how the act also furnishes the object with meaning. Visually, a perceived tree does not pop in and out of physical existence. A remembered tree may emphasize some characteristics over others (e.g. fruit over foliage); and so on. Furthermore, the perceptual act makes it possible for an ego to realize one and the same object in spite of its indefinite number of varying appearances. The enduring, self-identical character of the object present from moment to moment is sustained by the intentional act. Even critics that argue for the dependency of the act upon the object must account for the "special contributions" the intentional act makes to the object's meaning.7

Strictly speaking, this fundamental phenomenological distinction between the acts and the objects of consciousness creates two categories of horizons: act-horizons (noetic analysis) and object-horizons (noematic analysis). 8 However, for the sake of simplicity, I will concentrate my account upon horizons of the perceptual object for the following reasons. First, horizons belong to both poles of lived experience, and every perceptual act has a perceptual object. Given this, it is reasonable to claim that whatever is the case for object-horizons will hold, ceteris paribus, for act-horizons. Consequently, reference

7For example: "We have characterized act-horizon solely in terms of Sinn, without reference to thetic character or other 'ways of givenness.' . . . However, the special contribution that perception makes to horizon lies within the special items of sense that go into perceptual Sinne: items prescribing visual shape, color, and so on." David Woodruff Smith and Ronald McIntyre, *Husserl and Intentionality: A Study of Mind, Meaning, and Language* (Boston, MA: D. Reidel, 1982), 263-264.

8See Smith and McIntyre, 240-241.
to both act- and object-horizons seems unnecessarily repetitive. In addition, I am concentrating my attention upon a single intentional activity (perception). The concept of act-horizon is more appropriate in cases of comparison and contrast of two or more intentional acts, while different object-horizons need not involve more than (the context of) one intentional act. Therefore, unless otherwise specifically stated, in general I will use "horizon" to refer to the horizons of perceptual objects.

The Concept of "Horizon" in General. Husserl's concept of horizon reflects different qualities of the perceptual process. The following examples illustrate three of those qualities, specifically: the partiality of perception; the implicit awareness of the backgrounds of perceptual objects; and the beliefs a perceiver brings to the perceptual event. By carefully appraising these characteristics, Husserl demonstrates how perceptual meaning-giving differs from the generation of meaning at the level of judgment.

First of all, the claim that perception is partial is that one usually does not perceive any object all at once. For example, the back of your coffee cup is hidden from your view. According to Husserl, included with the particular view you have of this cup is the unnoticed "feeling" that "there's more here to be seen." You pick the cup up; you look at it from a number of viewpoints. No single "seeing" presents a "cup" as such—only an aspect or side of it. By contrast, the meaning "perceived cup" provides a unity to what might otherwise be taken as a disconnected series of glances. The perspectival nature of perception simply means that there is more present to us than we can explicitly attend to at any given moment.

9One might submit objects like "rainbows" as possible exceptions to this rule.
Second, the partially given object has unique, relevant connections which provide cues for a perceiver to fill out the object. Husserl calls these connections the object's horizon. Horizons are the backgrounds of the perceptual object of which a perceiver is only implicitly aware. The perceiver's awareness of these contexts is implicit and nonconceptual. The content of this awareness can be made explicit only by concentrating upon it and making it the object of a subsequent act of attention.

"[Corporeal physical things are] present as actualities in my field of intuition even when I do not heed them. . . . I can let my attention wander away . . . to all the Objects I directly 'know of' as being there and here in the surroundings of which there is also consciousness--a 'knowing of them' which involves no conceptual thinking and which changes into a clear intuing only with the advertence of attention. (Ideas I, § 27, <48-49>, 51-52.)"

This is importantly true for the generation of perceptual meaning. Horizons are not theoretical abstractions "added to" perception. Quite the contrary: the intricacy of perception requires something like Husserl's concept of horizons for an adequate explanation of perception.11

Third, we often only become aware of these perceptual contexts after the fact, for instance, in cases where our expectations are disappointed. For example: Have you

10Izchak Miller, Husserl, Perception, and Temporal Awareness (Cambridge, MA: MIT Press, 1984), 82. He cites Edmund Husserl, Cartesian Meditations (trans. Dorion Cairns; seventh impression; The Hague: Martinus Nijhoff, 1982), § 19, <81, 82>, 44. (Referred to as CM below.) Miller uses the term "prescribe" rather than "determine" concerning the act's or object's fulfillment, but this seems too strong. A certain range of possibilities are indicated, not single or exact ones.

11This agrees with Irvin Rock's thesis that perception is a significantly complicated process that resists explanation solely in terms of simple, "lower-level" mechanisms. Such is the case, for example, for giving an adequate account of neuron adaptation of apparent motion. Rock, Logic of Perception, 338-339.
ever had the experience of lifting what you thought was a full carton of milk that had no milk in it? You reach for the box, grasp, and heave. The carton nearly flies from your grip! In this case you experience dissonance, not harmony. "The box looks new," "I just bought a box of milk yesterday," "I'm the only one in the house that drinks milk": all of these "reasons" were part of the horizons of the perceived carton of milk, before you tried to lift it. The fact that we sometimes move from explicit focal point to moments of confusion and chaos reminds us that what we regard as clear and distinct stands on the shoulders of habits and patterns that have become automatic for us. Not only do perceptual horizons make it possible to move from focus to focus, but they also provide a nonconscious background against which it is possible for a perceiver to have an explicit perceptual focus in the first place.

One of the principal characteristics of horizons in general is that a horizon "is the ultimate circumference within which all things, real and imaginable, are bound to appear." An ego grasps a perceptual object not in isolation from but always in connection with its surroundings of which the perceiver is implicitly aware. Think again of the coffee cup. It occupies only a small part of your visual field. Much else is present of which you are only peripherally aware: the table it is on, the books behind it, the pad of yellow paper lying next to it, etc. According to Husserl, the relations of the cup to the rest of its surroundings are also a part of the meaning "perceived cup" in

\[\text{12Helmut Kuhn, "The Phenomenological Concept of 'Horizon'" Philosophical Essays in Memory of Edmund Husserl (ed. Marvin Farber; New York: Greenwood Press, 1968; 106-123), 107-108.}\]
addition to the sum of its possible perspectival viewings. In short, horizons are part of the conditions necessary for the possibility of perceptual experience in general.

While seeing a tree in a garden, the explicitly grasped element of this perceptual experience is the perceived tree. But there is much more content, noetically and noematically, to this experience than just the "tree itself." On the noematic side, the tree's background includes its other possible perspectives as well as its logical, spatial, and temporal relations. Thus, part of the meaning of a perceived tree might include its spatial ("in the park"), and temporal ("at dusk") locations, as well as its uses ("source of fuel"). On its noetic side, a sprawling oak in the park on a hot summer afternoon may include "desired place of shade" in its meaning. Moreover, perceptual horizons ultimately presuppose for Husserl a process universe, a world of ongoing completions and disappointments rather than any ultimate satisfaction or rejection. In *Phenomenological Psychology*, Husserl describes the function of horizons in the generation of meanings of perceptual objects:

Every object of different perceptions has its own empty horizon according to the perceptual sense which precisely its perception, its continuity of appearance, bestows on it. What determines this table cannot determine a horse. . . . When our regard is directed toward the substrate, we continually have . . . an empty horizon which does not persist fixedly but is changeable, shaping itself anew in the new phases as a framework within which the determinations are restricted, and to which they give fullness. This horizon is, as we also note, an indeterminately universal anticipation at the substrate, at the abiding center for the features which determine it at any time, a total intention pointing ahead toward newly determining or possibly newly determining
features; an anticipation which is fulfilled and confirmed by their appearing.\textsuperscript{13}

The importance of the process character of perceptual experience for Husserl ought not to be underestimated. If experience is viewed as something on its way to completion and fulfillment, it should present some evidence of its provisional character. As a concept, horizons include the assumption that there is no logical reason to suppose that experience is exhaustible. Moreover, as "indeterminately universal anticipations," horizons provide a range of related, open-ended possibilities, by means of which lived experience grows.\textsuperscript{14} For example, one might discover that a book may be used to hold open a window. Because of the horizon structure of experience, it is possible for us to "knit" novel discoveries and realizations (e.g., the window prop) onto previously established worlds (e.g., the usual book). Horizons are the source of both the processive and cumulative character of perceptual experience.

To sum up, three distinct characteristics compose the concept of horizon in general. Each attribute relates to different features of perceptual experience. First of all, for the partiality of perception, horizons prompt perceivers that their perspectival viewings are parts of a "whole" (i.e., meant) object. Second, with our implicit

\textsuperscript{13}Edmund Husserl, \textit{Phenomenological Psychology: Lectures, Summer Semester; 1925} (trans. John Scanlon; The Hague: Martinus Nijhoff, 1977), § 35, \textless 181-182\textgreater , 139. Referred to as \textsuperscript{13}P\textsuperscript{13} below.

\textsuperscript{14}This is also true for William James: "In the same act by which I feel that this passing minute is a new pulse of my life, I feel that the old life continues into it, and the feeling of continuance in no wise jars upon the simultaneous feeling of novelty. They [the old and new pulses], too, compenetrate harmoniously." William James, "The Thing and Its Relations," \textit{ERE}, 46-47.
awareness of the backgrounds of perceptual objects, horizons enable perceivers to situate those objects within their perceptual worlds. And finally, since our perceptual beliefs are subject to change in light of new information, horizons underscore process as a ruling principle of perceptual consciousness. These general traits of Husserl's concept of horizon are also manifest in two more specific classifications of his theory, viz., spatial and temporal horizons.

**Spatial Horizons: Internal and External.** The spatial horizons of intentional objects are subdivided into internal and external horizons. In short, the internal horizon of a perceptual object refers to the further possible perspectives of that object. Its external horizon refers to the other possible objects of the world in general to which the perceptual object belongs. In both types of horizons, the object is the ultimate reference point: it provides the boundaries of its internal horizons, and, alternatively, it is the starting point of its external horizons. Horizons are internal or external relative to the object. If the object is considered in terms of its perspectives, aspects, qualities, properties, the horizon is internal. If, on the other hand, we see the object in its relations to other objects and its surroundings, the horizon is external.

There is a functional difference between internal and external horizons. Each type of spatial horizon deals opposing modes of possibility. The internal horizon of a

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perceptual object presents an indefinite, but limited (i.e., "closed") range of possible perspectives. For example: the internal horizons of a perceived book consist of its many various possible perspectives, e.g., as seen from its front, back, side, upside down, etc. The internal horizons provide an ego the fabric for weaving a meant perceptual object. The book-as-perceived (noema) and the perceiving of it (noesis) abide by certain constraints: if the book "mutates" into a horse or a demon, or if an ego's perceiving-a-book becomes a remembering-a-book or an imagining-a-book, then the meaning "perceived book" is no longer present. In its place is some other meaning, "perceived horse," "remembered book," or the like. In this way, the internal horizons of a perceptual object indicate relevant possibilities of the object's relative stability and permanence.

A perceptual object's external horizons are just the opposite. Because these horizons denote the object's relations to its surroundings, they present the "open-ended" possibilities of perception and its objects, its conditions of change and transition. The ultimate external horizon of all objects of experience is the "world as such" (EJ, § 8, <33>, 37). Noematically speaking, other possible perceptual objects are realizable because of the presently perceived object's external horizons. Noetically speaking, external horizons furnish the mode of transition that connects perceived objects with

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16 Husserl refers to this kind of possibility as "problematic possibility." He contrasts it with "open possibility." See EJ, § 21(c), 96-99.

17 Aron Gurwitsch's account of an intentional object's internal horizons as "a relevance-standard structure of consciousness" supports this. See The Field of Consciousness (Pittsburgh, PA: Duquesne University Press, 1964), 242.
other intentional acts, such as remembering, imagining, wishing, and so on. External horizons supply a range of "open possibilities,"\(^{18}\) limited only by the ingenuity of the perceiving ego. According to Husserl, the relational character of the external horizons of every perceptual object underlies our intuition of space. "[W]hen, instead of the isolated objects, I represent intuitively their encompassing space as the form of their order, I have represented something 'more,' something which distinguished them spatially" (EJ, § 43(b), 186). This intuition is a necessary condition for the continuity felt in ordinary, everyday perceptual experience. In turn, this felt continuity provides for the possibility of spatial organization. In short, space is simply an immediate given supplied by the horizon structure of intentional objects.\(^{19}\)

For instance, suppose you see a cup. As always, you see it with its surroundings. Typically, your perceptual backdrop presents no immediately recognizable conflicts with your expectations, memories, habits, etc., concerning the perceptual object. (Examples of such conflicts include illusions, hallucinations, artificial conditions [e.g., unnatural light], the perceiving organism's physiological conditions, etc.) Now Husserl maintains that this particular perception of this cup at this time is not nearly as particular or contingent as one might think. We usually regard most (if not all) perceptual cases as contingent events: this cup is grey, but need not be; empty, but could be full; and so

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\(^{18}\)In addition to EJ, § 21(c), see Gurwitsch, *The Field of Consciousness*, 245-247, on the notion of "open possibility."

on. Husserl's point is that, despite its contingency, perceptual experiences are structured in similar ways, governed according to law-like patterns.\(^{20}\)

We can get an idea of the sort of thing Husserl has in mind by considering the following example. For instance, imagine that you can "cut up" your visual field (as if it were a photograph) into a number of squares.\(^{21}\) A haphazard recombination of the field loses the flow of the original perception, even though no "data" has been discarded. Your explicit awareness of the chaos of this abnormal perceptual case is support for the claim that certain consistent structures, of which consciousness is at best only implicitly aware, govern perceptual experience. The loss of the spatial organization of the visual field is evident with the chopped-up photo experience. For Husserl, such an incoherent experience is what perception could be like without normal spatial horizons. These horizons, Husserl maintains, are responsible for the unified, continuous, seamless quality of perceptual space.

The differences presented above between an intentional object's internal and external horizons also hold true for the internal and external horizons of an intentional

\(^{20}\)Of course, we have no explicit conscious awareness of these spatial organizational patterns: "It is by no means clear to what extent we are aware of thought processes in the domain of thinking," let alone perceiving. Rock maintains that the idea of nonconscious perceptual processes does not necessarily present any special problem for a cognitive theory of perception. See The Logic of Perception, 336.

The internal horizon of a perceptual act is limited to the act's relevant aspects. The internal horizon of an act of perception are those "properties" unique to this particular type of act: e.g., that its object appears relatively stable, the experience is coherent, I cannot change the object at will, etc. This horizon is different from the internal horizon of an act of imagination (objects are variable at will, the experience need not be coherent, etc.). In the same way, an act's external horizon parallels that of the object: a particular type of act (perception) is related to other types of acts (imagination, recollection, desire) because egos are capable of acting in these assorted ways.

Temporal Horizons: Retentions and Protentions. Husserl avoids the shortcomings of other traditional theories that attempt to explain temporality on the basis of certain metaphysical assumptions. In general, such ontological accounts of temporality have the undesirable consequence for a theory of perception of severing perceivers from what they perceive. They do this in particular by construing temporality as a series of isolated moments moving past a detached, "spectator" consciousness. In addition, the actually present now is interpreted as a pure instant of no duration which separates past and future while it itself is nothing. Of course, this is only a hypothetical construct, a purely ideal representation like the concept of "point" in geometry.

The precision of this idea of the present is deceptively alluring. By contrast, Husserl gives a much more epistemological account of temporality, of what temporality

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22Smith and McIntyre extend the internal-external horizon distinction to both the act pole and the object pole of perceptual experience. See Husserl and Intentionality, 256.

23For example, see Augustine's account of the nature of time in his Confessions, Book XI, chapters 14-30.
means for us. By concentrating on consciousness's experience of time, he shows how the present is not an empty abstract point but has a temporal spread to it, extending slightly into both the past and future. By shifting the question from the ultimate nature of time to its meaning, Husserl establishes a much more concrete basis for the generation of meaning.

According to Husserl, the now of conscious experience is always given as a moment with temporal horizons. Horizons of expectation which inhabit the "soon-to-be" of the present Husserl calls its protentions. Conversely, horizons of memory belonging to the present's "just-was" are its retentions. Focusing on the perceptual world, Husserl writes, does not give us the modes of future or past but "only the temporal mode of the present," as attached to the present's horizontal retentions and protentions.  

Perception itself, as the 'flowing-static' present, is constituted only through the fact that the static 'now' . . . has a horizon with two differently structured sides, known in intentional language as a continuum of retentions and protentions (Crisis, Part III A, § 49, 168).

