On What We Confront in Perceptual Experience: Old School Ontologies for New School Realists

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Thesis submitted to the faculty of the Virginia Polytechnic Institute and State University in partial fulfillment of the requirements for the degree of

Master of Arts
in
Philosophy

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04/23/2013
Blacksburg, Virginia

Keywords: Ontology, Perception, Experience, Naive Realism, Disjunctivism

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ABSTRACT

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The focus of this thesis is a certain family of ontological positions. These positions say that there is some class of objects and properties, to which both physical objects and properties reduce and which are the kinds of things we confront in perceptual experience. Though largely absent from contemporary discussions of ontology, there are various reasons to think they deserve consideration. Species of this family, and similar views, have a prominent role in early analytic philosophy. Though endorsement of these views has been systematically deemphasized in historical work on the period, Ernst Mach, William James, and Bertrand Russell are among philosophers who endorse such views in their work. Their views were motivated by a number of different considerations.

Here, I set to the side the issue of what has motivated these views in the past. I bring them up only for the purpose of giving attribution. I make no claim to ontological novelty nor will I be giving them an all-out defense. Accordingly, many considerations relevant to choice of ontology are bracketed. Instead of an all-out defense, what I offer here is an explanation of how adopting such a view allows us to solve two related problems. This amounts to two related reasons for taking a view like this seriously. One is for those who think that intuitions of a certain sort are a guide to what we should believe is ontologically the case. The other is for those who find merit in a disjunctive theory of perception.

DEDICATION

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This thesis is dedicated to my parents.
Thank you for all of the love and support you have
shown me over the years and especially for
being such outstanding role models.
I am proud to have you as my parents.
I love you.

ACKNOWLEDGEMENTS

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1. Introduction

I want to draw attention to a certain family of ontological positions. These positions say that there is some class of objects and properties, to which both physical objects and properties* reduce and which are the kinds of things we confront in perceptual experience.[1] I will refer to these positions as "phenomenal parts theories". Though largely absent from contemporary discussions of ontology, there are various reasons to think they deserve consideration. Species of this family, and similar views, have a prominent role in early analytic philosophy. Though endorsement of these views has been systematically deemphasized in historical work on the period, Ernst Mach, William James, and Bertrand Russell are among philosophers who endorse such views in their work (Mach, 1907; Mach, Williams, & Waterlow, 1914, pp. 13—14; Russell, 1914). Their views were motivated by a number of considerations. These included a desire to deal with versions of the mind body problem and

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1 I will use an asterisk "*" in a couple of places, in place of the following somewhat gruesome clause: *as and insofar as they are objects we confront in perceptual experience.* The point is simply to leave open (not to imply) the possibility that there are parts and/or properties of physical things that are distinct from the kinds of things that we confront in perceptual experience, even while it remains the case that what we confront in perceptual experience are physical objects (under normal conditions and assuming certain skeptical scenarios are false). Except to point out that it's a possibility, I won't be at all concerned in what follows with whether there are any *"spooky"* properties of objects that are *in principle* perceptually inaccessible.

skepticism about the external world, as well as to achieve ontological simplicity (James, 1904, p. 478), and consistency with empiricist commitments (Russell, 1919, p. 25).[2]

I want to set to the side the issue of what has motivated these views in the past.[3] I bring them up only for the purpose of giving attribution. I make no claim to ontological novelty nor will I be giving an all-out defense of such views. Accordingly, many considerations relevant to choice of ontology will have to be bracketed. Instead of an all-out defense, what I offer here is an explanation of how adopting such a view allows us to solve two related problems. This amounts to two related reasons for taking a view like this seriously. One is for those who think that intuitions of a certain sort are a guide to what we should believe is ontologically the case. The other is for those who find merit in a disjunctive theory of perception. In the second section, I describe a species of the ontological family we are considering. There, I am concerned only with getting one such species on the table, so that the reader has some sense of how these theories will look. I will refer back to features of this species in the sections that

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2 This historical and historiographical interpretation is from
   Hatfield, 2002, 2004.
3 Though this is no longer a widely held position, its discussion is
   hardly anachronistic. The ontological position(s) that dominated
   metaphysical discussions in the last half of the 20th century have
   been saddled with systematic criticism (Koons & Bealer, 2010) in
   light of which, the search for a replacement might be justified.

follow. In the third section, I will head off some general objections. In the fourth and fifth sections, I will lay out a couple of problems and explain how this ontology solves them. The fourth section shows why it is entailed by a particular set of basic beliefs about the world — a set that would otherwise be inconsistent. The fifth section identifies a group of problems that have been raised against disjunctivists and shows why adopting an ontology of this sort presents them with a promising solution. Michael Martin is the sort of disjunctivist that I have in mind. He is a "naive realist" about object perception — meaning that he thinks we confront the sorts of things we normally take ourselves to be confronting during veridical moments of perceptual experience (namely: the eyes of loved ones, words on a screen, and so on) and that in contrast to this, something else occurs in hallucination.

