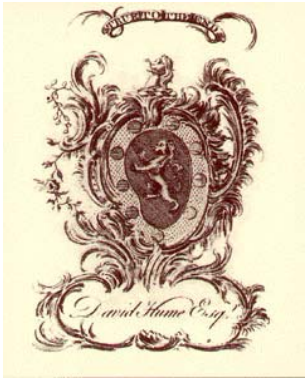

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1. Inconsistency in Reid

We can make a good *prima facie* case for the inconsistency of Reid's theory of perception with his rejection of the Ideal Theory. Most scholars believe Reid adopts a theory on which the immediate object of perception is a physical body. Reid is thought to do this in order to avoid problems generated by the veil of perception in the Ideal Theory, a conjunction of commitments Reid closely associates with Hume and Locke. Reid explains that the Ideal Theory "leans with its whole weight upon a hypothesis. . .[t]hat nothing is perceived but what is in the mind which perceives it" (I 96a; B 4).[1] Reid attributes to the Ideal Theory thesis (1):

(1) No immediate objects of perception are mind-independent.

Let's leave (1) at this level of generality for the time being and show how Reid's rejection of the Ideal Theory conflicts with his theory of perception.

Reid's attempt to banish perceptual intermediaries in his analysis of *visual* perception does not obviously succeed. This is because he recognizes that what he dubs "visible figures" are the immediate objects of our visual systems. With sight, "we perceive originally the visible figure and colour of bodies only" and not, for instance, their extension (I 185a; B 171). It seems that visible figures are perceptual intermediaries. At least, they don't share

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the ontological status of middle-sized dry goods. This indicates that the objects of acts of visual perception are actually visible figures. So, interpreting 'originally' as meaning 'immediately,' Reid affirms that

(2) The immediate objects of visual perception are only ever visible figures.

Reid's repudiation of the Ideal Theory in (1) and the nature of his account of visual perception in (2) seem to be in conflict. Specifically, they are inconsistent with the following description of visible figure:

(3) Visible figures are not mind-independent objects.

The secondary literature on Reid's theory of perception that takes Reid to endorse a type of direct perception—the thesis that the objects of immediate perception are mind-independent—also takes Reid's theory of direct perception to apply to all sense modalities. But if Reid is taken to endorse a direct theory of perception for all our sense modalities, then Reid cannot deny (1) and affirm both (2) and (3). Were he to do so, his theory of visual perception would be structured in a radically different way. In addition to differing sharply with received wisdom, such a hybrid theory—on which touch is direct and vision indirect—is at least counterintuitive, and may be philosophically problematic.

Reid did not fully appreciate this conflict, though he notices that vision presents unique difficulties for his overall theory of perception. He does analyze the nature of the representational relations between visible figures, which he occasionally calls "perspectival appearances," and what he calls "real" and "tangible" figures, i.e., the surface properties of physical objects.[2] The result of this analysis, Reid's "geometry of visibles," is used to show that the faculty of visual perception can give us reliable information about three-dimensional objects.[3] Unfortunately, the implications of Reid's geometry of visibles and his implementation of the notion of visible figure have not been examined in the context of Reid's theory of perception. They have instead remained a curiosity in the history of geometry.

This state of affairs isn't surprising because Reid's analysis of visual figure and his theory of visual perception are a royal mess. The key question for resolving this conflict is: What is visible figure? In other words, what properties does visible figure possess? Only if an answer to this question enables Reid to differentiate visible figures from the Ideal Theory's ideas will he evade the puzzle I've articulated. However, it is not enough to avoid the puzzle for Reid to describe something that is sufficiently different from impressions and ideas, but fails to exist or fails to explain the requisite visual phenomena. We must also have some independent reasons for thinking that the thing (or property or entity) to which Reid's term 'visible figure' allegedly refers actually exists.

One might ask at this point, "Does Reid leave the matter of visible figure this wide open? Surely he is aware of the problem, isn't he?" In answer: Yes, and, strangely, Yes. Reid's awareness of the problem doesn't prevent him from leaving the ontological and perceptual status of visible figure utterly opaque. He passes the buck by asking, "To what category of beings does visible figure then belong? I can only, in answer, give some tokens, by which those who are better acquainted with the categories, may chance to find its place" (I 144b; B 98).

In answer to the question "What is visible figure?" I will set out several textual constraints that Reid implicitly places on visible figure. Then I will make a tripartite distinction between types of visible figure. I will argue that based on available texts, the most plausible reconstruction of Reid's theory is that visible figure is a relational or relativized property of our eyes and mind-independent objects. In the course of explaining this type of visible figure, which I will call "seen figure" to differentiate it from its counterparts, I hope to show that Reid's analysis is not *ad hoc*. I'll contend that we have independent reasons drawn from perceptual and phenomenological data to posit some such relational or relativized properties.