We are able to give meaning to the past or future precisely because of the nearly-pasts (retentions) and nearly-futures (protentions) of the present. The overabundance of the present moment spills over into the just-past and the nearly-future.

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24"Husserl's account of our temporal awareness is sometimes taken to be a version of the doctrine of the specious present. . . . The term 'specious present' came into prominence on the Continent with the work of the nineteenth century psychologist [Wilhelm] Wundt [1832-1920]." Miller, 163.

25See Carol Kates's "Perception and Temporality in Husserl's Phenomenology" (Philosophy Today, 14 [Summer 1970], 89-100), 93.
The perceived object is grounded on the present moment, connected with a series of perceptions which precede and follow it. As a result, every perception occurs within a time-bound context, referring to "the immediate and remote past on the one hand, and to the immediate and distant future on the other." Just as spatial horizons undergird and support the continuity of our intuition of space, temporal horizons are responsible for the overall continuous feel of temporality, an awareness which utterly renounces an atomistic account of experience. Qualities such as succession and simultaneity, which allow us to distinguish the present from the past and the future, are part and parcel of the "intuition of time," the continuity of temporal experience.

In the same way, every intentional act has temporal horizons by means of which it may combine with other acts. Intentional acts have duration, occupying a position in a continuum of time. The experienced present takes up a brief but profoundly crucial place in the time-line. The continuity of one act of consciousness to the next is a continuity of ever-changing intentional contents. As further data come into its view, an ego selects and attaches these new items to what it has "just" selected and which has receded from the now into the "just now," i.e., into the retentions of the present. From moment to moment, data blend together and comprise a consciousness's changing landscape.

There are four similarities between Husserl's more specific notions of spatial and temporal horizons. First, each of the types of horizons has its complementary conceptual

26Kuhn, 113.

pairs: internal and external spatial horizons, and the retentions and protentions of temporal horizons. Second, each of these pairs serves analogous functions with respect to the modes of possibility of perceptual experience: internal spatial horizons and the retentions of temporal horizons involve problematic possibility, i.e., their range of possibilities, while indefinite, is not unlimited. By contrast, external spatial horizons and the protentions of temporal horizons refer to "open" possibility. Third, spatial and temporal horizons are responsible for the order and continuity of our intuitions of space and time, respectively. Finally, what can be said about the spatial and temporal horizons of intentional objects also holds for intentional acts. Within the part/whole structure of perception, temporal horizons relate the presently perceived "part" (side, aspect, feature) with other "parts" not presently perceived (either previously perceived or yet-to-be perceived). However, "the phrase 'not present' here is ambiguous, having both a temporal and, so to speak, a modal sense."28 The next section considers the relationship between this modal sense of perception and the generation of perceptual meaning.

Horizons and the Generation of Perceptual Meaning

Unlike spatial and temporal horizons, Husserl provides a less specific account of "modal" horizons, because the idea of possibility is an essential characteristic common to the concept of horizons in general (including, for example, conceptual and linguistic horizons). An adequate account of Husserl's theory of perceptual horizons must

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28Bell, Husserl, 189.
elaborate Husserl’s views of perception’s modal sense.29 This is especially so because Husserl recognizes the active, "intelligent" character of perception that distinguishes it from passive sensation. He believed that universality and necessity are as much a part of perceptual experience and are as available to a perceiver’s intuition as what is particular and contingent about it. While we can theoretically separate the conceptual features of perception from its sensible ones, life presents them alloyed as one. In other words, perception is as much a matter of possibility (given the modal sense of "present") as it is a matter of the here-and-now (the present’s temporal sense). To limit the scope of perception to the intuition of particulars, stripped of their modal sense, is to attempt to confine perception exclusively to a temporal sense.

Husserl rejects this attempt to restrict perception to its temporal sense, but not because of any loyalty to the philosophical tradition’s obsession with timeless, eternal truths. Instead, he realized that the phenomenal facts contradict what such a limited scope of perception implies. For one thing, it implies that perception is a passive, purely receptive mode of consciousness. It also implies that perception is stupid, at best randomly collecting items of awareness about the world without a clue of salient connections between those items. Husserl’s analyses of perception obliged him to deny these implications. When we perceive, we are already in the middle of things,

29For textual evidence, see EJ, §§ 8, 82, and 93(a); CM, §§ 19, 20, and 34; Ideas I, section 82; and PΨ, §§ 11-13.
simultaneously engaged with both the "thought-like" as well as the "material" dimensions of perception.  

For the purposes of this second section, what follows is a investigative sketch of the modal sense of horizons. Because Husserl discusses this sense most often in the contexts of phenomenological method and intentional analysis, a more comprehensive examination of this horizontal feature will be undertaken in the next chapter concerning the similarity and differences between Husserl’s theory of horizons and James’s theory of fringes of perceptual objects in light of their respective philosophical methodologies.

**Horizons: Actuality and Possibility.** The heart of Husserl’s theory of horizons centers upon actuality, possibility, and the relations between them. In these matters, Husserl resembles Aristotle more than Plato. For Plato, there is an absolute gulf between the real and the ideal, and what we call "real" is actually only a shadow of the really real, viz., the ideal. But for Aristotle, what is ideal or formal is among the real, so to speak: what is abstract or universal about experience has its roots in concrete particulars. (The categories come to mind as an example.) Moreover, for Aristotle the real is the "really" real, upon which the ideal is grounded. This seems to be Husserl’s intuition as well, not only ontologically (which is the only way it is for Aristotle), but

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30Further evidence of Husserl’s belief concerning the "intelligence" of perception is the idea of an empirical a priori. "Everything that has size has shape" is an example of an empirical a priori. See EJ, § 97(c), 373-377.

31Of course, Husserl and Aristotle do not have the same view of perception, inasmuch as Aristotle’s approach is unabashedly metaphysical, concerned with what a perceived X is, while Husserl’s concern is epistemological, focusing on what a perceived X means.
more importantly epistemologically.\textsuperscript{32} In Aristotle's metaphysics, form and structure are intrinsic to reality. Similarly, Husserl assumes that what necessity and universality mean is to be found within (not beyond) concreteness. Thus one ruling principle of Husserl's theory of perception is that the concrete, both ontologically and epistemologically, precedes and provides a basis for the abstract. Similarly, actual perceptual experience precedes and provides a basis for possible perceptual experience. The concept of perceptual horizons includes not only what is particular but also what is universal (and universalizable) of perceptual consciousness.

A second, more problematic axiom Husserl accepts is that "we can have a direct quasi-perceptual awareness of . . . essences."\textsuperscript{33} The problem is, how is this possible? Sensation is confined to what is concrete, particular, and contingent. Although it is not immediately clear how this awareness is possible, Husserl insists that not only is such awareness possible but that perceptual experience requires this awareness. Consider the following:

Experiencing, or intuition of something individual can become transmuted into eidetic seeing (ideation). . . . Just as the datum of individual or experiencing intuition is an individual object, so the datum of eidetic intuition is a pure essence. (Ideas I, § 3, <10-11>, 8-9.)

[Every real thing whatsoever has, as an object of possible experience, its general 'a priori,' a preknowledge that is an indeterminate generality but which remains identifiable as the same, as a type belonging a priori

\textsuperscript{32}Bell, 193. He refers to Husserl's \textit{Formal and Transcendental Logic}, § 64, 168 to support the claim that the concrete is ontologically prior to the abstract, and cites PS\textit{w}, § 38, 148 as evidence of the concrete's epistemological priority.

\textsuperscript{33}Bell, \textit{Husserl}, 193.
to a realm of a priori possibilities. . . . In the flux constituted by the bowing in and out of quiddities, the real thing is always presented to consciousness as one and the same, and it is to this unity that the total type as the total horizon of typical generality belongs. (EJ, § 8, 36.)

[A]s consciousness of something, every consciousness has the essential property, not just of being somehow able to change into continually new modes of consciousness of the same object ( . . . ), but of being able to do so according to--indeed, only according to [its] horizon intentionalities. The object is, so to speak, a pole of identity, always meant expectantly as having a sense yet to be actualized. . . . (CM, § 19, <83>, 45-46. Italics added for emphasis.)

In all three quotes Husserl employs the idea of transition in order to give a satisfactory description of the perceptual process. In each case, an activity unites two otherwise discrete "terms": empirical intuition v. eidetic intuition; an actual thing v. its a priori possibilities; and the fact that consciousness of an object can change modes v. the ways such changes proceed. The point is that, even though we can analytically distinguish each member of these pairs very roughly as objects of sense v. objects of thought, both are the result of the ongoing, simultaneous, interwoven activities of data-gathering and organization that constitute the perceptual process.

Intentional analysis tries to discover potentialities within consciousness which lead to the development of meanings of both intentional objects (noema) and intentional acts (noeses).34 It follows the intuition that what is clearly and explicitly grasped by an ego at a given moment always has some additional indistinct and implicit content. At the same time, the explicit intentional act also has its implicit content as well. Intentional

34On noesis v. noema, see Ideas I, §§ 88-95.
analyses aim at bringing into view possible subjective processes which comprise the implicit sense.\textsuperscript{35}

Finally, the possibility quality of horizons make up what Husserl calls "the realm of the as-if" (CM, § 34, <104>, 70). A perceiver uses horizons when he abstains from accepting the actuality of the perceptual object and (imaginatively) considers it "merely as exemplifying a pure possibility" (ibid., <105>, 71). For instance: suppose you are perceiving a cup. You are not confined (as sensation limits you) to the particular, mind-independent, actually existing physical thing before you. You can freely regard this thing (which is a correlate of consciousness) as an instance of the type "(perceived) cup" in general. You are also free to regard it as an instance of any number of various types in general: "grey thing," "thing with a handle," "cylindrical thing," "makeshift ashtray," etc. However you regard it, horizons are the means by which you move back and forth between an actual, particular perceptual object and its more general, perceivable possibilities.\textsuperscript{36}

\textsuperscript{35}CM, § 20, <83-85>, 46-48.

\textsuperscript{36}There are advantages and disadvantages in formulating a theory that acceptably accounts for the "intelligence" of perception. For example, Wittgenstein flatly states that "'seeing as . . .' is not part of perception" (Philosophical Investigations, II, xi, 197e), because "seeing-as" is more than seeing: "A concept forces itself on one" (ibid., 204e). This seems to restrict perception to sensation, which has the theoretical advantage of infallibility ("it seems I see a desk") but the undesirable suggestion that perception is passive. By contrast, G. N. A. Vesey maintains that "all seeing is seeing as" ("Seeing and Seeing As," Proceedings of the Aristotelian Society, LVI (1955-1956), 109-124). He goes on to argue that an adequate theory of perception must "renounce the dogma that only judgments can be true or false" (ibid., 123). Vesey's approach recognizes perception as an activity of consciousness that is as fallible as "higher" cognitive functions. I think Husserl takes a mixed course: truth begins with judgments, meaning begins with perception, fact begins with sense.
Summary

The purpose of this chapter has been to present Husserl’s theory of horizons and their function with respect to the generation of perceptual meaning. In short, Husserl’s theory of perceptual horizons is his attempt to explain the idea "that experience can be put into play again and again, that all horizons can be opened, that everything will finally match in accord, and that everything must lead to the disclosure of one and the same harmonious world" (PΨ, § 6, <63>, 47). Perceptual horizons are the sum of a perceptual object’s possible perspectives as well as its logical, spatial, and temporal complexes of relations. The modal sense of the "more than this" quality of perception, the sense that the particular grasped by empirical intuition is connected to more general but no less intuitable objects, viz., essences. Horizons of perceptual objects make it possible for a perceiver to shift back and forth between eidetic and empirical intuition.

Students of phenomenology and American pragmatism are well aware that Husserl’s concept of horizons of perception was "inspired largely by William James’s conception of the 'fringes' of our perceptual consciousness." In the following chapter, I will attempt to present a more exact account of what James means by the fringes of

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perceptual objects, and show the significant similarities and differences between his concept of fringes and Husserl's concept of horizons.
CHAPTER IV

JAMES'S THEORY OF FRINGES

William James's idea of fringes of awareness is not nearly as developed or as extensive as Husserl's theory of horizons. In fact, given the whole of his writings, James speaks of fringes very rarely, sketching only a preliminary notion in order to give some kind of handle to the concrete sense of the "more"-ness felt in perceptual experience. However, James's notion offers at least one important feature Husserl's notion of horizons does not adequately address, namely, the role a perceiver's plans for action play in the perceptual process. As recommended by criterion 3 of the introduction, such a role is significant for the development of an adequate theory of perception. As an explanatory concept, James's theory of fringes surmounts some of the dilemmas that traditional philosophical theories of perception present.

My aim in this chapter is to present a more thoroughgoing account of what James means by the fringes of perceptual objects. I attempt to do this in three parts. In the first section of the chapter, I provide a background sketch of James's understanding of perceptual consciousness. The second section presents James's account of fringes of objects of consciousness within the context of his celebrated analogy of the stream of thought. In the third section I attempt to bring out the significance of the fringe
phenomenon for perception. According to James, cognition consists of two kinds of knowing. One is the kind of immediate but ambiguous familiarity perceivers have of a thing by means of their senses (knowledge-by-acquaintance). The other is a knowing of a thing with its relations (knowledge-about), whereby the cognitive content associated with the thing accumulates over time. The first James calls "knowledge of acquaintance," the second "knowledge about." I conclude the third section by proposing a preliminary "working" definition of the concept "fringe": fringes are active bridges of associations (logical, psychological, etc.) from what is perceptually immediate but ambiguous to what the perceptual process "analyzes" and makes definite.

James's Approach to Perceptual Experience

The first part of this chapter has three subsections. The main idea of the first subsection is to demonstrate that, according to James, the proper object of psychology as a natural science is cognition, and that it should aim to explain consciousness in terms of its performance rather than simply its results.

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Psychology Concerns Epistemology, Not Metaphysics. Consider the following passage from the Principles (PP I 214):

The psychologist's attitude toward cognition will be so important in the sequel that we must not leave it until it is made perfectly clear. It is a thoroughgoing dualism. It supposes two elements, mind knowing and thing known, and treats them as irreducible. Neither gets out of itself or into the other, neither in any way is the other, neither makes the other. They just stand face to face in a common world, and one simply knows, or is known unto, its counterpart.

Two of James's more prominent commentators, Richard Stevens and Bruce Wilshire, claim that the psychologist's "thoroughgoing dualism" is a metaphysical dualism, i.e., that psychology aims to explain the causal relation between physical things and mental states. They reject the claim that the "thoroughgoing dualism" James had in mind is an epistemological dualism, i.e., that psychology's aim is to explain the cognitive relation between knower and thing known.

In his desire to render the study of psychology more scientific, James originally intended to avoid all epistemological considerations. . . . James clearly felt, at this period of his reflection, that psychology could simply presume a sort of parallelism between the facts of consciousness and the structure of reality.

James's program for a natural scientific psychology is a double dualism, as it were. There are thoughts and there are physical things

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²Naturally, this is truer of the earlier James (of the Principles) than of the later James (of, e.g., Essays in Radical Empiricism). In the Principles (1890), James restricts himself to epistemology: objects of consciousness belong solely to the level of meanings, preceding any theoretical distinctions of knower vs. known within experience. But by the time of Essays in Radical Empiricism (posthumously published in 1912), James gives a thoroughly metaphysical account of experience. For example, a perceived (or imagined, or remembered) tree is the really existing, mind-independent tree taken in different cognitive ways.

³Stevens, 16.
in space and time; the thoughts are related both causally and cognitively to the physical things. . . . The grand objective of a natural scientific psychology, according to James, is to discover the causal relationship of thought and brain; the determination of the cognitive relation appears to be a peripheral matter. 4

I think Stevens and Wilshire have good historical reasons for their claim. Certainly, with figures like Hermann von Helmholtz and Wilhelm Wundt, James shared an affinity for bringing psychology into its own as an independent empirical science. But for the purpose of understanding and explicating James's theory of the fringes of perceptual objects, it makes much more sense to interpret James's account in the Principles of Psychology in terms of epistemological dualism. If all that James had written were the first eight chapters of the Principles, one could make an excellent case for metaphysical dualism: these chapters include "The Functions of the Brain" and "On Some General Conditions of Brain-Activity." But with Chapter IX, "The Stream of Thought," metaphysical dualism is a less convincing context for understanding the Principles than epistemological dualism. Moreover, the final chapter, "Necessary Truths and the Effects of Experience," is saturated with "epistemological considerations." For these reasons, while it may make historical sense to attribute metaphysical dualism to James's Principles, the work itself, taken in its entirety, suggests that "the determination of the cognitive relation" comprises much more of the task of psychology for James than these commentators indicate.