2. Theoretical Explication

Here, I am going to describe a species of the ontological view in which we are interested. I am going to call this species "the pixelated world theory". Like other species of the view in question, the pixelated world theory says that there is some class of objects and properties, to which both physical objects and properties* reduce and which are the kinds of things we confront in perceptual experience. From here on out, we should restrict our focus to the kinds of things we confront in visual experience. Nothing of substance turns on this, but it will make the entire exposition much simpler.

What is unique about the pixelated world theory is that it posits uncountably many "pixels", objects out of which the physical world is composed. Now, "pixel" is generally understood as the smallest component of a digital image. What it means to be a pixel, however, is a context sensitive affair. In printing, for example, the smallest component of a printed image can be referred to as a pixel. Similarly, in digital image transfer, we sometimes refer to parts of electronic signals as "pixels". I want to extend the use of this term in an analogous fashion. To do this, let me turn your attention to some features of pixels, understood in the ordinary sense.

Imagine a digital rendering of a 3-dimensional object, on a 2-dimensional screen. Imagine anything you like, a cube for instance. Here, all of the constituents of the cube are pixels. These pixels can be described in terms of their color and their shape. They can also be described in terms of the extrinsic spatial relations they bear to other pixels. Now, imagine we rotate the cube. What this amounts to, for a 2-d rendering, is a change in the aforementioned properties. For example, the pixels at many of the points on the screen will now have new colors. From one rendered perspective, some of the pixels produce a square in the two-dimensional space. Change the rendered perspective even slightly, "orbiting" around the cube, and they produce a trapezoid. Anything that can be rendered on a 2-dimensional screen can be rendered in this way. With the right technology, we can create true-to-life representations of sporting events, public lectures, and many other sorts of things. We do this all by changing the properties of the pixels in the rendering, re-creating the event from various spatial and temporal perspectives.

On the pixelated world theory, what we confront in visual experience should be understood on analogy with the pixels of digital imaging. Pixels, in this sense, will be the smallest components of the visible world. Instead of points on a screen with various colors, they are instead colored objects that, while not physical in themselves, are the phenomenal parts out of which both physical objects and

hallucinatory content are composed. Tables, temples, animals, and hallucinated gnomes will all be composed of these pixels. Anything that can be confronted in experience, a 3-dimensional cube for instance, will be composed of pixels of this ontologically fundamental sort. Such pixels can be described in terms of their color and their shape. They can also be described in terms of the extrinsic spatial relations they bear to other pixels. We can describe where we confront these pixels, on analogy with the digital screen. The analogue of the digital screen is the *perspective*. A visual perspective contains a 2-dimensional arrangement of some huge number of pixels. Each of these visual perspectives is what we might call "a visual perspective on the world from some space-time point". There are uncountably many of these perspectives and uncountably many pixels that occupy all of them. Separating this view from versions of idealism is the mind independence of both perspectives and pixels. Here, what we call "my visual field" just is the visual perspective I occupy. The contents of my visual field, what I confront in visual experience, are those pixels that exist in the perspective that I occupy. Note, it is a feature of this view that there are uncountably many perspectives that I do not occupy and uncountably many pixels that I do not confront.

3-dimensional objects, such as cubes, are composed of pixels; their spatial properties, such as 'being a cube',

reduce to massive disjunctions of massive complexes of pixel properties. The important point is that to confront the aforementioned cube, one need only confront a collection of the pixels of which it is composed. Likewise, to confront its spatial properties, one need only confront the properties of those same pixels. To see how this works, imagine the cube is rotating. For a spatially fixed series of perspectives, ones which frame this rotating cube, temporal differences will correspond to differences in pixel properties. For example, pixels at many of the points in the initially occupied perspective will have different colors than those pixels located at comparable points in perspectives occupied at later times. Again, in the first perspective, the two-dimensional shape produced by the pixels is perhaps a square. From another, it is a trapezoid. As the cube turns, the viewer confronts uncountably many different shapes. However, there is also a sense in which they confront only one shape. This is what is meant by "physical" or "objective" shape. Properties like *being a cube* are massive disjunctions of massive complexes of pixel properties. A cube is a simple shape. However, complexity of shape is no barrier to being composed of pixels. The entire physical world can be construed as one very large object, with an incredibly complex shape, composed of all (or at least a significant proportion) of the pixels.

Other properties of objects, such as color and size, are likewise to be reduced to complexes of pixel properties. Take color as an example. Notice that *physical* color is a context insensitive property of objects. If I place a white piece of paper under a sodium-lamp, it will look yellow. The yellow color is not the physical color of the object. It is and remains white throughout this process. What changes is something other than the object's *physical* color. This changing color of the paper is a context sensitive property. On the pixelated world theory, physical color is a more complex property than its context sensitive cousin. The latter property, the context sensitive one, just is pixel color. Physical colors, on the other hand, are massively disjunctive properties that contain, as disjuncts, massive complexes of pixel properties.