Answering this question, however, falls short of fully clarifying Reid's account of visible figure. To do this we must answer further questions: Are we aware of visible figure? If so, how? And: Where does this leave Reid's theory of non-inferential perceptual knowledge? I will argue that visible figure can be (and sometimes is) the intentional object of a conscious mental state. Nonetheless, we rarely perceive visible figure, i.e., we rarely conceive of and believe in visible figure. I will briefly explore Reid's theory of non-inferential perceptual knowledge by examining Reid's analysis of Hume's perceptual relativity argument. Reid's theory of non-inferential perceptual knowledge can be safeguarded from the troublesome status of our cognitive relationship to visible figure. Despite its success on several fronts, Reid's account of visible figure will in the end retain an unhealthy measure of metaphysical mystery.

2. "Perception"

In order to proceed effectively we need a grasp of what's involved in the process of perception according to Reid. A complete account of perception explains the physical, qualitative and cognitive states that attend perceptual events, but Reid's use of the term "perception" is equivocal. When speaking strictly Reid often defines it thus:

> [W]e shall find in [perception] these three things: First, Some *conception* or notion of the object perceived; Secondly, a strong and irresistible conviction and *belief* of its present existence; and, Thirdly,

> That this conviction and belief are immediate, and not the effect of reasoning. (E 258a; cf. E 326b and I 183a; B 168)

Let's call this narrowly construed form of perception, on which to perceive X is to *conceive of* and *believe in* X, "perceive$_{C\&B}$". I single out this definition of "perception" because there are other uses of the term (discussed below) with which we do not want to confuse this one—his primary, though eccentric, definition.

I need only say a word about the components of perception$_{C\&B}$ here. Reid distinguishes "bare" conceptions and typical conceptions. Bare conceptions "can neither be truth nor falsehood" whereas, evidently, non-bare conceptions are normative in some sense—they can be correct or incorrect. Beliefs are distinct from both forms of conception since beliefs must have propositional content and must be true or false. Reid says that, while granting that "belief" doesn't "admit of a logical definition," nonetheless, "Belief is always expressed in language by a proposition, wherein something is affirmed or denied" (E 327b).

Reid is aware that perceiving$_{C\&B}$ isn't the full story. There are also qualitative states within perceptual events, sensations, which are produced by the interaction of a physical object, one's sensory systems, and one's mind. To use Reid's term, sensations "suggest" conceptions and beliefs about external objects, even though there is no resemblance between the object and our mental states (I 121-2; B 59-60). Several Reid scholars, including George Pappas and William Alston, argue that Reid must conjoin sensations and their suggestion relations to perceptual$_{C\&B}$ states in order for Reid to tender a complete theory of perception. In Alston's words, "Perception essentially involves sensory awareness."[4] I happen to believe that imposing this demand upon a theory of perception is mistaken. But I won't enter into the general reasons for this now because Reid himself clearly indicates that the role of sensations in visual perception—our sole concern here—differs markedly from the role of sensations in other sense modalities.

In addition to the cognitive and qualitative aspects of perception, Reid discusses the physical process. In this context he mentions the curious role of visible figure. Describing the physical aspects of perception, Reid says that "there are certain means and instruments, which, by the appointment of nature, must intervene between the object and our perception of it" (I 186a; B 174). The nervous system transmits a physical impression from the organ to the brain. For most senses the impression then causes a sensation in the mind through an unknown process. But he adds, "The perceptions we have, might have been immediately connected with the impressions upon our organs, without any intervention of sensations. This last seems really to be the case in one instance—*to wit, in our perception of the visible figure of bodies. . .*" (I 187b; B 176, my emphasis). Visible figure is "immediately connected with the

impressions upon our organs" because the material, retinal impression directly causes in us "perception of visible figure." In this way vision is unique because sensations are unnecessary for *visual* perception.

3. Constraints on an Account of Visible Figure

In this section we'll identify and describe the following six constraints Reid places on an account of visible figure. Visible figure must:

(a) be capable of being represented by figures cast upon the inner surface of a sphere;

(b) be interderivable with tangible figure;

(c) be mind-independent;

(d) be regularly suggested by material impressions on the retina;

(e) regularly suggest our perceptions$_{C\&B}$ of bodies; and

(f) be something of which we can be perceptually aware.

We need to state such constraints because Reid is largely silent on the precise metaphysical and perceptual status of visible figure.