In order to make it clear that, as a science, psychology must guard against becoming a system of metaphysics, James presents a diagram of what he calls "the irreducible data of psychology":

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No. 1, the psychologist, believes Nos. 2, 3, and 4, which together form his total object, to be realities, and reports them and their mutual relations as truly as he can without troubling himself with the puzzle of how he can report them at all (PP I 184).

Notice that with Nos. 2, 3, and 4, James recognizes the process of cognition (2), its objects (3), and the "external" or mind-independent realm of physical objects whose existences consciousness tacitly accepts (4). Each area plays a unique role in cognition; as a result, any psychological theory of consciousness must give an adequate account of those roles. Of course, if one emphasizes The Thought Studied (2) and The Psychologist's Reality (4) of James's diagram, then the claim that James intended to ingrain the attitude of psychophysical dualism throughout the Principles is much more likely.

Another reason why James distinguishes these three areas of "reality" is to illustrate what he calls "the psychologist's fallacy," "the confusion of [the psychologist's] standpoint with that of the mental fact about which he is making his report" (PP I 195; emphasis deleted). One of the philosophical sources responsible for this fallacy, James claims, is George Berkeley,\(^5\) who likened knowledge of a thing to the thing itself: "it is assumed that if we can only get enough ideas to huddle together for a moment in the

\(^5\)In *Principles of Human Knowledge*, Introduction, §§ 11 and 12.
mind, the being of each several one of them there will be an equivalent for the knowing, or meaning, of one member of the class in question" (PP I 451). The assumption that "an idea must be a duplicate edition of what it knows" (445), James felt, pointed out psychology's methodological need to be clear on the difference between what a thing is and what it means. A thought or mental state (No. 2) ought to be explained in terms of its cognitive function, not its object (No. 3). Consequently, a mental state (or idea) is not a copy of reality but an activity of consciousness.

The common ground between thing and thought is represented in James's diagram by the middle third of the psychologist's total object, the Thought's Object (3). As the Principles progress, James's dualism shifts (somewhat indiscriminately) back and forth between epistemology and ontology. While Nos. 2 and 4 were intended to reinforce psychophysical dualism, No. 3 effectively ends it. Thought's Object (No. 3) defines both knowing (No. 2) and things known (No. 4) by the roles they perform in the cognition of objects. What started out as an attempt to explain consciousness solely by means of its objects (physical and mental) becomes for James the project to explain consciousness in terms of what it does, viz., giving meaning to its surroundings.

The appropriate focus of psychology, James believes, is at bottom that of the meanings that emerge as consciousness deals with its world. The nature of reality is the metaphysician's, not the psychologist's, concern. "[W]e do not care whether there be any real sameness in things or not, . . . [T]he principle that the mind can mean the

6"['Thought's object'] will not fit into either the mental or the physical 'side,' and in trying to force it into the mental 'half,' James breaks down his dualistic structure." Wilshire, 71.
Same is true of its meanings, but not necessarily of aught besides" (PP I 435). In this way, James moves away from epistemological dualism, which subordinates the cognitive relation to the terms (knower and object known) it relates, toward contextualism, which subordinates the terms to the cognitive activity that relates them.

The shift in James from epistemological dualism to the cognitive activity of consciousness led him to form his own view of what one can legitimately claim as part and parcel of experience, especially with respect to relations. His view is notably different, on the one hand, from the classical empiricism of Locke, Berkeley and Hume, and, on the other hand, from the philosophical idealism of Kant and Hegel. The aim of the following subsection is to contrast James's view of relations of experience with those of intellectualism (such as Hegel's absolute idealism) and sensationalism (such as Hume's empiricism).

James Versus Intellectualism and Sensationalism. James's critique of classical idealism and empiricism prepares the way for his account of the fringes of perceptual experience. The following extended quote from Charlene Haddock Seigfried demonstrates how James's understanding of relations introduces the relevance of context for a more adequate philosophical account of perception:

James argued that the traditional thought-thing, subject-object dualism can be better explained in terms of secondary constructs by which mankind has gotten hold of and tried to make sense out of his world, rather than an inevitable and necessary split of reality which man's experience both reflects and embodies. . . . Context, including the

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function of particular experiences, determines whether we shall call that experience subjective or objective; experiences do not occur already labeled. Perceptual experience, for example, is both physical and mental, and will be labeled as primarily concerning one or the other, depending on which context of associates is emphasized. . . . Subject and object, thought and thing, are names for two groups into which we sort experiences according to the different type of interrelation into which they enter. Experiences are grouped with different sets of associates according to our practical or intellectual purposes.8

By arguing that we experience relations as directly as the terms they relate, James is able to go on to show how traditional philosophical distinctions are results perceivers produce by applying their interests to their situations-at-hand.

In the Principles, James contends that, historically, introspective accounts of consciousness have overlooked or ignored what he calls the "transitive parts" of the stream of thought (PP I 237). In short, James's view affirms two claims that the standard historical accounts deny about experience. The first, which idealism rejects, is that "relations between things, conjunctive as well as disjunctive, are just as much matters of direct particular experience . . . [as] the things themselves" (MT 7). The second, denied by ordinary empiricism, is that "conjunctive relations are as true members of the flux as disjunctive relations are. . . . [C]onjunctions between [sensations] are just as immediately given as disjunctions are" (PU 126-127).

On the one hand, intellectualism (a.k.a. idealism) denies that relations are part of immediate experience. Instead, it maintains that relations are added to experience by

8Chaos and Context, 50.
a "pure" transcendental logic or Intellect that unifies it.\(^9\) Contrary to this, James argues that the vague and obscure relations we feel surrounding objects of consciousness are already present in immediate, concrete, ordinary experience. James rejects the intellectualist assumption that the flowing and continuous character of the stream of thought can only be explained by a transexperiential cause or agency.\(^{10}\)

To James, idealism was "the great rival way of philosophizing,--of determinism, intellectualism, absolutism." And Hegel "was the most living and formidable representative of this hostile army."\(^{11}\) James considered himself to have more of an empiricist than rationalist philosophical temperament.\(^{12}\) Especially for the James of the Principles, the idealist mind seemed wholly immersed in a nonsensical quasi-mysticism. For example, James cites the following passage from Hegel's Logic:

The foundation of all determinateness is negation. . . . If we go on to consider determinate Being as a determinateness which is, we get in this way what is called Reality. . . . [R]eality is not distinct from the

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\(^{11}\)Ralph Barton Perry, The Thought and Character of William James (vol. 1, Inheritance and Vocation; vol. 2, Philosophy and Psychology; Boston, MA: Little and Brown, 1935), v. 1, 725.

ideality which we shall in the first instance become acquainted with in the shape of Being-for-self. 13

James believes that one cannot legitimately isolate concepts (such as being and nothingness) from concrete sensory experience:

Hegel's celebrated dictum that pure being is identical with pure nothing results from his taking words statically, or without the fringe they wear in a context. Taken in isolation, they agree in the single point of awakening no sensorial images. But taken dynamically, or as significant--as thought,--their fringes of relation, their affinities and repugnances, their function and meaning, are all felt and understood to be absolutely opposed. (PP I 256)

Sensationalism (a.k.a. ordinary empiricism), on the other hand, views thought as collections of discrete, isolated bits of sensation, what has been called an atomistic view of experience. Its dominating intuition is to recognize only the disjunctive relations of experience. In addition, ordinary empiricism denies the reality of conjunctive relations. For although Hume claims that separations have a basis in fact, any "connections" felt in experience are assumed to lack factual basis. 14 The proposal that experience consists of discrete items of awareness has been fostered by Hume's

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13Georg Wilhelm Frederick Hegel, Logic (trans. William Wallace; Oxford: Clarendon Press, 1975), § 91, 135. James cites this particular example from The Will to Believe. He responds: "The use of the maxim 'All determination is negation' is the fattest and most full-blown of the method of refusing to distinguish. . . . The word 'negation' taken simpliciter is treated as if it covered an indefinite number of secundums, culminating in the very peculiar one of self-negation. When finally the conclusion is drawn that assertions are universally self-contradictory" (WB 212).

14PP I 237. For example: "Objects have no discoverable connexion together; nor is it from any other principle but custom operating upon the imagination, that we can draw any inference from the appearance of one to the existence of the other." Hume, Treatise, I.iii.8, 103.
107

distinction between "ideas" and "impressions." Because they are so vivid and immediate, conscious awareness of impressions (sensations) instinctively seems to support the claim that experience is filled with separations, but not with connections. In light of this, Hume concludes that whatever connections we may feel are simply matters of custom and habit, "which no reasoning or process of the thought and understanding is able either to produce or to prevent." 

Thus not only our reason fails us in the discovery of the ultimate connexion of causes and effects, but even after experience has inform'd us of their constant conjunction, 'tis impossible for us to satisfy ourselves by our reason, why we should extend that experience beyond those particular instances, which have fallen under our observation. We suppose, but are never able to prove, that there must be a resemblance betwixt those objects, of which we have had experience, and those which lie beyond the reach of our discovery.

James responds that the separations and breaks we experience are due to the things that our thought is about, not to the thought itself.

The things are discrete and discontinuous; they do pass before us in a train or chain, making often explosive appearances and rendering each other in twain. But their comings and goings and contrasts no more break the flow of the thought that thinks them than they break the time and the space in which they lie. (PP I 233; emphasis added)

15"[W]e may divide all the perceptions of the mind into two classes or species. . . . The less forcible and lively are commonly denominated 'thoughts' or 'ideas.' . . . By the term 'impression' . . . I mean all our more lively perceptions, when we hear, or see, or feel, or love, or hate, or desire, or will. . . . [Ideas] are the less lively perceptions of which we are conscious." Hume, Enquiry Concerning Human Understanding, § II, 26-27.

16Hume, Enquiry, § V, Part I, 60.

17Hume, Treatise, I.iii.6, 91-92.
While intellectualists easily posit abstract entities and principles without factual basis, empiricists commit the opposite error "of supposing that where there is no name no entity can exist" (PP I 238-239; see also 194). If Hume recognizes only the separations within experience, then, James maintains,

Hume is at bottom as much of a metaphysician as Thomas Aquinas. . . . In demanding a more 'real' connection than [the] obvious and verifiable likeness and continuity [of thought], Hume seeks 'the world behind the looking glass,' and gives a striking example of that Absolutism which is the great disease of philosophic Thought. (PP I 334)

James insists that both unity and diversity, connections and separations, belong to immediate concrete experience. His view of experience has two significant implications. First, it establishes the third of what James calls the five fundamental features of the thinking process, viz., "that within each personal consciousness, thought is sensibly continuous" (PP I 220). James promotes this by arguing that we could not perceive contrasts in our world if we did not have some way for an entire thought to encompass the difference and represent it. (See PP I 233 quoted above, page 107.) At the level of sensation, "the changes from one moment to another in the quality of the consciousness are never absolutely abrupt" (PP I 237). Second, James's view of relations illustrates his methodological interest to reinstate "the vague to its proper place in our mental life" (246). Psychology, James believes, systematically overlooks vague and obscure feelings. Because of our habits (in theory and practice) of noticing only what James calls the "substantive parts" of our experience, along with the philosopher's penchant for clarity,

18Also, see PP I 277 and PU 105.
we fail to give a faithful account of our dealings with the world as it actually occurs. James’s whole point is to show that vagueness, obscurity, and downright messiness are also part of the stream of thought.¹⁹

James’s dissatisfaction with idealism’s claim that relations depend upon some cause that transcends concrete experience and with ordinary empiricism’s denial of conjunctive relations compelled him to formulate an account of experience that (1) would remain within the bounds of concrete experience and, at the same time, (2) show that its connections are just as real and true as its separations. What convinced James was his realization that "a pure 'sensation' is an abstraction" (PP II 653; BC 18 and 273; emphasis dropped) no less than conception. With this realization James was in a position to locate the source and operation of sensation as well as conception within the more intuitive yet indefinite realm of perception.

James’s view of relations allows him to propose his "stream of consciousness" model of experience. With this as its starting point, a more adequate philosophical theory of perception can overcome the temptation to inhabit an already finished, object-filled world.²⁰ With a view of experience as an ongoing series of events, contexts provide a "cognitive space," a staging area within which the more relatively fixed and stable aspects of experience can "stand out" in the flow of experience. This explains James’s fundamental assumption that perception involves operations of both sense and


²⁰Chaos and Context, 52-53.
thought. The main idea of this third subsection is to show how important it was for James's philosophy that an adequate philosophical theory of perception get behind the faculties of sensation and intellection and see how they are both rooted in perception.21

Perception is the Origin of both Sensation and Reason. The Principles suggest that James viewed perception to have both sensorial and conceptual dimensions.22 The chapter on sensation likens perception to sensation, while the chapters on conception, reasoning, and "necessary truths and the effects of experience" portray perception as more conceptual than sensorial. To begin, objects of both sensation and perception appear "as an immediately present outward reality," while objects of reason "do not appear present in this immediate physical way" (PP II 652). In other cognitive acts, e.g., remembering, imagining, or wishing, as well as thinking, there is no need of accounting for an "external stimulus."23 At the same time, James did not regard


22 James must have assumed something like Rock's thesis in The Logic of Perception, that "perception is intelligent in that it is based on operations similar to those that characterize thought. . . . However, the dependence of perception on sensory information makes for certain differences between it and 'higher' cognitive functions such as imagination and thinking" (page 1). See also 339-341.

23 Of course, the very concepts 'sensation' and 'perception' could not mean what they mean without reference to a mind-independent stimulus, illusions and hallucinations not withstanding.
perception as a subsequent product of sensation; instead, "we are forced to postulate a function in our thought whereby we first become aware of the bare immediate natures by which our several objects are distinguished. This function is sensation" (PP II 653). Our initial awareness is not sensations pure and simple (a lá Hume), but a "much-at-once"-ness. To make sense of this initial awareness, James argues that we must propose something like sensations to occur, although we have no direct, explicit conscious encounter with them independent of or temporally prior to perception.

James maintains that one of the ways in which perception is more like thought than sensation is that perception is inferential.

[A]cts of meaning proper . . . are where a present sign suggests an unseen, distant, or future reality. Where the sign and what it suggests are both concretes which have been coupled together on previous occasions, the inference is common to both brutes and men. . . . Our 'perceptions,' or recognitions of what objects are before us, are inferences of this kind. . . . [I]nferences of sensations not presented form the staple and tissue of our perceptive life. (PP II 953; emphasis added)

The reference to absent sensations shows that perception for James has the structure of the "present" sensation with its relations to other (either temporally or modally) nonpresent sensations. The perceiver represents the "nonpresent" sensations by means of her or his expectations, memories, fears, desires, etc.

At the same time, perceptual inference is very simple and direct, and in this way is closer to sensation than intellection. Perceptual inferences seemed so rapid and direct that some people\(^2\) referred to them as unconscious inferences. James felt these were

\(^{2}\text{James cites Schopenhauer, Spencer, Hartmann, Wundt, Helmholtz, and Binet; see PP II 755.}\)
"unconscious" only in the sense that we have no explicit conscious awareness that we are inferring anything whatsoever (PP II 953). "Immediate inferences would be a good name for these simple acts of reasoning, . . . [but] formal logic has already appropriated the expression for a more technical use" (954).

Another way in which perception resembles thought is that perception makes use of categories (PP II 1230). Epistemology for James has a natural basis. If, on the one hand, the world in which we lived had no two things alike, or, on the other hand, all of its objects were in constant flux, logic would be an exercise in theory. "But our world . . . plays right into logic's hands."

Some of the things . . . which [our world] contains are of the same kind as other things; some of them remain always of the kind which they once were; and some of the properties of them cohere indissolubly and are always found together. . . . [A] moment's thinking may make us aware that the thing is of a kind so remote that we could never have directly perceived the connection. The flight to this last kind over the heads of the intermediaries . . . is a pure outcome of our sense for apprehending serial increase; and, unlike the several propositions themselves which make up the series (and which may all be empirical), it has nothing to do with the time- and space-order in which the things have been experienced. (PP II 1246-1247)

The fact that consciousness can realize conceptual orders out of its experience, James claims, already shows the error of Hume's notion of perceptual experience as an arbitrary collection of "loose and separate impressions" (Prag 87). The inseparability of experience-as-it-comes from experience-as-it-could-come is what perception is all about for James. The contingency of experience is not absolute; our world has patterns and regularities. Instead of Hume's fork between necessity and contingency, James argues
that whatever necessity there is in experience is a product of experience as it comes reconstructed by consciousness.