3. Objections & Rebuttals

Before moving on to motivating the view I have just laid out, I want to block a few objections. The reason I am considering these objections, and not some others, is that these concern the coherence of the position I have laid out. They are thus relevant, even within the focused scope of this paper.

You might be tempted to object that "change of perspective", "change of observational orientation", or any of the other phrases made use of in laying out this theory make ineliminable reference to physical objects. This, however, is fine. Remember that the view I have been articulating is not a version of idealism. I am proposing to reduce physical objects to pixels. I am not to denying the existence of physical objects (see Goodman, 1992, p. 244 for an example of this kind of objection). The upshot is that my body and its activities reduce to pixels and their activities. Assuming that variants of substance dualism are false, both perceivers and the objects of their perception will reduce to the same basic stuff. This does not need to have any effect on our story about what the perceptual relation consists in. If all physical objects are complexes of pixels, and some functionalist story about perception is true *for example,* then it looks as if it might be possible *at least in principle* to translate claims

about the perceiving of objects, stated in our everyday vocabulary, into claims that only employ the vocabulary of the pixel theory.

Picking up on this, you might challenge me to offer translations of statements in a physical object vocabulary into statements in a purely phenomenal vocabulary. Here, physical object statements are often something of the form "the car is in the garage" and my failure to offer a deconstruction of this claim into claims purely about pixels might be seen as a fault of the position I have been laying out. This seems like an insurmountable task — and it would be an objection that I could not recover from, if those were reasonable expectations for the exposition of an ontological theory. Good thing for me that this would be an insane double standard on any reasonable analysis of the implicit dispute. Take that claim: "the car is in the garage". Notice just how vague it is. The number of possible pixel combinations that would make-true this claim is uncountably huge. The task seems insurmountable. It should be recognized, however, that the same standard ought to be applied to the materialist's story. N.B., the number of possible combinations of micro-physical states of affairs that would make-true this claim is uncountably huge. Obviously our materialist should be able to give us the full translation. No? Well she should at least be able to give us one sufficient translation of the claim "the car is in the garage" in 'matter' terms, right? She can't even

do this, you say? Well, what good is her theory — what could it possibly ever explain?[4]

Aside from the point that this sword cuts both ways, if it cuts at all, is the point that it does not cut at all. That is, the question being asked is not an ontological question. Rather, it is a question for interpretive metaphysics. When asked questions about what the fundamental constituents of physical reality are, we might answer that pixels play this role. When asked whether there are physical objects we can answer affirmatively. When asked how, we can explain that physical objects are made of pixles, that physical objects are not themselves a fundamental kind in our ontology. However, the further question about how to translate our thought and talk, which comes in a physical object vocabulary, into one that includes only terms that map onto things individuated as they are in our fundamental ontology, is beyond the scope of the project — *construed simply as an ontological one*. That these are separate questions can be seen by noticing that the interpretive questions presuppose answers to the ontological ones.

Finally, someone might point out that pixels lack clear identity conditions. I think this is an interesting issue

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4 That this objection cuts both ways was an idea presented by Dr. Benjamin Jantzen in his "Symmetry & Ontology" seminar, conducted in the Spring of 2013 at Virginia Tech.

for phenomenal parts theorists, regardless of the kinds of phenomenal parts they posit. Questions that might be posed to a pixelated world theorist include "do they persist over time?", "can the same pixel have different colors at different times", and "can one pixel exist in two perspectives at the same time?". These may or may not count as genuinely meaningful. If they do, they and other related questions might be answered in different ways by different versions of the theory. The reason I bring this up, however, is to point out that even if they are not genuinely meaningful questions, this does not need to affect the proposed reduction in a substantive way. The versions of the theory we are interested in say that when a complex of pixels has certain properties, it simply counts as a physical object — and the conditions on counting as a physical object, in this case, might simply be indifferent to the identity, through time for instance, of the pixels involved in the complex.[5]

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[5] This question, about how to individuate pixels, has been posed to me both by Dr. Kevin Coffey and Dr. Benjamin Jantzen.

4. In What Way Intuitive

With a toy species of the phenomenal parts theory in hand, I turn your attention to the first reason for taking interest in it. In this section I will show how the phenomenal parts theory follows from the conjunction of a number of theses, implicit in the ways we ordinarily interpret our world.

Consider first how the character of perceptual experience is ordinarily understood. Here, I have in mind the simplest properties of what we confront in experience. Circularity and yellowness are examples. At every perspective we take on the world, we take ourselves to be presented with instances of simple properties like these. This intuition is well illustrated by how we reason about paintings, photographs, and other forms of visual representation. For instance, the classically trained painter, if he is any good, paints what we see. From a given point in a room, at some given time, a painter with great talent and a hyper-realist penchant will paint various colored shapes that present the room to us — *just as it is*. With a highly accurate painting we will say, "it looks just as the thing itself looks" or more colloquially "it seems as if I were there". Notice, however, that I do not paint a room more accurately if I paint everything in it without considering from what angle and from what time I paint it. Say, for

everything circular, I simply paint a circle; for everything yellow, I simply paint with yellow paint. This could get me a grossly inaccurate representation of the room — in the sense that it would not "seem to me as if I were there". When one paints, one paints something *from a perspective*. The point is that for all practical purposes, we treat the properties that we are confronted with from a given perspective as unique.

Deferring to another example to help bring out the point: there is a straightforward sense in which you see two lines that "come together at the top", even while you are facing long-wise down parallel railroad tracks. We take this very seriously when we reason about how to paint the image of something. Implicit in our taking it seriously is a view about the properties we are confronted with in perceptual experience. This is the view that the properties we confront in perceptual experience vary with our spatio-temporal perspective on the world. For example, we think that in varying our perspective, we affect what shapes we confront (say, of relatively uniform color).

> Thesis 1: What I am confronted with in experience varies as my perspective varies on some part of the world.

Consider next the way in which we ordinarily think of macro-scopic objects. Here, I have in mind the sorts of

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things we encounter everyday, such as tables and pieces of paper. We ordinarily think of these objects as having observationally invariant intrinsic properties. That is, we do not think that the properties of these objects, such as shape and color, depend in any significant sense on how they are being observed. When I get up and move around my office, I do not think that the shape of my table is distorted in any significant sense.

> Thesis 2: Macro-scopic objects do not vary as one's perspective on them varies.

Consider finally what sorts of things we ordinarily take ourselves to be confronting in perceptual experience. Where visual experience is concerned and under normal conditions, these are whatever are in our line of sight. When I walk into my office, what I take myself to be confronting in perception are the contents of my office. These include my table, my chair, and a copy of *The Cambridge Companion to Berkeley* among many other things. I might miss some of the physical detail, but I see parts of these things. I see the cover of the book, for example. Its shape and color are among the things I confront as I walk over to my desk to take a seat.

> Thesis 3: What I am confronted with in experience are macro-scopic objects.

My purpose here is not to show that we think inconsistently. It is to point out why philosophers think that we think inconsistently. We see this kind of "naive realism" as problematic, because we come to the table with certain presuppositions. What I mean to draw attention to is that you might think that these three claims are in tension with one another. For example, you might have in mind something like this:

1. $(\forall x)(Cx \rightarrow Vx)$
2. $(\forall x)(Mx \rightarrow \sim Vx)$
3. $(\forall x)(Cx \rightarrow Mx)$

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4. $(\forall x)(Cx \rightarrow (Vx \ \& \ \sim Vx))$

Where "C" means "is something I am confronted with in experience, "V" means "varies as my perspective varies on some part of the world", and "M" means "is a macro-scopic object."

On this construal, if we are confronted with anything in perceptual experience, those things must both vary as one's perspective varies and not vary as one's perspective varies. This presents a serious problem for our ordinary conception of reality (for examples of philosophers who understand the problem along these lines, see: Hume, 1995, sec. XII.1; Reid, 1983, pp. 178—179; Russell, 1912, pp. 8—11). To achieve consistency, we would have to give up on one of the three theses. However, it would be a mistake to think that we needed to construe the theses in this way. For this reason, it would also be a mistake to think that

we are forced into giving up on one of them in order to achieve consistency. The point is that these mistakes arise from a failure to account for an unjustified ontological presupposition that we bring to bear in interpreting them.

Most of the ontological positions that we know and love incorporate this presupposition, if only implicitly. What I have in mind here is the presupposition that physical objects and properties* do not reduce to the kinds of things we confront in perceptual experience. Note that some philosophers do not believe there exist any of the macro-scopic objects we considered above (see Berkeley, 2008; Foster, 2003, 2008).[6] They need not worry us, as they clearly have no hope of rescuing all of these theses. Others believe that the macro-scopic objects we considered are completely distinct from the kinds of things we confront in perceptual experience (e.g., Nicolas Malebranche; see Schmaltz, 2009). Again, if what I am really confronting is the interior of my soul, or for that matter anything else besides macro-scopic objects, then I cannot rescue all of these theses. For this reason, this second sort of philosopher need not worry us. Finally, I come to the position of the day. Occupying it are the many philosophers who believe that everything that exists is physical. With this view, there is a bit more wiggle room.

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6 I have my doubts about whether this is the right way to interpret Berkeley's position, but such an interpretation can certainly be given.