All of this is meant to show that James regarded perception as the source of both sense-data and concepts. It is not reducible to either of these, and at the same time employs both as it operates.

[The psychology of perception maintains that] a fact of perception is due to two factors: a sensible matter that penetrates into me by means of my eyes and which provides the element of real exteriority, and ideas which are awakened, which meet with this reality, classify it and interpret it. But who can distinguish in the table concretely perceived between what is sensation and what is idea? The external and the internal, the extended and the not extended fuse and make an indissoluble thought. (ERE 265)

The aim of the first part of this chapter has been to show James's approach to perceptual experience. His insistence that psychology ought to be a science of cognition rather than metaphysics overturned his own metaphysical dualism and overcame the errors of sensationalistic and intellectualistic accounts of relations in experience. His own view that conjunctive and disjunctive relations belong to immediate concrete experience convinced him that the very idea of sensation is a hypothesis we use to explain experience, not how we experience the world in the first place. We initially experience wholes, objects which are as much constituted by their relations as the terms they relate.

Fringes Within the Context of James's Stream of Thought

The metaphor of a stream of thought flowing from moment to moment suggests that conscious experience is a Heraclitean flux, randomly passing without form or pattern
guiding it. However, James insists that this stream is not an absolute chaos, for it has both fixed and changing states. The continuity of thought is the result of the harmonious interaction of what James calls the substantive and transitive parts of the stream of consciousness. From these immediate contents consciousness realizes its objects. These subsequent cognitions James labels objects of thought; they are composed of topics and fringes.

**First-Order Elements: Substantive and Transitive Parts.** According to James, substantive parts are definite, actual, and relatively stable "resting places" within the stream of thought. His primary examples of such substantive parts are the conclusions we reach, the images that "can be held before the mind . . . and contemplated without changing" (PP I 236). In addition, they "are usually occupied by sensorial imaginations," implying that James considered substantive parts to belong to the sensorial dimension of perceptual experience. It is important to note that the stream's substantive parts are not properly speaking objects of consciousness. This is apparent when James distinguishes sensations from their objects. The OBJECT may be sensed again and again, but "there is no proof that the same bodily sensation is ever got by us twice" (PP I 225, emphasis dropped). While the stream is able to deal with discrete

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26 Substantive parts seem very much like Hume's "impressions": immediate, vivid, and simple.
objects independent of it (ibid.), the substantive parts are correlates of what are the most immediate and vivid qualities or aspects of sensory experience.

The second kind of parts of the stream of thought are the movements from one substantive part to another. James refers to these "flights" from one definite spot to another as the transitive parts of the stream of consciousness. He describes transitive parts as the actual relations between substantive parts. While substantives are the relatively stable points in thought's stream, transitions are the "movements" from one substantive part to another. Like substantives, transitions are part and parcel of immediate, precognitive experience. They are also part of the mixture out of which consciousness realizes its objects.

Unlike their substantive counterparts, transitive parts escape our notice. In principle, transitions cannot be held statically before our mental gaze. To attempt to hold them would be like trying to find out what a fly ball in baseball is by grabbing it in mid-flight: once the ball is caught, it is no longer a fly ball. In the same way, focusing on a transition as it passes transforms it into a relatively fixed object of thought (PP I 237).

James presupposes two sets of traditional philosophical distinctions underlying the content of the stream of thought: the distinction between objects, qualities, and relations, and that of actuality vs. possibility. Just as Husserl emphasizes the influence

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27James suggests that, from a purely theoretical standpoint, the stream of consciousness can be explained exclusively in terms of substantive parts. Of course, no stream is completely conceptualizable: "[W]e give attention only to substantive starting points, turning points, and conclusions here and there. All the rest, 'substantive' and separately intelligible as it may potentially be, actually serves only as so much transitive material." PP I 255, n. 23.
possibility exerts in his theory of horizons, the notion of possibility also plays a central part in James's theory of fringes.

Second-Order Elements: "Feelings of Tendency." There is a third kind of conscious state James initially refers to as "feelings of tendency." He gives three examples of the type of states he means. First, he has us suppose that three different people successively say to us, "Wait!" "Hark!" "Look!" Suppose you are on a bird watching expedition. You hear the command "Wait!" Your relatively leisure state of mind changes to one of active preparation: you stop in your tracks, perhaps look around, all the while at least implicitly guided by the next step--"Wait for what?" This state of mind is modified by the next command: "Hark (listen)!" The "for what?" of the previous mental state gets a further clue: use your ears to discover it. You may (or may not) hear the whippoorwill's song. The third command then follows: "Look!" For those who have heard the bird, the call to visually locate its source in addition to the sound adds yet a third preparedness. For those who haven't heard the whippoorwill, their minds might grasp this as a means instead of sound to discover the object signalled.

The expectancies generated in consciousness differ from order to order, yet there is no definite object present to it. To hear the command "Wait!" is about as abrupt an event as James believes consciousness can experience. There is no explicit object of awareness—the ornithologists have certain interests (concerning birds) rather than others (e.g., concerning monster trucks). Still, their interests provide a broad field of possible objects: they might be looking for a bird's song, or its coloring, or habitat, or mating

28PP I 243-245; BC 149-150.
ritual, etc. "Wait!" cannot be so general to refer to any possible object. (Could there be a mind in this group preparing itself for monster trucks?) Similarly, "listen!" and "look!" are examples in which consciousness partitions general fields of consideration (auditory and visual) from other (sensorial) fields. All three orders are examples of mental states of tendency directed to future aims.

Second, James asks us to imagine the ordinary experience of trying to remember someone's name. While the particular name itself is absent, an entire complex of information about the name is present. My most common experience of this phenomenon is to remember the name of a former student. The usual circumstances begin with seeing the person (rather than, say, some linguistic description of them). I usually recognize that I had them for some class, and along with this cue I have other sensory information about them (e.g., male or female, tall or short, heavy or thin, etc.). I then run through a mental "shopping list": When did I have this person in class? What was the name they wrote on their weekly quiz? Where did they sit in the classroom? And even as this goes on, I am also trying out different names to see if they "fit" the missing gap. "She sat next to Eric, she wore braces, very young girl, funny, giggly, intelligent--

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29Of course, there could be other information (e.g., rumors of monster trucks in the woods, previous monster truck accidents involving bird-watchers) related to "higher" interests (e.g., survival) which could supersede the hobbyists' "usual" interests.

what's her name? Melissa? The last name seemed Hispanic: Perez? Muñoz? •••••
Cruz! Michelle Cruz!" Again, the consciousness is not of any present, immediate, actual object. What is present and immediate, though, is the information about the absent item sought. This absence has a shape, and James insists that "the feeling of an absence is *toto coelo* other than the absence of a feeling" (PP I 243). In other words, consciousness operates in terms of both what is immediately present to it as well as what could be immediately present to it. Oftentimes, if a name is presented to us, we can determine whether or not it is the name we seek. Trying to recall someone's name is an example of a mental tendency directed to previously experienced objects.31

James's third example is of a speaker's intention "to say so-and-so" before she says it. This, too, is a familiar experience. We probably don't even notice that we expect certain phrases or words to come unless what does come is wholly unexpected (think, for example, of Freudian slips). And when listening to a speaker or reading a text, we usually have a general sense of the words to come, but every so often what we think will come doesn't agree with what does come. (This happens to me sometimes when I read--I will have missed some small word, a "yet" or a "that," and then wonder why the rest of the sentence makes no sense. I go back, and I usually find the word or words that I missed the first time.) In this case, the intention is genuinely definite and distinct, yet the object of the intention does not appear to exist.

31Michael Eysenck and Mark Keane summarize the upshot of TT: "the individual in the tip-of-the-tongue state has a very precise abstract concept in mind but just cannot locate the word required to express it." Cognitive Psychology: A Student's Handbook (Hove and London: Lawrence Erlbaum Associates, 1990), 342.
In all three cases, these feelings of tendency are characterized as complexes of relations between present and nonpresent objects of thought. In the first example, the three orders, each a substantive with an indefinite number of related transitions, are present, while feelings of tendency relate these present orders to nonpresent but possible objects. In the second example, that there is a particular name we are endeavoring to recall is the present object; the particular name is not present, but possible; and these two are related by an intervening wealth of information. The third example begins with the speaker's intending to say something, and her present intention aims at the absent word(s) or phrase(s) that will complete it.

I take James to show in all three examples that so much of our conscious lives is continuously in the making. Psychology's (and philosophy's) urge is to collect cognition's results without an adequate parallel interest in its process. The situation is analogous to one's relation to a book: it is a finished product, it has a discernible story, but your reading of it will not be like anyone else's. To read only the introduction and the conclusion gives you only the barest sense of what the book is about. Reading the entire book instead of just its beginning and ending is analogous to the difference between the viewpoint within the thought process and the one outside of it.

James's three examples of feelings of tendency differ from each other according to the material content which each set of thoughts treats. By "material content" I mean the sort of "stuff" the thoughts work with to arrive at some relatively stable conclusion. For instance, James's first example deals virtually with sensorial images alone. At the opposite extreme is the third example, where thoughts cash out almost exclusively in
terms of language. The second example seems to combine both types of material: both sense and thought are part of the process of recalling a forgotten name. By means of all three examples, I believe James meant to show that feelings of tendency can be found anywhere along the continuum between consciousness's simplest (sensations, impressions) and most complex (language, concepts, ideas) accomplishments.

James calls these vague yet undeniable feelings of tendency fringes of objects of thought.32

[Tendencies] are among the objects of the stream . . . and must be described as . . . constituted of feelings of tendency, often so vague that we are unable to name them at all. . . . [But] all of us have this permanent consciousness of whither our thought is going. It is a feeling like any other, a feeling of what thoughts are next to arise, before they have arisen. . . . Let us use the words psychic overtone, suffusion, or fringe, to designate the influence of a faint brain process upon our own thought, as it makes it aware of relations and objects but dimly perceived. (PP I 246-249)

An object of thought has a core or nucleus (topic), which may be present or absent, surrounded by present temporal and modal complexes of relations (fringes) that comprise the remainder of the thought's object. In the Principles, James distinguishes the topic of a thought from the thought's object with the following example. Given the sentence, "Columbus discovered America in 1492," most people will select "a substantive kernel or nucleus," such as "Columbus" or "America," and say that kernel is what the thought is about. But James says that this is only the topic of the thought, because "the Object of your thought is nothing short of the entire sentence, 'Columbus-discovered-

32For further explanation of why transitions should not be identified with fringes, see below, page 125.
America-in-1492" (PP I 265). An object of thought is a bare topic thick with relations of space, time, and possibility.

While all topics have fringes, not all fringes have topics. More specifically, James maintains that some topics, e.g., "absent" ones, such as "roundsquares" or "black-white-things," are defined only by their relations. These examples "are absolutely definite conceptions; it is a mere accident, as far as conception goes, that they happen to stand for things which nature never lets us sensibly perceive" (PP I 438). This is what one would expect given the examples James provides to illustrate what he means by "feelings of tendency." In those cases (e.g., remembering a person's name), present information about the absent topic showed that incomplete thoughts are as much a part of the stream of consciousness as complete thoughts.

Fringes' Defining Characteristic: A Sense of Relevance. The earlier paper James used as the basis of the "stream of thought" chapter in the Principles provides a few more clues about what fringes are in the context of his distinction between objects and topics of thought. Published in January 1884, "On Some Omissions of Introspective Psychology"33 equates the object of a complete thought with that thought's topic, while the object of an incomplete thought is always greater than its topic. Thoughts are in process. Their "objects" are fringes that begin with some already completed thought and lead in some direction.

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Even in this earlier work, James’s recognition of the phenomenon of fringes stands in marked contrast to the separations inherent in his four-box diagram of "the irreducible data of psychology" (PP I 184; see page 101 above). The difference between the psychologist’s and the thought’s point of view in the stream of consciousness is the difference between an exclusively "topical" object, i.e., exhibiting the minimum, bare cognitive necessities of mental states, and a more complex intentional object enhanced by the perceiver’s accompanying psychic associations: affect, belief, desire, etc.

I think this difference is analogous to the difference between reading a road map and driving on the road. Suppose you drive from Chicago, go east, and end up in Toronto. To get to Toronto one must go east, while one need not go to Toronto to go east (although it is one destination you can have). You’re headed in one direction rather than another; ignoring for a moment the possibility of circling the globe, you can’t drive to Denver going east from Chicago. What is the relevance of starting from Chicago? Not necessarily anything. Perhaps you’ve planned a trip to visit fine architectural works of North America. It is the theme of your trip. But the relation between the origin and the destination may be just coincidental: Chicago is where your trip happens to begin. By analogy, the entire trip (Chicago-to-Toronto) is a compound Jamesian object of thought; Chicago and Toronto are its topics; and the travelling (both actual and possible) between the cities are the compound object’s fringes.

Suppose we use this analogy to illustrate fringes. Complete thoughts have a final result: their topics are one and the same as their objects because the trip is over--no other places to go. Of course, incomplete thoughts aren’t finished yet--they may suggest
certain destinations given their present course, but have not yet reached any final target. The fringe of the trip above includes Detroit, Cleveland, Pittsburgh, Buffalo, etc. But it is not absolutely indeterminate: Omaha, Denver, Phoenix, Los Angeles are not on the fringe. To aim at Toronto is altogether different from being in Toronto.

The key notion here is that an observer (the psychologist) external to the perceptual process has an altogether different view from that of a "participant" (the thought) internal to it. I may intend to go to Toronto, I may take the most direct route, I might not be at all distracted—but until I reach some destination, I cannot be in Toronto without traversing some space between here and there. Each of us traces unique paths from the perceptually sensible to the perceptually intelligible. But the destination of perceptual intelligibility is, for most intents and purposes, the same. James says this about thoughts (PP I 260): same endpoint, different paths leading to it--same topic, different fringes connected to it.

In concrete experience, our explicitly cognitive elements of conscious awareness are backed by feelings of continuity and coherence which are not so explicitly "sensed" yet nonetheless present to consciousness. James uses fringes to account for what some philosophies of mind have overlooked, namely, other implicit, noncognitive elements of conscious awareness. "In all voluntary thinking there is an accompanying feeling of focus and interest; when this interest is well developed it may be a topic or problem. But there is always a feeling of appropriateness or of irrelevance to an argument."

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34"[A] most important part of the fringe is the relevancy and rightness or wrongness felt in the direction of our thought." Elizabeth Flower and Murray G. Murphey, A History of Philosophy in America (two volumes; New York: G. P. Putnam's Sons,
James's examples of feelings of tendency indicate that consciousness has an implicit awareness of the directions in which it is headed.

**Fringes and Perception**

James's initial psychophysical dualist approach to a more adequate account of consciousness had two undesirable consequences. For one thing, under psychophysical dualism, the theoretical temptation is much greater to ignore the dynamism of experience and fall back on the old theoretical comforts of a finished world of objects. In the same vein, with a dualist methodology, a finished universe implied a universe at rest, a universe without activity. By contrast, James's careful review of experience in process convinced him to abandon giving a dualist account of mind and to form a theory that emphasizes the activity of consciousness. Of all the different elements of the stream of thought, it is the fringes, the mind's feelings of tendency and relation, that pushes James

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35James limits the bulk of his explicit discussion of fringes to selections within the "stream of thought" and "conception" chapters of the Principles (and their corresponding chapters in the Briefer Course as well as James's Talks to Teachers on Psychology) and the stream's 1884 predecessor, "On Some Omissions of Introspective Psychology." A review of the indices of the Harvard series of the Works of William James for the entry "fringe" turned up only three other references: one from The Will to Believe ("On Some Hegelisms," quoted in the upcoming subsection on the perception of space); another from Essays in Psychology ("Thought Before Language" [1892]; and the third from Essays in Philosophy ("The Knowing of Things Together" [1894], which is important for the following subsections on temporal and modal perception). Several of James's major works in the series do not have "fringe" index entries. They include Pragmatism, The Meaning of Truth, A Pluralistic Universe, Some Problems of Philosophy, and Essays in Radical Empiricism.

36Chaos and Context, 52-53.
in this direction. The stream's substantive parts, for example, are not unlike the contents of a Cartesian sort of container theory of mind. Transitive parts do present some further complexity, inasmuch as they provide the stream's temporal character. Fringes, however, complicate the picture exponentially. Like transitions, they also function temporally. But the central task of fringes of thought is modal, to bridge what is temporally present with what could be temporally present, to take the immediate temporal linear continuum and relate it to a field of possibility.