They can hold onto any of the claims above. Though, it is still not atypical for them to renounce thesis 3.[7] They introduce, in its stead, theses like: what we confront in perceptual experience is some causal intermediary, such as light, or neurological activity, or perhaps even the epiphenomenal results of neurological activity.

The importance of this presupposition is that if it is denied, then consistency is possible in the absence of revision. How this works is made evident by features of certain phenomenal parts theories. For example, on the pixelated world theory, I confront a group of pixels at each perspective that I occupy. As I move from perspective to perspective, I confront groups of pixels with different properties. Starting from a perspective that counts as several feet from my circular table, I am presented with a group of pixels in the form of an oval. As I pass from perspective to perspective, approaching the table, I am confronted with groups that have an ever increasing circularity. At the limit, when I am right overhead and looking down upon my table, I am confronted with a circular group of pixels. It is this variation in the phenomenal parts of the table that allows us to hold true the first thesis. That is, the pixelated world theory is consistent with the claim that: *what I am confronted with in*

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7 The disjunctivists we will consider below are best characterized as biting the bullet on the first thesis. There are few examples of anyone biting the bullet on the second. Though Andrew MacGregor has recently proposed such a view (MacGregor, 2012).

experience varies as my perspective varies on some part of the world.

Now consider the second thesis. Here, what is required of the phenomenal parts theory is that it accommodate a sense in which my table is circular throughout this perceptual exercise. It does this by divorcing the notion of *physical* shape from the notion of shape that is relevant in in the first thesis. That is, the circular shape that I confront at the end of this exercise is not the same sort of thing as the circular shape of the table. To say the the table is circular is to say something much more complex. The point, however, is that it is not to say anything to the contrary. Quite the opposite. When I say that the table is circular, part of what makes this true is that there is a group of pixels which takes on a circular form in a certain perspective. It is also to say that there are groups of pixels, from other perspectives, which take on ovular forms. When we draw this distinction between *physical* and *phenomenal* shape, we no longer have any reason to reject the claim that: *macro-scopic objects do not vary as one's perspective on them varies.*

Bringing in the third thesis is now simple. Because the phenomenal parts theory says that macro-scopic objects are nothing over and above complexes of these pixels, and because on this view these pixels are what we confront in perceptual experience, we get for free the claim that: *what*

I am confronted with in experience are macro-scopic objects.

Again, not everyone will find this a compelling reason to adopt the phenomenal parts theory. They might object that these common sense intuitions about reality and perception are no guide to what we ought to think is metaphysically the case. Thus, ontologies that make them consistent with one another should not be given any special status. My response to this is that this is fine. I have offered no argument to that effect. What I have presented in this section is meant only to convince those with independent reasons for favoring such a constraint. However, even if we determine that common sense intuition is no guide to what we should think is metaphysically the case, it would still be a noteworthy feature of common sense intuition that it implicitly commits us to a phenomenal parts theory.

Alternatively, an objector who determines that intuitiveness is important might charge that the view I have presented here is contrary, rather than consistent with, our intuitions. Such an objection would be misguided. First, this objection pulls us beyond the scope of the paper. My aim here is only to show how this ontology is needed to make cosistent a certain set of common intuitions. Though, I do think this objection serves to highlight a feature of appeals to intuition that often goes unnoticed. This is that every metaphysical theory being

seriously considered at the moment is contrary to intuition — *in this sense*. This is not surprising. Non-philosophers might simply not have beliefs about which fundamental ontology is the right one. In the absence of a reason to think that appeals to intuitions are all cut from the same cloth. A potential upshot is that the intuitions that make a difference in this case are our everyday intuitions, not those warped by years of philosophical training.

It might also be objected that the theses under consideration are in fact contrary to the way we ordinarily interpret our world. The one to which some philosophers will surely object is the third. Consider both the dualist's and the physicalist's "indirect realism". These will be familiar to those instructed in the wake of the western philosophical tradition. For the thoroughly indoctrinated, they have even achieved the status of "intuitive" and "obvious". Daniel Dennett acknowledges this bias even as he attributes such a belief to every day folk: "there seem to be qualia, because it really does seem as if science has shown us that the colors can't be out there, and hence must be in here" (Dennett, 1992, p. 372). The point is that Dennett's intuitions about other peoples' intuitions are misguided. That the third thesis is intuitive to non-philosophers has good experimental philosophical research on its side, and that is all that matters (see, e.g., Sytsma, 2010, who also refers to the same quote of Dennett's).

Finally, someone might wonder whether I am presenting them with a false dichotomy. They might search after an ontology that both accepts the presupposition in question and also is able to bring these theses together. I want to assure them, however, that such an ontology does not exist. Allow me to explain. If the kinds of things that we confront in perceptual experience reduce to the physical kinds of things, then the three theses are incompatible. This is because Thesis 3 would commit us to confronting something round, when we confront a round table. It is also the case that for many perspectives I will need to be confronting something ovular, if theses 1 is to be vindicated. There is nothing in the ontology in question that lets us make such a claim. If I really am confronting something circular (by thesis 2 and 3) and something ovular (by thesis 1), and our ontology contains only physical things (not things to which they reduce, in the requisite way) then we are committed to a contradiction. That is, we are committed to the existence of things that are both circular and not circular at the same time. Reducing the physical to some other kind, other than the kind we confront in perceptual experience, will not do either. This is because, either this other class reduces to the class we confront or it does not. If it does, then it is simply a phenomenal parts theory. If it does not, then we cannot confront the physical in experience. Reducing the kinds of things we confront to something distinct from the physical will likewise not do —

and for the same sort of reason. It would make it impossible for us to confront physical objects in perceptual experience.

5. A Framework For Disjunctivists

Intimately related to theories about what we confront in perceptual experience are theories about perception itself. In this section, I want to lay out briefly what a theory of object perception might look like for a phenomenal parts theorist and explain why we should care about it. The version of the phenomenal parts theory we have been working with, the pixelated world theory, gives way quite naturally to a disjunctive theory of object perception (The "naive realism" of Michael Martin is what I have in mind. See, for instance Martin, 1997, 1998, 2002, 2004, 2006). I will give a sketch of how this follows as well as explain why this version of disjunctivism is immune from significant criticisms that have been leveled against similar views. Thus, it inherits whatever, in the absence of the aforementioned criticisms, are the independent merits of such a theory.

Of primary concern in theories of object perception are three types of perceptual experience. These are illusions, hallucinations, and veridical perceptions. I will start off with veridical perception. Pixelated world theorists can understand veridical perception as the confronting, in experience, of a cluster of pixels that count as an objective feature of the world. This last clause will undoubtedly strike many as opaque. Exactly what it will be

for some pixel to count as an objective feature of the world will have to do with the extrinsic relations that it bears to other pixels. I want to narrow in on particular features of reality in order to illustrate what I have in mind. I will focus on rigid physical objects, such as disposable coffee cups. The relations that a pixel would have to bear to other pixels, in order to count as a rigid physical object, might be best characterized using concepts from group and/or symmetry theory.[8] I think this is a good suggestion and I will illustrate how I think it is supposed to work.

When I sit down at my desk and look out at my coffee cup, I confront a cluster of pixels that has what we might call a "paradigmatic coffee cup shape". This cluster of pixels counts as part of a coffee cup (i.e., as part of a complex of pixels that counts as a coffee cup) because it is appropriately related to other clusters of pixels. As I stand up from where I am seated, the part of the coffee cup that I now confront is in a lower part of my visual field. When I sit back down, the inverse occurs. If I get up and then move two feet to the left, the same perceptual outcome obtains as when I move two feet to the left and then get up. Rigid objects, like this cup, exhibit systematic perceptual symmetries such as these. They also exhibit

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[8] The idea of using group and/or symmetry theory as a way to characterize what it means to be a rigid object was presented by Dr. Benjamin Jantzen in his "Symmetry & Ontology" seminar, conducted in the Spring of 2013 at Virginia Tech.

systematic symmetries when physically interacted with in certain ways. Had I stood up and a "paradigmatically coffee cup shaped" group of pixels stayed in the same portion of my visual field, I would probably not want to say that these pixels are part of a rigid object. If I reached out and was unable to interact with it in the normal way such as by grasping it and rotating it, I will instead be inclined to call this an hallucination. In fact, this is how our pixelated world theorist can understand what it is for something to be an hallucination. When one confronts a group of pixels that bear the right extrinsic relations to other pixels, one confronts an hallucination. Spelling this out in detail is beyond the scope of this essay. However, I expect the point is clear enough for present purposes. In a veridical perception, one confronts a complex of pixels that bear objective-part-of-the-world extrinsic relations to other pixels. In an hallucination, one confronts a complex of pixels that do not bear objective-part-of-the-world extrinsic relations to other pixels. In this sense, the objects that we confront during moments of veridical perception are different than those objects that we confront during moments of hallucination. It is this sense in which a "disjunctivist" theory of perception naturally follows from species of the phenomenal parts theory. Though, it departs from disjunctivism, as traditionally conceived, in an important way.

What unites disjunctivists is that they do not think that veridical perceptions and hallucinations are mental events of the same basic type. This does not mean, as some have suggested, that there can be nothing at all in common between these mental states.[9] Many disjunctivists are happy to admit that there is a common feature (See for instance McDowell 1987, pg. 157). The problem with the common feature that they identify, however, is that it is entirely cashed out in terms of effects on the perceptual subject. What is the same between the two cases is only "how things seem to the subject" (ibid). What we know about what we hallucinate is only that it is introspectively indistinguishable from the corresponding things which we veridically perceive. This characterization is entirely negative. It tells us something about the subject's causal and epistemic relationship with their mental state, but nothing about the state itself.