My claim that fringes are essentially modal bridges from what could be present to what is present runs counter to Bruce Wilshire's claim that the essential function of fringes is purely temporal. Consequently, Wilshire's claim implies that fringes are functionally equivalent to the transitive parts of the stream of consciousness. But I think this is a mistake. Keep in mind that, in attempting to give an account of implicit, precognitive awareness, James is convinced that one of the central tasks of such an awareness is to move from possibilities of experience to experience "as such." While certainly less definite and less "resolved" than consciousness's substantive parts, I take it that, with substantive parts, transitions fall on the actuality side of the possible/actual

37 As Stephen Daniel claims in his article "Fringes and Transitive States in William James's Concept of the Stream of Thought" (Auslegung, 3 [March 1976], 64-80), 73. I disagree with him to the extent that he fails to recognize the modal function of fringes.

38 Wilshire, 107. To his credit, he recognizes that fringes must be "part of the thing cognized--meant, intended." (ibid.) To attempt to understand fringes within the context of psychophysical dualism paints a picture of fringes as metaphysical entities worthy of Lewis Carroll: "Any reader could easily get the notion that the fringe is a moving psychical beard or gossamer set of tentacles which reaches out in time and fastens on the next discrete and 'comparatively motionless' psychical image" (108). But Wilshire stops short of my claim that part of the meaning of the (cognized) thing is its possibilities.
experience fence. Transitions, movements, are actual, albeit with characters and traits importantly different from the other first-order actual elements, viz. substantives. By contrast, fringes (feelings of tendency) are conditions for the possibility of such actual elements. Fringes, feelings of tendency, are the source and origin of transitions, they lead to transitions, which in turn lead to the substantive parts of the stream of consciousness.

James initially accepts epistemological dualism (see diagram above, page 101) of thoughts (No. 2) and their objects (No. 3) as a necessary methodological evil psychology requires in order to be a genuine science of cognition. Philosophically, however, this dualism dissatisfied James. One of the ways he sought to overcome it was with a doctrine of the nature of sensations founded on the belief that "the human being is . . . in direct contact with the real world." James's account of sensations and their relation to perception rejects at once both the Kantian and classical empiricist views. The basic thrust of James's disagreement with traditional empiricism is its atomistic description of awareness. James's radical empiricism underscores experience's continuities, rather than its discontinuities. Against Kant, James argues that consciousness's "intuitions" of space and time are conceptual abstractions. Our ordinary experience of time and space is far more nebulous and interwoven.

The one Time which we all believe in and in which each event has its definite date, that one Space in which each thing has its position, these abstract notions unify the world incomparably; but in their finished shape as concepts how different they are from the loose unordered

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time-and-space experiences of natural men! . . . Cosmic space and cosmic time, so far from being the intuitions that Kant said they were, are constructions as patently artificial as any that science can show. The great majority of the human race never use these notions, but live in plural times and spaces, interpenetrant and durcheinander (Prag 87).

James goes on to emphasize the continuous character of our ordinary temporal and spatial awareness: "Everything that happens to us brings its own duration and extension, and both are vaguely surrounded by a marginal 'more' that runs into the duration and extension of the next thing that comes" (ibid.).

James does not furnish a specific theory of fringe consciousness. But he does provide the milieu for a more "rigorous" account of fringes with respect to perception of space, time, and possibility. In the following paragraphs I attempt to make James's notion of fringes more distinct by setting it within the framework of these central properties of perception.

Perception of Space. James regarded spatial perception as direct and immediate. What Ralph Barton Perry calls James's nativism dominates his account of spatial perception; with it, James takes "the view that all three dimensions of space are directly sensed, and not constructed or inferred." Perception of space is complex, but not abstract--its concreteness and immediacy are what make it complicated. In the Principles James maintains that space relations are nothing but sensations of particular lines, particular angles, particular forms of transition, or (in the case of a distinct more) of particular outstanding portions of space after two figures have been

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Ralph Barton Perry, The Thought and Character of William James, volume II, pages 80-81. By "nativism" Perry means James's "general tendency to emphasize what is original rather than what is acquired."
superposed. . . . The bringing of subdivisions to consciousness constitutes, then, the entire process by which we pass from our first vague feeling of a total vastness to a cognition of the vastness of detail. . . . [A]ll spatial knowledge is sensational at bottom, and . . . as the sensations lie together in the unity of consciousness, no new material element whatever comes to them from a supra-sensible source (PP II 793; emphasis dropped).

James maintains that a faithful interpretation of our original perception of space reveals neither coherence nor incongruity--only mere presence. "Objects of different sense-organs . . . do not in the first instance appear either inside or alongside or far outside of each other, neither spatially continuous nor discontinuous" (PP II 819). Yet in spite of the capacity for chaos inherent in immediate spatial awareness, "we conceive of a world spread out in a perfectly fixed and ordered fashion" (ibid., 821). As James understands it, this conception arises in two organizational phases.

The first phase follows "the great intellectual law of economy":

we simplify, unify, and identify as much as we possibly can. Whatever sensible data can be attended to together we locate together. Their several extents seem one extent, the place at which each appears is held to be the same with the place at which the others appear. They become, in short, so many properties of ONE AND THE SAME REAL THING (PP II 821; emphasis dropped).

James appears to have recognized what later experimental psychologists call the "analog" function of consciousness, that consciousness providentially "runs" phenomena together. By contrast, Hume's theory of perception emphasizes the discontinuity of

41 Particularly I have in mind Stephen Harnad's Categorical Perception: The Groundwork of Cognition (Cambridge, MA: Cambridge University Press, 1987). He uses the analogy of two different kinds of watches (one with a sweep-second hand v. one with a digital readout) to illustrate the difference between analog (sweep-second hand), i.e., continuous, and digital (readout), i.e., discrete, signal transformation / representation / "interpretation."
phenomenal experience, while Berkeley's view underscores the continuity of the mental (mind-dependent) realm (or subjective pole of experience).

In the second phase of spatial perception,

we get to conceive of the successive fields of things after the analogy of the several things which we perceive in a single field. They must be out- and alongside of each other, and we conceive that their juxtaposed spaces must make a larger space. . . . We can usually recover anything lost from sight by moving our attention and our eyes back in its direction; and through these constant changes every field of seen things comes at last to be thought of as always having a fringe of other things possible to be seen spreading in all directions round about it (ibid., 823).

Fringes, then, arise as "overlappings" out of several oft-repeated similar-yet-different perceptual events. We assume that our immediate awareness is related to other possible awarenesses both past and future that lay outside of it. The immediately present is gathered up with reference to an indefinite set of conditions for the possibility of experience in general.

While fringe phenomena indicate "a vague preliminary spatial ordering," James goes further and insists that the ways in which consciousness organizes perceptual space is conditional, not absolute. Even in something as basic as spatial awareness, James felt the need to exhort us not to give in to intellectualist / idealist temptations:

"With regard to space, it is true that in drawing a bound we are aware of more. But to

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42 Stevens, 50.
treat this little fringe as the equal of infinite space is ridiculous. . . . [N]ot until we have actually intuited [further points of space] can we be said to 'know' them simpliciter."\textsuperscript{43}

**Perception of Time.** The mind's disposition of perceiving spatial stimuli as interpenetrant and overlapping also holds true of its temporal awareness. The best thing James wrote on our perception of time is the last four paragraphs of the second section of his essay "The Knowing of Things Together."\textsuperscript{44} In the first of those paragraphs, James (with a large debt to Shadworth Hodgson\textsuperscript{45}) makes two crucial points:

> The smallest effective pulse of consciousness, whatever else it may be consciousness of, is also consciousness of passing time. The tiniest feeling that we can possibly have involves for future reflection two sub-feelings, one earlier and the other later, and a sense of their continuous procession. . . . The passing moment is the only thing that ever concretely was or is or shall be; and in the phenomenon of elementary memory, whose function is to apprehend it, earlier and later are present to each other in an experience that feels either only on condition of feeling both together. (EPH 76-77; double underscore is added emphasis)

First of all, James establishes that our initial, immediate, concrete awareness of time is passing, moving, flowing. Secondly (and this is most important for subsequently showing that reflection is rooted in temporal perception), even as we feel time's continuity we also have (at least implicitly) a sense of sequence, a "before" and an

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\textsuperscript{44}Presented as the Presidential Address to the American Psychological Association Meeting at Princeton, December 1894.

\textsuperscript{45}James cites Hodgson's *Philosophy of Reflection*, volume 1, 248ff.
"after," within the felt continuity. This, of course, is what James meant in the Principles with his celebrated idea of the specious present:

the practically cognized present is no knife-edge, but a saddleback, with a certain breadth of its own on which we sit perched, and from which we look in two directions into time. The unit of composition of our perception of time is a duration, with a bow and a stern, as it were--a rearward- and a forward-looking end. It is only as parts of this duration-block that the relation of succession of one end to the other is perceived. We do not first feel one end and then feel the other after it, and from the perception of the succession infer an interval of time between, but we seem to feel the interval of time as a whole, with its two ends embedded in it (PP I 574).

The subfeelings of earlier and later are fringes of temporal perception. James's doctrine of fringes implicitly permeates his account of the specious present. The just-now and the soon-to-be are fringes extending forward and backward from a mathematical point-like "now." With fringes, James fills in the gaps a theoretical knife-edge notion of the present creates in a conscientious description of phenomenal time.

The "running together" feature of temporal perception runs into the intellectualist problem encountered in the perception of space (see above, page 129). If spatial and temporal perception is wholly continuous, then space and time (the intellectualist maintains) is infinitely divisible. The doctrine of infinite divisibility, while mathematically appealing, results in things like Zeno's paradox at the level of concrete experience. So, just as James makes the case that our initial spatial awareness is neither discrete nor continuous, he counterbalances his emphasis upon the flow of temporal awareness with his description in A Pluralistic Universe that

All our sensible experiences, as we get them immediately, do thus change by discrete pulses of perception, each of which keeps us saying 'more, more, more,' or 'less, less, less,' as the definite increments or
diminutions make themselves felt. . . . Fechner's term of the 'threshold' . . . is only one way of naming the quantitative discreteness in the change of all our sensible experiences. They come to us in drops. Time itself comes in drops. (PU 104)

Fringes of temporal relations with respect to the present and the future "naturally" lead mind from the purely temporal ("mere" actuality) to the modal (possibility) sense of perception (see following subsection). It is easy to think that only the present and future have possibilities because it is easy to assume that possibilities evaporate with the actualization of the present. The reference of fringes to the past, however, seems to be a problem. How is it possible for there to be an open-ended range of past moments in, for instance, James's example of recalling the forgotten name? James's solution is to show how past objects have possibilities.46 To overcome this problem, James examines the role of memory in the stream of thought. He gives this example of how fringes are connected to the past:

What I mean by my belief in a prehistoric savage is simply my dim sense of a continuity between the long dead savage and the present world of which the flint forms part. . . . When I think the savage with one fringe of relationship, I believe in him; when I think him without that fringe, or with another one (as, e.g., if I should class him with 'scientific vagaries' in general), I disbelieve him (PP II 947).

Unlike the future, the objects a fringe connects between the present and the past are not open-ended: there is a single present object, and a single past object. But in addition, both the past and the present objects are extremely complicated. As a result, a profusion of relations stands between those objects. A remembered name is not an isolated item;

46Just because certain events may not have, in point of historical fact; actually happened, is no reason to think they have been eliminated. See James's remark concerning conception, PP I 438.
it has some relations at this present that the (perceived, recognized) name had at a former present. Remembering the name includes retrieving its related fringes and connecting them with the present object. In the quote, the present object is the flint. The past object is the savage, the focus of a previous present. Yet when James thinks of the savage, he can only presently think of him: whatever fringes of possibilities the thought of the savage has depend upon the present.

Just as with our perception of space, in temporal awareness we have direct and immediate contact not only of the items of awareness but also of their relations. All of this occurs within a context of the activity of perception, without the Kantian move to invoke a "higher" level of conceptual judgment. A feeling of a sequence of items (a second-order element of the stream of thought) is as available to consciousness as are the feelings of each of the items. And, at the same time, James duly insists that feelings of relation within perception are the starting point of the cognizing ("knowing") activity of mind:

[B]etween the mind's own changes being successive, and knowing their own succession, lies as broad a chasm as between the object and subject of any case of cognition in the world. A succession of feeling, in and of itself, is not a feeling of succession. And since, to our successive feelings, a feeling of their succession is added, that must be treated as an additional fact requiring its own special elucidation . . . (PP I 591; BC 249; emphasis dropped)

Modal Sense of Perception. The part-whole intentional structure at work in our perception of space has an analogue in our perception of time. The structure operating in temporal awareness James refers to as "the mystery of presence in absence,"
the cognizing activity of consciousness. Just as in spatial awareness consciousness comes to relate the presently experienced phenomenal field to other spatial fields it could experience, so in temporal awareness consciousness comes to relate what is presently experienced with what could be (or could have been) presently experienced.

In every crescendo of sensation, in every effort to recall, in every progress toward the satisfaction of desire, this succession of an emptiness and fulness that have reference to each other and are one flesh is the essence of the phenomenon. In every hindrance of desire the sense of an absent, which the only function of the present is to mean, is even more notoriously there. And in the movement of thoughts not ordinarily classed as involving desire, we have the same phenomenon. (EPH 77)

The immense theoretical advantage James’s examination of temporal perception offers for an adequate theory of perception is his recognition and emphasis that perception includes a modal as well as temporal sense. All too often, attempts to describe conscious processes have been tied to the desire to render an account that straightforwardly mirrors the actual events that occur in chronological time. By contrast, consider James’s diagram (PP I 260, figure 28) of how "a number of thinkers" move from one experience to another. "When the penultimate terms of all the trains [of thought], however differing inter se, finally shoot into the same conclusion, we say and rightly say, that all the thinkers have had substantially the same thought" (PP I 260).

The idea that an indefinite number of different movements from experience to experience


48 This "natural" step from perception’s temporal to modal sense supports Irvin Rock’s thesis that "perception is intelligent" (Logic of Perception, 1).
are possible at any single moment remained with James as a central fixture of both his epistemology of pragmatism and his "metaphysics" of radical empiricism.

When one of [our experiences] terminates a previous series of them with a sense of fulfillment, it, we say, is what those other experiences 'had in view.' . . . Mainly, however, we live on speculative investment or on our prospects only. But living on things in posse is as good as living in the actual, so long as our credit remains good (ERE 42-43).\textsuperscript{49}

Just as an overly mathematical appreciation of the specious present conceives of it as a knife-edge point without duration, a similar tendency in standard theories of perception reduces ordinary prereflective awareness to a single horizontal continuum of

\textsuperscript{49}Our "credit remains good" for James to the extent we don't play "fast and loose" with experience. Someone like Sartre might express this as "good faith," to the extent that we do not deceive ourselves.
actual events in chronological time (figure 10). James’s recognition, however, that experience includes reference to possibility as well as actuality locates the line of actual events within a modal plane.

[T]he relations that obtain between our sensations or between their copies in our minds . . . [are of two kinds:] (1) the relations that are mutable and accidental, as those of date and place; and (2) those that are fixed and essential, because they are grounded on the inner natures of their terms—such as likeness and unlikeness. Both sorts of relation are matters of immediate perception. Both are 'facts.' (Prag 118)

The dissatisfaction James found with both associationism (sensationalism) and idealism (intellectualism) had to do with each camps’ denial of one of these sets of relations. Atomistic empiricists affirmed the first set of relations of change, but could not reconcile that with the set of unchanging, "eternal" relations (e.g., similarity and difference) of experience. So Locke, Hume, and others qualified this second set of relations as random habits of mind arising out of repeatedly associated events. By contrast, Hegelian idealists like F. H. Bradley, T. H. Green and John McTaggart could not reconcile fluctuating relations with immutable ones. So the intellectualists regarded relations of the first sort as mere appearances, sensory "illusions" that had to be gotten past in order to get to the "really real." James argues that the mistake that each of these camps makes is to fail to accept the set of relations dwarfed by its own methodological
intuitions. "Both sets of relation are matters of immediate perception." With this, James avoids the idealist temptation to establish "essential" relations as structures applied by a transcendent mind. At the same time, James rejects the atomistic intuition that the felt connections of experience are exclusively matters of chance.\footnote{Just as Einstein felt that "God does not play dice with the universe," so also for James, within the context of experience, experience does not "play dice" with (all of) its relations.}

In short, according to James, perceptual awareness also consists of modal relations of actuality and possibility. Where other theories of perception reduce to a single dimension of actuality, James's theory expresses a second dimension of atemporality transposed against chronological time to bring out the possibility character of experience. Figure 11 is not James's diagram.\footnote{I was encouraged by James's doctrine of radical empiricism, of taking the same experience in different contexts (ERE 27). See section III of "A World of Pure Experience," ERE 27-31, in addition to "The Knowing of Things Together," EPH 73-76, and "The Tigers in India," MT 33-36.} However, I believe that something like this was at work for James in his attempt to give a thorough psychological account of consciousness.