In cases of veridical perception, as well as in the corresponding cases of hallucination, behavioral effects can be the same. Additionally, if the subject believes that their perception is veridical in both cases, and some action A is justified by that belief, then they will in both cases be justified in performing A. Epistemologically, this is related to the point that hallucinations can be indistinguishable from their corresponding veridical perceptions, at least from the point of view of the

9 Putnam, 2001, p. 152

perceptual subject. Because they are indistinguishable, the perceptual subject knows what it is like to have a veridical perception of something, say of a churchyard, even if they have only hallucinated a churchyard — and vice versa. So, it looks like there are a litany of reasons to think that the same sort of thing is confronted in both cases — and thus to reject disjunctivism.[10] On top of this, it has been pointed out that the disjunctivist theory leaves us without a plausible candidate object of hallucination. If there is nothing to point to, this leaves the disjunctivist with the unattractive view that there is literally nothing that we confront in cases of hallucination.[11] Another way of putting this same point, which is perhaps more charitable to the disjunctivist, is that they are at best only ever able to characterize hallucinatory content on analogy with veridical perceptions. Their only positive account is "that it is like what it is not" (Dancy, 1995, p. 425). From an ontological point of view, disjunctivists fail to offer us the other half of their story. They fail to give a positive account of what we confront in episodes of hallucination.[12]

There is yet another dimension to the common-kind problem that has not been brought out in this discussion. Recall the theses I explicated in the fourth section. Unlike the

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10 These points are laid out in careful detail in Sturgeon, 1998
11 See Smith, 2005, Chapter 8
12   These criticisms are all covered in Crane, 2011 and; Soteriou, 2010

bullet the indirect realist has to bite, the disjunctivist must claim that there is literally nothing we confront that varies from perspective to perspective, except for ordinary macro-scopic objects (which do not vary in the requisite way). This leaves them sorely in need of an explanation for a number of phenomena, such as the properties of visual representation, including those of painting and photography. Appeal to the entirely negative thesis that it is just a bizarre feature of human psychology cannot help them either. This would be only to restate the question as an answer to itself. We want to know what bizarre feature it is — and surely, *ex hypothesi*, it cannot be that there is something I am confronted with in experience that varies as my perspective varies on some part of the world.

What is striking about the kind of disjunctivism that follows from the pixelated world theory is that it naturally bypasses all these criticisms. I showed in the third section how it allows them to hold onto thesis 1. This is because it properly disambiguates our shape and color predicates. The common-factors in both cases are the clusters of pixels that the perceptual subject confronts at any given perspective. You might recall from above the platitude that if you have hallucinated a plane flying by, then you know what it is like to have a veridical perception of a plane flying by — and vice versa. In abstraction from the extrinsic relationships that make the difference for whether they are really parts of physical

objects, they can be as indistinguishable as you like. What allows us to explain similar behavioral effects just is the perceptual-content externalism implicit in the position being advanced. To explain the same behavioral effects, we can simply appeal to similar neurological behavior, if that is in fact the most plausible contender. From the perspective of the content externalist, it would be a mistake to conflate the perceptual and the causal relations in question. It is conceivable, after all, that I can have a veridical perception of the dark side of Jupiter, even if I am in no way sensorily connected to Jupiter in the normal way. I take this to be an obvious point, but one that is easily overlooked (Martin addresses it in his 2004 article). How do we imagine that God, when we imagine God, manages to check up on us all hours of the day? Surely he doesn't need to make use of any sensory organs or any causal pathways. This is far from philosophical fancy. In addition to the many people who believe in God, there are also those who believe in "out-of-body" experiences — and given that their beliefs do not strike us as non-sensical, though they are perhaps unbelievable, it would be nice to be able to give an account of what they believe in.

Veridical perceptions and hallucinations can have the same causes and can be as objectively and introspectively indistinguishable as you like, and in a way that is entirely compatible with this theory. This eliminates any reason to think that they need to diverge when it comes the

epistemological properties in question. We also have a positive account of pixels as well as of the differences between the objects of veridical perceptions and the objects of hallucination. This is far from relying on locutions like hallucinations are "like what they are not". It is not one bit ad hoc. It offers up entirely plausible candidates for objects of hallucination at no cost. Additionally worth noting is that there is no explanatory gap on this model. This nice feature of the phenomenal parts theory being that phenomenal content does not have an explanatorily problematic status. It is simply and intelligibly built into the theory "from the ground up".