There are two points about this diagram I wish to make. First of all, keep in mind that James is formulating a theory of cognition, not metaphysics. Atemporality is a limit concept, a cognitive point of reference. It is not a metaphysical claim (a la Plato's Forms). The idea of atemporality (or, at least the idea of something more-than-temporal\footnote{Not unlike Husserl's notion of omnitemporality. See Experience and Judgment, Part II, chapter 2, § 64(c), 258-261, especially page 261.}) gradually emerges from perceptual experience. Perception exhibits \ldots
variation, a sense of something remaining the same even as it changes. Think of
Descartes’s thought experiment with the wax. We simultaneously experience change and
stability—only later do we reflectively establish an absolute gap between contingency and
necessity, between the arbitrary and the absolute. "The eternal" is a limit concept for
consciousness to manage its immediate ordinary experience not only as it happens but
also as it may happen (or may have happened).

Secondly, the diagram takes up only a single, formal "domain" of human
perception, viz., its modal sense. In the chapters in the Principles of how we perceive
space and time, even as James shows just how expansive our immediate spatiotemporal
awareness is, he takes great pains to confine his discussions in those chapters to a logical
account of sensation, consciousness’s direct access to the world. But these are only the
logical "guideposts" of spatial and temporal perception. Other chapters address other
domains that also influence perceptual activity. Some spheres are physiological: the
structure of the brain and its functions; body locomotion; instinct. Others are psychological: memory, imagination, emotion, will. Perceptual awareness is thick with all these various dimensions, and a truly perspicacious explication of a Jamesian theory of perception would show how each of these variables comes into play. I refer to these other dimensions now merely to acknowledge that the previous diagram addresses only a very narrow slice of perceptual experience for James. At the same time, this slice is central to a working definition of the notion "fringe."

**Fringe Definition Proposal.** First let me review what we know so far about fringes. (1) Fringes are open-ended relations. Their openness is imbued with a sense of relevance. Fringes are connected not to "gaps" plain and simple, but to definite gaps—not just any old thing will fit them. They are contexts, providing a stage upon which the more "forceful" items of awareness (e.g., the substantive parts of the stream of thought) can stand out as intentional objects. (2) Fringes are rooted in presently perceived, actual objects. As open-ended, fringes reach out to other nonpresent moments, actual (past or future) as well possible. With these two points in mind, I submit that what fringes are for James are intentional "bridges" of relevant associations culled over time and used by consciousness to relate what is immediately present to it at any given moment to what is not immediately present to it at that moment. Fringes are at work in the part-whole structure of spatial perception, in which we relate the present part we sense to a whole that cannot be sensed all at once. They are at work in our awareness of chronological time, connecting the present moment with the "no-longer" and the "not-quite-yet." And
they are also at work in a modal sense, in which we relate our experiences of contingency, actuality, and change with those of necessity, possibility, and certainty.

In all of this James diligently calls attention to the teleological thrust of cognition. The very idea of possibility discloses the purposive character of mental activity. To cope and deal with ongoing streams of thought that are in constant change, we use the ideas of certitude, duration, realization, result, etc. James brings out both the immediate and transitory character of awareness in his discussion of objective reference in "A World of Pure Experience":

Objective reference . . . is an incident of the fact that so much of our experience comes as an insufficient and consists of process and transition. Our fields of experience have no more definite boundaries than have our fields of view. Both are fringed forever by a more that continuously develops, and that continuously supersedes them as life proceeds. . . . The instant field of the present is always experience in its 'pure' state, plain unqualified actuality, a simple that, as yet undifferentiated into thing and thought (ERE 35-37).

Differentiation arises out of our ordinary, prereflective dealing with the present; the distinctions do not exist prior to our dealing with it. The important thing to remember with fringes is that they are the distinctions, the relations holding between the terms related. Not only is there a thing and a thought: there is also the activity of knowing that continues to tie the two together.

The purposive quality of conscious experience for James overcomes the sensationalist / intellectualist dilemma concerning perception. The issue is not whether

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thought is continuous or discrete—thought is both continuous and discrete. No logical contradiction need result so long as we remember that the question James thinks we should be asking is not "what is consciousness?" but "what does consciousness do?"

Both image and concept, qua subjective, are singular and particular. Both are moments of the stream which come, and in an instant are no more. The word universality has no meaning as applied to their psychic body or structure, which is always finite. It only has a meaning when applied to their use, import, or reference to the kind of object they may reveal (EPS 160 n. 6; emphasis added).

I present James's notion of fringes as bridges to depict a faithful portrait of his unique view of the cognitive relation. The atomists viewed consciousness as far too passive, a mere tablet awaiting the world to impress itself by way of the senses. The intellectualists ascribed to mind an overly domineering position, as imposing fixed logical structures only it could discern upon a stupid passive chaos. With fringes, James makes it much easier for cognition theorists to talk not simply about world or consciousness but

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54I owe the "bridge" idea to one of James's sources, G. J. Romanes:

"At first every link in the chain of ideation requires to be separately fastened to attention by means of a word: every step in a process of reasoning requires to be taken on the solid basis of a proposition. But by frequent habit the thinking faculty ceases to be thus restricted: it passes, so to speak, from one end of the chain to the other without requiring to pause at every link: for its original stepping-stones it has substituted a bridge, over which it can pass at almost a bound."


While Romanes's account seems to deal more exclusively with the notion of concept formation, I think that (with some modifications) cognitive bridges operate not only within particular dimensions of perception (e.g., within the confines of sense or intelligibility) but between those dimensions as well.
instead of the far more complex, mutual reciprocal transaction between them. With this theoretical focus, one lessens the danger of repeating familiar dichotomous errors, epistemological (rationalism or empiricism?) as well as metaphysical (monistic idealism or atomistic "realism").

In the next chapter I will show how this bridging function of fringes operates in the origin of perceptual meanings. Among other claims, the chapter will argue that perceptual meaning begins at the level of relations. In other words, the presence of fringes is the presence of meanings. Many philosophical discussions locate meaning exclusively within the realm of language. Because of this, the next chapter begins with the topic of meaning. Perceptual meaning, closer to the temporal flow of experience, will exhibit a certain flexibility and adaptation quite foreign to the usual philosophers' associations with linguistic meaning. I will argue that the atemporal point of reference perceivers aim at in the temporal flow of experience is simply a formal way of describing the ways in which minds develop plans of action for dealing with experience. In other words, the urge to delineate what is constant and timeless within experience is a means to a "higher" end: to deal effectively with the richness of perceptual temporality.
CHAPTER V

A CONTEXTUAL THEORY OF PERCEPTION

It is always possible that, on any particular occasion, we may be mistaken about
what we are perceiving. With the possibility of perceptual error, theories of perception
rely upon the distinction between appearance and reality. Whatever errors occur in
perception are regarded as errors of judgment. One of the ways to defend theories of
perception against this possibility has been to confine claims to what appears to be the
case to a perceiving mind while avoiding the question of the ontological status of the
perceptual object. This has the unfortunate consequence of opening a vast chasm
between what is and what seems to be. A perceiver may be more confident about the
certainty of her claim, but is left on the appearance side of the gap.

Now the problem becomes how one gets from this side of the gap to the other.
The history of modern philosophy, at least since Descartes, is strewn with the bones of
three types of theories sent to battle the perception beast. Representative realism, of the
sort John Locke proposed, rooted itself in epistemological dualism. By contrast, George
Berkeley’s idealist theory floats in a sea of sense experiences, anchored ultimately to the
realm of mind. And with David Hume’s skepticism, no anchor is offered: our
judgments pertaining to sense are at best a matter of inductive probability, not certitude.

In the first chapter, I used the examples of the perception of apparent motion vs. perceptual constancy to highlight the importance of context for developing an adequate philosophical theory of perception. The phenomenon of apparent motion, which depicts the limits of human visual physiology, indicates two contexts, namely, (1) the mind-independent physical world and (2) our experience of that world. At the same time, because we encounter the same objects in an unrelenting variety of ways, the phenomenon of perceptual constancy exhibits a third context by pointing out the difference between (2) our experience of the physical world and (3) the meanings we give to that world. A contextual theory of perception can show the interrelationships between these three dimensions of one and the same world. For contextual theories of perception, what there is is one world, taken in three different contexts. Both the physical world, and the meanings consciousness gives to it, have their limit cases. Imagine what a physical world would be like prior to anyone's experience of it. At the other end of the spectrum is the same world to which minds have given all possible meanings. Here we imagine a finished world, an account of what the world is like after everyone's experience of it. Between these two limit cases, the world as it is experienced reflects the story of a world in process. The world as consciousness experiences it is the world of change, of transition, of adaptation, of classification, of definition, of manipulation, of organization, and of transformation.
Classical philosophical theories of perception viewed the epistemological problem of perception as primarily an ontological problem of the nature of the perceptual object. By contrast, Husserl's theory of the horizons of perceptual objects gets past this ontological temptation by treating the world as a correlate of consciousness, bracketing the question of the existence of a world external to mind and independent of it. The classical philosophical theories err by attempting to explain the process of perception by appeal to a static world independent of mind. Phenomenology, however, set out to uncover the structures underlying experience that guide and shape it. Husserl's philosophical preoccupation with the rule-governedness of experience ultimately subordinates the goal of an adequate account of perception for the sake of identifying the rules. James's theory of the fringes of perceptual objects takes the third tack at perception, emphasizing how the activity of consciousness gives meaning to what it encounters.

As I see it, each of these three approaches had a certain overwhelming philosophical intuition of what constitutes the essential dimension of perceptual experience. For the classicists, the mind-independent, physical, "external" world lay at the root of matters. But their intuition seemed to carry them in the direction of the limiting case of a world prior to or completely independent of experience. For Husserl, the ultimate solution lay in the meanings consciousness gives to the "external" world. But his intuition seemed to carry him in the opposite direction, to a "finished" world, a world after experience. For James, both the "external" world as starting point and the meanings arrived at about it are secondary to the activity that connects them. But James was so intent on emphasizing what the others missed, viz., the world as consciousness
experiences it here and now, that he downplayed the importance of their philosophical insights.

My contribution to this debate is to argue for a contextual theory of perception. It differs from Husserl's and James's contextual theories in the following ways:

1. All three theoretical intuitions, of a world before, during, and after experience, are valuable and necessary for an adequate philosophical theory of perception.

2. A reconstruction of the organizational development of experience demonstrates that there is no necessary incompatibility between these intuitions.

3. For all practical purposes, ordinary perceptual experience treats these three theoretically distinguishable worlds as one and the same.

The chapter is divided into three sections. The first section argues that the philosophical concept of meaning has important consequences for an adequate theory of perception. Specifically, I argue that the concept of meaning for a perceiver, viz. perceptual meaning, is importantly different from the concept of meaning for a speaker, viz. linguistic meaning. For instance, the organism's interests, e.g., in its survival and in the enhancement of that survival, perform a central role in its bestowal of meaning to its world. But such interests are not readily apparent in philosophical accounts that view meaning as primarily a matter of language. At bottom, the aim of the first part of the chapter is to demonstrate that a truly adequate theory of perception cannot simply assume a linguistic model of meaning.

The second section presents my theory of perception in two parts. The first part is a detailed rational reconstruction of how the forces of space, time, and possibility emerge from "mere 'thatness'" (ERE 36-37), i.e., James's notion of pure experience, and transform it into a realm of possible experience. The aim of my reconstruction is
to present a theoretical framework that not only accommodates all three philosophical intuitions concerning the problem of perception, but also conjoins those intuitions with one another to provide a more complete account of perception. Its point is to show that no one frame of reference is sufficient in and of itself to explain such a relationship. All three contexts are so intertwined and interconnected that the perceptual process has little practical use for these distinctions. Through this reconstruction of experience, I hope to establish that a truly adequate account of the relationship between perceiver and object perceived requires a simultaneous appeal to all referential frameworks (possible as well as actual) which, for all practical purposes, perception treats as one and the same. The second part of this section describes the process of a "typical" perceptual event as portrayed by a contextual theory of perception. It shows what the perceptual process is like in terms of the ongoing transactions between organism and environment. The primary motivation behind my contextual theory of perception is the claim that the transactions between mind and world are fundamentally irreducible. "Mind" and "world" are at bottom hypothetical distinctions that we invent in order to cope and deal with life more effectively.

The final section shows how my contextual theory of perception satisfies the four criteria I submitted in the introduction for developing an adequate philosophical theory of perception.
Perceptual Meaning and Theories of Perception

An adequate philosophical theory of perception requires an account of the notion of perceptual meaning. I take it that perception is meaningful: I'm not sure what it would mean to perceive something that has no meaning. But along with this relatively safe assumption goes a critically important question—what do we mean by meaning? How philosophers of perception deal with this question will have important consequences for their theories. Many philosophical theories of meaning have approached the problem of meaning as primarily a linguistic matter. For example, the "Meaning" entry in The Encyclopedia of Philosophy states, "Accounts of meaning . . . are generally formulated as answers to [these questions:] 'What sort of entity is a meaning, and how must an entity of that sort be related to a given word in order to be the meaning of that word?'" ¹

The philosophical turn to language formulated the problem of perception in a way slightly different from Descartes, Locke, Berkeley and Hume. It's not what we perceive, but what we say we perceive, that causes the problem. The same claim about a particular perceptual object can mean two very different things. For example, "this table is solid" means one thing for the ordinary everyday individual. But it means something very different for the physicist steeped in atomic theory. In this way, the linguistic turn cast the problem of perception as a problem of language. What is perceived just is what it is; what is inexact are the meanings of the words we use to describe what we perceive.

Usually these "linguistic" accounts characterize meanings as unchanging (fixed, complete, eternal), definitively expressible (explicit), and highly cognitive (conceptual, abstract) objects. The virtue of such accounts for an adequate theory of perception is their precision: when you hammer a nail, you focus on the task at hand. If a meaning is anywhere, surely it is where you bring your powers of concentration to bear. The problem, however, is that, within a largely linguistic account of meaning, some philosophical theories of perception presuppose that only the focus of the mind's eye, those data that occupy the foreground of explicit conscious awareness, sufficiently constitute the perceptual object.

Given the condition of the philosopher's epistemological desire for absolute certainty, it was only natural that twentieth century philosophers like G. E. Moore, Bertrand Russell and others would formulate the concept of sense-data. In some cases, this concept functioned to build a bridge over the abyss between appearance and reality. It is to be praised at least for what it had wanted to accomplish, namely, to provide an absolutely indubitable foundation of empirical knowledge. But I think that this theoretical construct creates far more problems and misery for an adequate philosophical theory of perception than it resolves.

The logical priority claimed by sense data in the perceptual process too easily tempts some theorists (e.g., Bertrand Russell) to assume that sense data also temporally (genetically) precede perceptual objects. Some sense data theorists would have us believe that, underlying the complexity of experience are these simple, basic, immediate, vivid "bits" (à la Hume). I reject this for the same reasons James rejects Hume's atomism:
"impressions" (sense data) are the results of a mind taking its perceptual experience and rationally reconstructing it. Sense data are produced when you focus your attention on your current perceptual awareness. The mind does not discover sense data, but creates the notion of sense data in order to explain what perception is.

One troubling thing about sense data is the "unnatural" or "artificial" circumstances of their existence. If I focus on my coffee mug, then it feels quite natural to describe it as patches of faded-white-orange-and-brownness, smoothness, cylindricality, etc. But I usually don't even notice these things in my ordinary coffee experience. My mug is all but invisible as other matters I find far more interesting occupy my time: now the aroma of the beverage; now the paragraph I'm reading about phenomenalism; now the sentence I scratch out above; and so forth. In the ordinary coffee experience, to perceive the mug is to interact with it, deal with it, reach out and grab it, hold it, drink from it. And, to the extent that the mug "harmonizes" with my coffee experience, an experience grown implicit, nearly automatic through mundane habit, the detailed characteristics of the mug remain in the shadows of my explicit perceptual awareness. To the extent a conflict arises ("Who cut the bottom out of my mug?"), the mug takes center stage and other possible perceptual foci recede.