Now, you might remember that I still owe you a theory of perceptual illusion. You might even be tempted to object at this point that the way the pixelated world theory rescues our naïve realist leaves her without any way to account for perceptual illusions. Take the example of a stick in water, creating the illusion that it is bent. Because the "bent stick" pixels are part of the straight stick currently submerged in my glass of water, I have no way to distinguish cases of veridical perception from cases of perceptual illusion. That is, when I see the seemingly bent stick, what I see is the world as it really is — not something illusory. However, this sort of reasoning is misguided. Though perhaps there are other ways to give an account of illusion on the pixelated world theory, one way that suggests itself is this. Recall the notion I employed,

in the above coffee cup example, in order to explain what was going on in hallucinations. This was the notion of a cluster of pixels having qualities "paradigmatic" of some real type of object. We can put it to work here as well. In this case, we will have properties of pixel groups that are paradigmatic for a type of objective feature of reality. For example, groups of pixels that form "bent" lines may be paradigmatic of bent sticks. So in certain instances when one is confronted with a group of pixels that form a bent line, but which are part of a straight stick, one is confronting an illusion. This is what is meant by illusion. That the perceptual subject confronts something that is phenomenally paradigmatic of something that it is not. The take home message here is just that hallucinations and illusions can be made sense of, and in such a way that does not preclude our having direct perceptual experience of mind-independent objects.

You might have noticed that this account of object perception, at its core, contains no epistemological dimension. An objection might be given to the effect that there is something wrong with this theory for that reason. However, how we arrive at information by confronting an object in perceptual experience is a related, but ultimately different sort of issue. To illustrate this, notice that both hallucinations and illusions are conceivable for which their perceptual subject believes them to be non-veridical. That the subject believes his or

her perceptions to be non-veridical, when in fact they are, is independent of whether the subject is experiencing an illusion or an hallucination. This is true even if the property that we identified in the analysis of illusions and hallucinations, their being paradigmatic of some sort of real object, is a response dependent property. There are both borderline and everyday examples that illustrate the independence of object perception from its epistemically essenced cousin. In cases of blindsight, there does not appear to be any object that the subject is confronting in perceptual experience. In spite of this condition, if the subject must make a guess between which direction a line they are facing is running, they respond correctly more than half of the time (Weiskrantz, 1986). Alternatively, there are countless cases in which we confront something in perceptual experience, and yet fail *to perceive* that thing. On a regular basis, I find myself looking through my apartment for my keys. When I find them, it is often the case that they are in a spot that I have already checked. That is, I looked right at them but *did not see them* (Compare other examples given in Dretske, 1988, p. 18; and also Siegel, 2006, p. 430).[13]

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13 McDowell's Perceptual Disjunctivism concerns perception of *facts* and not of *things* (1994). Because of this, his view is perhaps best characterized as about the "epistemically essenced cousin" of the phenomenon under investigation here. Even, though I take these to be separate phenomena, they appear to be connected. Furthermore, there are a number of parallels between "disjunctive" views about each one.

To be clear, I am not positing objects of perception for which we are infallible as perceivers. The truth of the phenomenal parts theory may be completely orthogonal to giving an account of how a subject assesses, or should assess, claims like: "there is a physical object in front of me" — or — "I am not dreaming." Furthermore, and for the same reason, it is totally compatible with standard skeptical scenarios. This might be important for two reasons. First, we might want our ontologies to respect our intuitions about what is and what is not intelligible and/or possible — and skeptical scenarios are *prima facie* both intelligible and possible, even if only as limit cases.[14] Second, we might have Sellarsian worries about mythical givens weaseling their way into our theory. I will not recount Sellars' argument except to say that there are serious worries one can raise about any view on which we are infallible about the properties of our sense contents (Sellars, 1963). Some theorists have presented ontological positions that are similar to those referenced here and for which perfect epistemic access, to that which presents itself to you in perceptual experience, plays an important role in their view. Our ability to verify claims is central to A. J. Ayer's view, for example, so it makes sense for him to have sense-contents play this dual role. It is his view, but not mine, that " … we know that it must be possible to define material things in terms of sense-

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14 This point was suggested to me in conversation by Dr. Tristram
   McPherson.

contents, because it is only by the occurrence of certain sense-contents that the existence of any material thing can ever be in the least degree verified." (Ayer, 1936, p. 53) What I have presented implicates no view about whether we have perfect epistemic access to anything.[15]

Finally, it might be objected that there are other reasons for not endorsing disjunctivism. Thus, the phenomenal parts theory only inherits the virtues of what is still a fatally flawed theory. I can only respond by acknowledging that this is an epistemic possibility. I certainly do not have the space to consider every objection to disjunctivism nor any of the many arguments for it. All I claim to have done is distilled the common-factor from a number of the strongest arguments against the view and shown why phenomenal parts theorists are well positioned to respond to them.

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15 This objection was suggested to me in conversation by Dr. Ruth Millikan.

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