I believe that meaning, linguistic, perceptual, or otherwise, is consciousness's invention for coping with the pressing flow of temporal existence. But in contrast to the linguistic approach, accounts of perceptual meaning examine two related but importantly different questions: "What sort of entity is a perceptual meaning, and how must this kind of entity be related to a given perceptual experience in order to be the meaning of
that experience?" By concentrating on these questions, theories of perceptual meaning will make claims about meaning that linguistic meaning theories either disregard or rule out by definition. These claims include: (1) that some meanings can change over time; (2) that some are specific to a particular event at hand; (3) that some are less definite, more implicit than others; and (4) that some are steeped in an organism's noncognitive (e.g., emotional) and even nonconscious (e.g. biological) interests.

I think that the perceiver's desire to survive and enhance its survival are its primary criteria for deciding what is interesting (or relevant) about the event before it. In his History of Experimental Psychology, Edwin Boring wrote that, according to James, the selection principle by which "only a small part of the potentially effective world comes to consciousness . . . [is] 'relevance.'" Boring went on to conclude that "consciousness selects so that it tends to run in logical grooves, and trains of thought arrive at rational ends." There are two corrections to Boring's claim that I wish to make. The first, in fairness to James, is that relevance is the second principle of consciousness's organization of the event at hand; the first is interest. The second correction has to do with Boring's idea of the criteria underlying James's notion of relevance. The grooves in which minds run are not so much logical as they are functional, and the ends at which perceptual trains aim (if not arrive) are not so much rational as they are practical. James's biological appreciation of function provides the practical

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3 PP II, 980; BC, 152; MT, 113-114; TT, 66-70.
sense: "the conception of function was explicit in James's psychology—not the Funktion that is like the Akt of the act psychologists, but the biological function that derives from Darwin and not from Brentano. Mind has a use and can be observed in use."4

For these reasons I take it that perceptual meanings arise out of the transactions between perceivers and their worlds. The perceivers' interests influence these transactions. So, at least part of what it means to perceive X is to interact with X. Perceptual awareness is not nearly as explicit as some philosophers would have us believe. Think of a hammer. As an instrument, the hammer (as an object of thought) gets out of the way so that the carpenter can focus on the task of properly driving the nail home. The question is, does the carpenter perceive the hammer? Certainly the carpenter is (at least vaguely) aware of the hammer. Must the hammer be focussed upon or attended to explicitly and exclusively in order to be at least a part of the current perceptual object? In other words, can something of which we are only vaguely aware lay claim to being perceived?

Many philosophical theories of perception reason that, in order to perceive X, one must notice X. Their ruling assumption becomes, "Unless X is noticed, X cannot be perceived." Classical theories of perception seem to assume that perception requires explicit conscious awareness. The account of meaning that influences their theories seems much more linguistic than perceptual. In their view, perception at bottom is the collection and presentation of raw phenomena. Only the "higher" conceptual powers of mind are capable of cooking the data and giving them meaning.

4Boring, Experimental Psychology, 515.
Now long ago, in my philosophical youth, it was not at all clear to me, at least with respect to its independence of consciousness, that meaning was really any different from being. It seemed to me grossly unfair that the world pole of experience could only provide raw material to be processed by the meaning-industry of mind. If rocks and trees have no need of some mind somewhere (save the Good Bishop's theory) in order to be, why should it be any different with what rocks and trees mean? But now, of course, I see things differently. Of course meaning is mind-dependent; being, independent. But if we accept this difference, that is, if we "cut up" our experience in this way, we discover new difficulties to overcome. For example: if a physical world exists independently of mind, how do we explain mind's "connections" to what is independent of it? The ontological assumption allows you to give an account of the separations, discontinuities, and "breaks" you notice within your experience. But how do you explain the continuities, the connections, felt in your ordinary "waking" life? The quick and dirty answer: meaning. We ascribe the breaks in experience to a world as it conflicts with our implicit interests. When life flows evenly in habitual, predictable patterns, those same tacit interests are reaffirmed.

Husserl's and James's contextual theories of perception employ a much more "perceptual" understanding of meaning. Contrary to the classical philosophical theories of perception, they view the generation of perceptual meaning as the process of give-and-take between mind and world as equals in the house of experience. Implicit awareness, e.g. of the hammer as you nail, their theories maintain, are part and parcel of the constitution of the perceptual object. The selectivity of consciousness does not eliminate
data, they maintain. Instead, its choices establish a relationship between elements of perceptual experience (viz., the explicitly grasped and its not-so-explicit shadings).

Linguistic theories of meaning are not enough to provide a satisfactory account of perception. A philosophical theory of perception has to recognize that meaning for a perceiver is importantly different from meaning for a speaker. One of the negative consequences of the philosophical tradition's primary identification of meaning with language for an adequate philosophical theory of perception has been to isolate the perceptual object and detach it from its immediate contextual surroundings. As a result, an exclusively linguistic view of meaning only stymies the development of a satisfactory theory of perception. A truly viable philosophical theory of perception has to show how perception is essentially a process in which consciousness and world transact in a variety of ways to construct meaningful perceptual objects.

**Broniak’s Contextual Theory of Perception**

**The Organizational Development of Perceptual Experience.** My reconstruction of perceptual experience begins with William James's notion of pure experience. James uses this hypothetical construct to describe what experience would be like prior to the distinctions consciousness introduces into it, such as subject/object, mind/world, thought/thing, etc. These distinctions arise over time as the result of transactions within experience. The notion of pure experience compels the perception theorist to resist these mental habits, to imagine experience as uncut, unshaped, unformed. This has the immense methodological advantage of "wiping the slate clean," so to speak, allowing
what is shadowed by our torrent of preconceptions to come out into the light. All of this is meant to set the stage for the current state of perception. To James's way of thinking, to perceive an object is to deal with it in a number of ways simultaneously: we sense it, we feel it, and we have feelings and thoughts about it. Where we start in giving an account of the nature of perception is \textit{in media res}.

Starting from this point, my reconstruction next lays out the "forces" that comprise perception. I use the term "forces" for two reasons. First, I intentionally use this term to emphasize the self-contained, immanent character of experience (as opposed to, say, the transcendentalist flavor underlying the Kantian "intuitions" of time and space). Second, the scare quotes are meant to give a \textit{psychological} complexion to a term usually confined to Newtonian physics.

Figure 12 diagrams what I call the "development" of experience, from an undivided chaos to a wealth of ordered structures of experience. The number of organizational structures that consciousness constructs out of experience are limited only by the fruition of its interests. For example: I think that time and space are the initial "forces" that emerge from pure experience. Such constructs, I think, emerge as an organism's natural ways of managing its experience that (at least in part) are due to its given sense organs (including its brain). Now time and space are two very different forces. An embodied consciousness uses the idea of space to organize what is "external" to it. Conversely, the idea of time provides the organism an internal frame of reference.

\footnote{Along the line of "tendencies"--but this word's connotations may skew an account of the organizational development of perceptual experience in an \textit{overly} psychological direction (which I think was James's governing impulse in his \textit{Principles}).}
In dealing with its environment, the organism (quite nonconsciously) transposes these reference axes perpendicular to each other, creating a spatiotemporal matrix by means
of which it may more effectively manage its environment. Consciousness "maps" its world by relating its focus to two axes of reference, the spatial (external) and the temporal (internal). My theory maintains that this constituted spatiotemporal "field" of experience is the foundation of the physical ("external," mind-independent) context of experience.

Now experience isn't finished unfolding just yet. The physical world provides a single dimension of experience, namely, a dimension of actuality. The spatiotemporal field encompasses experience's here and now character, as well as its there and then. Now, for "simpler," i.e., less-evolved forms of consciousness, this dimension may be all it needs. But for more evolved, more complicated forms of consciousness, the spatiotemporal plane does not address the "could be"/"can't be" sought-after quality of experience. As forms of consciousness become increasingly more sophisticated, they construct a third experiential "force," the force of modality. This third force allows consciousness to map its environment in an important new way: with a view to the environment's predictability, how consciousness can use its environment for its plans.

This is the point of the "atemporal point of reference" described in chapter IV (see above, pp. 137ff.). What is important to keep in mind here is that this point of reference is a limit concept--a point consciousness aims at but does not necessarily reach. I am suggesting that such a point of reference arises from consciousness's desire to manage the spatiotemporal plane in ever more satisfying ways. By means of the notion of possibility, consciousness aims to manage the actual concrete situation (here and now, or there and then) by relating it to an "everywhere-and-always," i.e., to atemporality.
Again, the conflict between actuality and possibility gives experience a third dimension. The force of modality is transposed with each of the other two forces of experience. The forces of time and modality create the context of the world as it is experienced, a context of temporality and possibility. This is the context of experience as action: perceiving, remembering, desiring, fearing, loving, doing, living, etc. By contrast, the contrasting forces of modality and space yields the context of the meanings consciousness gives to the spatiotemporal world. This is the field of meanings, content, interpretations. It is the reason Husserl is able to speak of the physical world as a correlate of consciousness, the plane that ties mind and world together.

The forces of time, space and mode produce three fields: (1) the mind-independent physical world, (2) our experience of that world, and (3) the meanings we give to that world. These three fields represent three different contexts of perceptual experience. Figure 13 portrays the latest phase of experience's development as a transposition of these three contextual frames of reference. The intuitions at work in the classical philosophical theories of perception from Chapter Two, in Husserl's theory of perceptual horizons from Chapter Three, and in James's theory of perceptual fringes from Chapter Four, "sees" one of these contexts so clearly and distinctly that the other contexts are either reduced to it or are regarded as aftereffects of "the one true world" (i.e., theoretical referential framework) that will explain perception once and for all.

The "physical world" frame of reference cannot be reduced to mind any more than the "meant world" frame of reference can be reduced to a purely physical account. What is mind-independent is one frame of reference; what is mind-dependent is another
frame of reference. The world as such accommodates both of these worlds as the limit
concepts of the world as it is experienced, the process dimension from which results the
other two relatively stable dimensions.

Figure 13 Experience as Transposed Contextual Frames of Reference

Modern philosophy (at least since Descartes) has been stuck on the notion that
meaning requires mind. Certainly, the modern turn advances philosophical inquiry to
the extent that it distinguishes the ontological (spatiotemporal, physical world) from the
epistemological (its meaning correlate). But that advance is not without its undesirable
consequences, the largest of which, I believe, is modern philosophy's great haste to identify this distinction as an unbridgeable separation between the physical world and what it means. Now, as I've said, I have ultimately come to the conclusion that the modern philosophical turn leads to a much more fruitful account of experience. Obviously, the presence or absence of mind makes a great deal of difference to the nature of experience. Without minds, experience reduces to a spatiotemporal continuum. And if it seems contradictory to speak of "experience" without minds, well, this is precisely my point. A "world without minds" is like a two-dimensional sphere: we may be able to concoct some sort of account of what this is, but whatever account we give is always only an extrapolation from our current experience. The presence of mind transforms the spatiotemporal continuum, widens it, thickens it, makes it into our three contexts of experience: the physical world, the activity of creating meanings for that world, and the meanings created for it.

The aim of this section has been to demonstrate the following claims:

1. There is no necessary incompatibility between the three guiding methodological intuitions of James, Husserl, and classical theories of perception.

2. All three of these intuitions are valuable and necessary for an adequate philosophical theory of perception.

3. By reconstructing the organizational development of experience, beginning from the hypothetical postulate of pure experience, it is possible to bring these competing intuitions together in order to provide a more adequate theory of perception.

The next part of this section aims to show how this organizational framework of experience practically applies to a typical perceptual event. The point of this application
will be to show why, for all practical purposes, perceivers treat the three contexts distinguished by this framework as one and the same "world."

An ordinary perceptual event. It was William James's observation that we should barely perceive anything at all if not for our acquired stock of names or "labels" that direct our perception. Habit and custom rule the vast majority of our perceptual life, so much so that we work overtime to shape new and unusual events through the patterns fashioned by prior experience. Moreover, we will abandon novelty altogether if it hinders us from acting upon the world and dealing with it. This is the most striking point I wish to make with my flowchart diagram of the perceiver's role in the perceptual process. The following text walks through the chart to illustrate the complexity a perceiver brings to the perceptual situation. Two initial words of caution. First, the flowchart is an attempt to sort out a number of operations that I believe occur simultaneously and for the most part well below the threshold of explicit conscious awareness. To perceive is to do a number of things at once without any immediate, direct awareness of everything that is going on. Second, by means of this flowchart I claim only that it is a plausible account of how perception ordinarily works. I do not intend it as an account of how perception must operate, nor does it cover the numerous ways in which the perceptual process can vary from event to event.

Perception begins ("S" in the flowchart) when a mind confronts an event. "Event" is meant to refer to any number of possibilities: a child's first view of red; a single candle burning in an otherwise dark room; the low hum of circulation blowers in a lecture hall; etc. The question that first opens up the perceptual field is, "Is this event
mind (m) confronts event (e)

is e interesting?

YES

NO

ignore e

next

"publically"

so-called universal needs, e.g. appetites, drives, nec. to survival

"personally"

event fits with "OLD" or usual acquired habits of perception

are personal habits useful for public needs?

YES

NO

transaction btw m & e

s = s + 1
m = m + 1
(transaction creates add'l content)

a sense of closure develops

"NEW" or unusual event

can you knit NEW to OLD?

YES

NO

can you afford to ignore e?

YES

NO

do you have time to retry knitting?

YES

NO

table closure for now

Figure 14 Flowchart Diagram of the Perceiver's Role in the Perceptual Process
Whether an event is interesting depends upon the variety of interests (cognitive, noncognitive, physiological, etc.) that the perceiver brings to the event. The degree of interest a perceiver has in a perceptual event is influenced by several conditions. Some of these conditions are more flexible than others. At one relatively fixed end of the spectrum, the physiological structure of the perceiver's sense organs already limits the range of perceptual data available to it.

The physiological constraints are wholly beyond conscious control, even conscious access: they are the automatic, involuntary, nonconscious, physiological constraints inherent in the structure of the organism itself. Recall how, simply at the level of physiology, perception is different for dogs (with their terrific sense of smell) and cats (who sacrifice a degree of color vision for greater low-light [night] vision) from human beings. The physiological constraints are the starting point of what can count as interesting for a perceiver. In addition, "interesting" includes certain "hard-wired" neurophysiological brain structures. Recall from introductory psychology classes how the survival interests of infants as young as two months are reflected in their avoidance of the edge of a glass-covered abyss. The reasons we find something interesting are sometimes buried in mid-brain structures that have continued nonconsciously through millions of years of species evolution.

Other elements are nearly as automatic and involuntary, but as matters of acquired habit. Further along the continuum of conditions for perceptual interest lie

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perceptual habits. We acquire these habits over time; the more we use them, the more they carry the load of operations routinely involved in the perceptual process. To support these claims I submit the difference between the child’s stock of perceptual experience and the adult’s. Think of the things a child sees and is curious about that adults simply are no longer interested in noticing, e.g. the sky. It isn’t that adults cannot notice such things, only that the novelty of perceiving the sky for the child has run its course for the adult. As an interest candidate, the sky has already been relegated to the appropriate spheres of well-worn adult perceptual experience. While perceptual habits are not absolutely intractable, they do require the perceiver’s concentrated efforts in order to be overcome. The acquisition of perceptual habits arise in lieu of an organism’s need to respond to its environment without the luxury of explicit meaning to guide its action.

If an organism decides that the present situation is not interesting (and, so far, this "decision" is largely automatic and beyond the reach of consciousness ), it ignores the situation and moves on to the next opportunity for it to be interested. If it decides that the condition is interesting, the organism contrasts the present state of affairs with its store of previous experience in order to deal with the situation as effectively as possible. To accomplish this, the process usually operates for the sake of subsequent action: an object is never an object pure and simple, but always AS thus-and-so. For example, a coiled pile of rope along a path in the woods might be momentarily perceived

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as a snake. To perceive the rope in this way allows the organism to act to protect itself. That we perceive thus-and-so is wholly beyond conscious control. But what we perceive, equipped with our interests, is the result of our transactions with our environment.

The meaning of the present perceptual event depends in part upon how the current event is interesting for the organism. Does the event fit familiar patterns and habits the organism has acquired through its individual personal history, or the history of its species? Or is the event novel enough to defy the usual perceptual habits, to compel the organism to adjust its system of beliefs in order to accommodate it? In either case, the ruling law is one of adaptation and modification. The marks of perception are immediacy and concreteness, rich possibilities that point in some directions rather than others. The task of perception is to take those leadings and guidings somewhere, to get them from where they are to where they seem to be headed, and to do it comfortably enough (even if not clearly enough) for the organism to manage the event at hand.

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9Cf. William James: "That [sensations] are is undoubtedly beyond our control; but which we attend to, note, and make emphatic in our conclusions depends on our own interests. . . . What we say about reality thus depends on the perspective into which we throw it. The that of it is its own; but the what depends on the which, and the which depends on us." Pragmatism, 118.

10"There is no such thing as an absolutely particular experience: the existence of intentional consciousness means that we perceive things from a point of view as already being general, since the object of perception is an example of what we expect to find." Neil Bolton, Concept Formation (Oxford: Pergamon Press, 1977), 20.
An event may be interesting because it resonates with an organism’s acquired perceptual habits. Or it may be interesting because it conflicts with those habits, i.e., the organism considers it a novel or unusual event. If it is interesting for the first reason, we can further distinguish two kinds of perceptual habits. On the one hand, events may fit with "public" or social perceptual habits. These habits include a broad range of needs common not only to individual members of a species, but also across a number of species: survival, reproduction, appetites, drives, urges, and so forth. On the other hand, events may fit with much more "personal" or individual habits. These individual habits can belong to a particular species (what interests the cat fails to interest the child) or to particular members within a species (what interests one cat does not necessarily interest another). Idiosyncrasy is part and parcel of these habits.

Imagine how a bank clerk sees the pile of loose bills casually tossed into the center of the table by the individual members of a luncheon party of twelve. Through habit the clerk gathers up the currency, sorts it by denomination, makes sure the bills all face the same direction, and attempts to leave a neatly ordered stack before the waiter returns. The clerk’s habits of activity are analogous to our own habits of perception. The clerk saw something the non-clerks did not see: an intolerable chaos of currency. At the bank, this temperament is expected, so it goes unnoticed; but at the lunch, it stands out. At lunch, the pile of cash is acceptable; at the bank, it is an abomination.

When the event is interesting in a familiar way, the "automatic pilot" of learned perceptual habits takes the event and locates it rather generally within its categories of experience. Experimental psychology suggests that these categories begin noncognitive-
ly: the emotional or volitional correlate of the event, as something to be feared or desired, has more pull upon the behavior of the organism than the event's rational or logical features. If the event is interesting in an unfamiliar or unusual way, the perceptual system first attempts to coordinate the novelty with its usual habits. If it is more important for the organism's survival to respond to the situation at hand with only a primitive comprehension of the situation, it may in practice defer its acquired habits of perception.

This does not mean that the organism forsakes understanding altogether in the novel perceptual situation. After all, if old ways lend themselves to new situations, the organism may respond sooner than if it has to work through trial and error. And an early (even if incorrect) response better serves the goal of survival than to run out of time to respond. So, sometimes an organism attempts to connect the current situation with its stock of already existing manners of dealing with the world. To make such connections is to "knit" the new event onto old events.

I believe James's notion of the fringes of perceptual objects are exactly the vehicles in perception that make such knitting possible. Old events have "fringes," open-ended edges of possibilities, of a definite "shape." More precisely: as we acquire a stock of habits, we gather information not just of sheer objects, of the focus of our awareness, but we also (implicitly) gather information about objects under different conditions and circumstances. The fire in the fireplace warms us; the fire that ignites the kitchen curtains by a spark from a faulty toaster threatens us; the fire of the

\[11^{\text{LeDoux, 57.}}\]
disposable lighter lights the cheap cigar. In James’s language, what we have are three objects concerning the same topic: fire.

Now, in the case of fringes of novel perceptual events, relevant previous experience is called upon to graft the new to the old. To see a platypus for the first time is to try to knit it to previous perceptions of otters and ducks, not with previous perceptions of trees and rocks. To the extent that the organism can grasp the new by means of the old, it does so. If it cannot do this, the organism moves on to other actions it can perform in order to deal with the event at hand. For instance, if it can afford to ignore the event without going against its mandate to survive, the organism may choose to ignore what it initially found unusually interesting. Or, if the organism is curious about the current event, and can afford to do so, it may initiate further attempts to interweave the novel experience with its stock of acquired habits. If this should not succeed, and the organism cannot afford to ignore the event, it may simply table its desire for comprehension at this point in the process and "take on" the event without benefit of its acquired strategies.

That an organism does not know (in an explicitly cognitive fashion) what is before it does not stop the perceptual process. Quite the contrary. Even if the organism cannot give an explicit meaning to the situation at hand, time constraints oblige the organism to do something. The degree of atemporality in the meaning of a perceptual object is built up over time out of the organism’s ways of dealing with the object in time. Without explicit meanings to lift itself out of that pressing flow, the organism uses more implicit, "spontaneous" ways of dealing with the situation. For instance, a person may
use a much more random "trial-and-error" method in dealing with the present event if he is less sophisticated than another. The person who has experienced otters and ducks is in a slightly better position to go against the flow of temporal immediacy when dealing with a platypus for the first time than another who is not acquainted with these animals.

The remainder of the flowchart recounts the mutual transactions between organism and event. These transactions change both environment and organism. For, on the one hand, the organism adds this set of dealings to its memory of other dealings with the environment. And, on the other hand, the environment now has an added significance, which may or may not come into play in subsequent perceptual events. These results become part and parcel of the three contexts of experience. The organism is now in a position to move on to the next perceptual event.

Satisfying the Four Criteria of an Adequate Theory of Perception

The introduction to this dissertation listed the following criteria for developing an adequate philosophical theory of perception:

1. A suitable philosophical perceptual theory can account for the occurrence of perceptual errors, illusions, and hallucinations.

2. It will show that perception is inextricably connected with other structures of consciousness, such as memory, imagination, emotion, and volition.

3. It will explicate the relationship between perception and activity.

4. It will include current research from the physiology and psychology of perception to support its philosophical claims.

What follows is a brief review of how my contextual theory of perception satisfies each of these criteria.
Criterion 1: Perceptual Illusions. In the first chapter I presented four kinds of visual illusions: illusions of ambiguity, illusions of organization, illusions of motion, and illusions of constancy. The phenomenon of illusions caught the imagination of Descartes, Locke, Berkeley, Hume, and some sense-data theorists precisely because they regarded perceptual illusions as ontological problems, i.e., the "object" the illusion represented could not be explained by the straightforward accounts that explained non-illusory perceptual objects. But if, like Husserl and James, we view perceptual illusions as epistemological exceptions, a contextual theory of perception has the advantage over its philosophical predecessors. The same physical stimuli can be perceived differently by different perceivers at the same time, or by the same perceiver at different times, because the relationship between the perceiver and object perceived varies. The illusion can be interpreted in several different ways, depending upon the highlights and emphases perceivers give to the explicit perceptual focus as it stands out against an implicit background of unselected but still influential data.

First of all, recall Boring's ambiguous figure of the young/old woman (Figure 3). The philosophical theories detailed in Chapter Two do not readily explain why the figure sometimes looks like an old woman, and some other times looks like a young woman. Contextual theories, on the other hand, can suggest that the fears or desires of perceivers may lead them to one view rather than another. Perhaps a fear of growing old leads you to see the old woman; perhaps a desire of beauty draws you to the young woman figure. Illusions of organization, such as the illusory contours of Kanizsa's triangles (Figures 6a and 6b), are a problem for exclusively ontological approaches to
perception, insofar as the perceived "triangles" are only suggested by the surrounding figures. Such examples support the contextual theorist's claim that an adequate account of perceptual objects depicts the relationship between the explicit focus of awareness and the implicit background from which it is chosen.

Illusions of apparent motion, e. g. the phi phenomenon, illustrate the physiological constraints operating beneath the threshold of perceptual awareness. Imagine how different your perception of the world is from your dog's or cat's perception of it. The structure of the organism determines the range of data available to it. A contextualist theory of perception not only recognizes the subconscious influences in perception, to which we may have some degree of conscious access. It also aims to acknowledge the nonconscious, physical conditions of perception, to which we may have no degree of conscious access.

Lastly, the classical philosophical theories of perception did not regard perceptual constancy as an illusion--in fact, they assumed that constancy was one characteristic of what was "really real" about the perceptual object. But, as James rightly says, we never get the same sensation twice. When you accept this, then you have to account for how we get the same OBJECT. Contextual theories of perception account for perceptual constancy as a strategy perceivers use to deal with and manage the constant bombardment of available sensory data.

Criterion 2: Perception and other structures of consciousness. The philosophical genius of people like Husserl and James lies ultimately in their intuition that life is complex. At least since Plato, the philosopher's charism was to sift the
eternal out from the temporal: bring the vague to clarity, the truth out from shadowy appearance. Yet both Husserl and James avoid this tendency, albeit in very different ways for very different reasons. Each philosopher argues that the philosophical urge to divine the simplest of all possible accounts commits the fallacy of misplaced concreteness, of explaining a whole by reference to only one of its parts. For Husserl, the solution to explaining the problem of perception lay in giving an explicit, exhaustive account of every one of its components. For James, "vagueness" was a character of experience that deserved acknowledgement in its own right, no less than "clarity," since experience includes both.

To James's way of thinking, to perceive an object is to deal with it in a number of ways simultaneously: we sense it, we feel it, and we have feelings and thoughts about it. Where we start in giving an account of the nature of the perceptual is in the middle of all this, right in the perceptual thick of things. With this as the appropriate starting point, a theory can then begin to lay out the "ingredients" that comprise the perceptual mix.

Imagine how someone like Descartes would account for Boring's old/young woman figure. The memories of one's previous experiences, according to his theory, ought not have any influence in the way one sees the picture. If you were frightened by an old witch, or enjoy a pretty face, no matter. But contextual theories of perception recognize that other "less cognitive" structures of consciousness, such as memory, emotion, and desire, have significant implications for the perceptual process.
Criterion 3: Perception and Activity. Perceptual events involve several transactions between organism and environment. Along with James, I take it that these "deals" arise because the organism has certain interests it seeks to satisfy. In order to satisfy these interests, it must act. For the most part, I also take it that these transactions occur beneath the threshold of explicit conscious awareness. At least part of the organism's behavior is the meanings it gives to its situation at hand.

The organism uses the meanings it constructs to guide its subsequent actions. This behavior builds relations that bridge the gap between consciousness and world. Culled over time, our interpretations are not only notes about objects, but also of the sorts of things we come to expect about objects. So when we are unable to "automatically" assign a meaning to the event before it, time becomes an overriding concern. Does my survival require an immediate response? To delay response while attempting to "understand" the event (so that one may respond correctly) can be far more dangerous than responding incorrectly to a situation that does not pose a threat.

The pragmatist's insistence that action completes the cycle between mind and world is particularly important for philosophical research in perception. Ultimately, what matters for the organism is to respond and react for its primary goal of survival. Under this condition, "understanding" is valuable as a means to that end. Whatever understanding occurs during the process has significance to the extent that it enables the organism to act in the current situation as effectively as possible. And again, what counts as effective behavior is that which helps the organism live and thrive. Behavior that defeats this end is useless.
Criterion 4: Perception and Experimental Current Research. An adequate philosophical theory of perception must also be consistent with the advances being made in neurophysiology. Consider the following. Richard Granger and José Ambros-Ingerson of the University of California at Irvine set out to investigate the paleocortex, the region of the brain which (among other things) deals with the sense of smell, the oldest and most primitive sense. What they found is that the brain takes what we would describe as a single, unified experience (e.g., the smell of coffee) and spontaneously analyzes it into a hierarchy of specific qualities. One of the research's implications is that categorical analysis, rather than being the product of pure thought, is much more physiologically primitive. The suggestion is that brains (unlike computers) are modified as organisms adapt to their environments. And, instead of constructing a framework and imposing it upon experience from the top down, so to speak, the more accurate account (from a neurophysiological standpoint) is that frameworks arise out of perceptual experience from the bottom up.

Neurophysiology has also taken to task the notion that the brain processes sensory information in an exclusively mechanical or quantitative way. The sheer volume of neural connections (present and future) makes it imperative for the perceptual system to make the jump from quantity to quality of experience. For example, an ear "has around 10,000 nerve cells, [but] the auditory cortex, the portion of the brain where sound is perceived, has, say, 100 million neurons. Instead of simplifying the input, the brain

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makes it enormously more complicated."\textsuperscript{13} As a matter of an organism's bodily structure, perception moves from a purely physical reception of the stimulus and changes that physical information into information relevant to it.

Several cognitive and developmental psychologists\textsuperscript{14} find the notion of recognition-schemas useful to describe the "bottom-up" organizational frameworks of perception. In his account of how we acquire concepts, Andrew Woodfield shows that our ability to formulate hypotheses depends on these sorts of frameworks. On his notion, "schemas are formed by a process of adaptation to the objective groupings that are found in S's environment"\textsuperscript{15}:

Schemas are not products of hypothesis testing at all. It would be an intellectualist fallacy so to describe a process of environmentally steered growth. In cases where the structure of the brain is permanently and irreversibly altered by environmental influences, "epigenesis" seems the appropriate term to use, in psychology as in embryology.\textsuperscript{16}

\textsuperscript{13}Bolles, 13-14.


\textsuperscript{15}"That such groupings exist at the 'basic' level of categorization has been established by Rosch et al. (1976)." Woodfield, 26. He cites E. Rosch et al., "Basic Objects in Natural Categories," Cognitive Psychology, 8 (1976), 382-439.

\textsuperscript{16}Woodfield, 26-27. Italics added for emphasis. He refers to T. G. R. Bower, Human Development (San Francisco, CA: W. H. Freeman, 1979), especially chapters two and three.
I take Woodfield to mean that, unlike the traditional scientific method, schemas are not so much an external means the organism imposes upon its environment as they are the results of the environment having the advantage, affecting the structure of the organism. This is wholly in keeping with a contextual theory of perception: environment also has its influence in the perceptual process. Both Husserl and James find fault with philosophical theories of perception that characterize perceivers as mere bundles of passive receptivity. My contextual theory of perception asserts that theories which characterize the environment as mere "raw" data with no perceptual influence are subject to similar criticism.

The fourth criterion takes issue with the notion that philosophy must necessarily stand independently of the sciences. Both classical rationalism and empiricism discount scientific research as appropriate for a philosophical theory of perception. In addition, some phenomenologists seem to have interpreted Husserl’s recognition of the dangers posed by psychologism as a justification to reject scientific approaches to philosophical analyses of perceptual experience. And some pragmatists seem to think that the process character of experience that James recognized by its very nature defies scientific analysis. To be sure, there is a degree of truth in all of these claims. But the advantages of rigorous, critical analyses of perceptual experience, including contemporary physiological and psychological experimental research, far outweigh at least one potentially disastrous consequence, namely, the construction of free-floating philosophical theories. Philosophical theories that are concerned only with what is logical about perception are woefully inadequate. An adequate philosophical theory of perception must also give
some account of perception's physiological and psychological aspects. Philosophical examinations to discover the implications of contemporary scientific research about perception are required in order to provide such an account.
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VITA

Christopher John Broniak was born April 5, 1957, in Detroit, Michigan. He is the sixth of ten children of Leonard and Esther Broniak, the fifth of seven sons.

After completing his elementary education at Holy Redeemer Grade School in Detroit, Mr. Broniak attended St. Joseph’s Preparatory College, a Catholic high school seminary, in Edgerton, Wisconsin. He graduated valedictorian of his class of eleven seniors in May 1975. He continued his studies at Holy Redeemer College in Waterford, Wisconsin. From July 1977 to July 1978 Mr. Broniak attended the Redemptorist novitiate in Oconomowoc, Wisconsin. In January 1979, he left the Redemptorists. After a brief work sabbatical, Mr. Broniak attended Wayne State University in Detroit, Michigan. He graduated with a Bachelor of Arts degree, with honors and a major in philosophy, in May 1982. Mr. Broniak then applied to Loyola University’s doctoral philosophy program, to which he was accepted. He moved to Chicago, Illinois and began his studies at Loyola in August 1982. In January 1987 he was conferred the degree of Masters of Arts with a major in philosophy. Mr. Broniak passed his doctoral exam in May 1989 and reached A. B. D. status in February 1990.

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DISSERTATION APPROVAL SHEET

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Dec. 2, 1996

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