What little Reid says directly about visible figure occurs in his geometry of visibles, where he proposes a thought experiment. Imagine an eye placed at the center point of a sphere, able to rotate 360° in any plane containing the center. The most salient feature of this experiment is that this eye, "perceiving only the position of objects with regard to itself, and not their distance, will see those points in the same visible place which have the same position with regard to the eye, how different soever their distances from it may be" (I 147b; B 103). This eye is not habituated by the sorts of experiences that habituate our association of visible figures with the distance, depth, and three-dimensionality of tangible figures. Reid explains the nature of the visible figures seen by this hypothetical eye:

> [E]very visible figure will be represented by that part of the surface of the sphere on which it might be projected, the eye being in the centre. And every such visible figure will bear the same ratio to the whole of visible space, as the part of the spherical surface which represents it, bears to the whole spherical surface. (I 148a; B 104-5)

Discrete patches on the inner surface of the sphere represent visible figures. This marks our first constraint: visible figure (a) must be capable of being represented by figures cast upon the inner surface of a sphere.

Reid argues, against Berkeley, that with knowledge of the tangible figure and of the position of one's eyes relative to the object, one can deduce the shape of the visible figure.[5] Reid explains that "the visible figure of a body may, by mathematical reasoning, be inferred from its real figure, distance, and position, with regard to the eye." Visible figure contrasts with what Reid calls "tangible" or "real figures," i.e., the facing surfaces of physical objects (E 303b). Given facts about the dimensions of a real figure and information about its angle and distance from an eye, Reid's geometry of visibles allows the derivation of the dimensions of its visible figure. (For the record, Reid believes the derivation can work in the other direction as well, saying, "in like manner, we may, by mathematical reasoning, from the visible figure, together with the distance of the several parts of it from the eye, infer the real figure and position" [I 193b; B 188].) Visible figure must have geometrically describable properties in order to permit the interderivability central to Reid's discussion of visible figure. I will refer to this constraint as (b) interderivability, specifically the interderivability of visible figure from real figure coupled with facts about its distance from the eye. Interderivability between visible figure and real figure provides evidence that an object whose visible figure we see and an object whose surfaces we touch are in fact unified—a single object is perceivable by both senses (I 144b; B 98–9).

Reid continues by explaining that visible figure is external and independent of minds by noting what would follow if it weren't: "[I]f visible objects were not external, but existed only in the mind, they could have no figure, or position, or extension" (I 155b; B 119). Of course, Berkeley would counter that visible figure cannot be figured unless it is external, which is to say that Reid's theory of perception stands in contrast to Berkeleyan idealism. Reid also writes,

> When I use the names of tangible and visible space, I do not mean to adopt Bishop Berkeley's opinion, so far as to think that they are really different things, and altogether unlike. I take them to be different conceptions of the same thing; the one very partial, and the other more complete; but both distinct and just, as far as they reach. (E 325a)

If visible figure is nothing other than a physical object conceived of in a certain way, then visible figure is (c) mind-independent.

Concerning "suggestion," a technical term Reid adopts from Berkeley, Reid explains that an awareness of a visible figure is suggested by a material impression on the retina (I 147a; B 102). So our awareness of visible figure is (d) suggested by retinal impression, and not by sensation. Furthermore, when I see a visible figure, my mind is drawn to a conception and belief of an external

object or quality (I 135a–b; B 81). Reid says, "Visible figure, therefore, being intended by nature to be a sign, we pass on immediately to the things signified" (I 147a; B 102). Experience has taught us that we are warranted in correlating visual figures with real figures "every hour and almost every minute of our lives" (E 304a). Hence, visible figure (e) suggests perceptions$_{(A,B}$ of physical objects.

Passages quoted thus far should make clear the fact that visible figure is something of which we can be aware. Reid refers to "the perception of visible figure" (I 187b; B 176); he says, "we perceive originally the visible figure and colour of bodies only" (I 185a; B 171), and so on. Thus (f)—that it is something of which we can be perceptually aware—is a constraint on an account.

(a)–(f) imply that visible figures are quite different than the ideas of the Ideal Theory. For example, (c) states that visible figures are mind-independent, and (b) implies that visible figures bear a much closer relationship to physical bodies than do ideas. Now we need to find something—anything—that can bear the weight of these constraints. To be sure, whatever property or entity that will possess (a)–(f) will be metaphysically odd.

4. Analysis of Competing Alternatives

In order to motivate and make way for my account of visible figure I will first evaluate competing alternatives on the basis of their textual merit and their ability to comply with the constraints.

Visible Figures as Non-Existent Objects

This is suggested in passing by Lorne Falkenstein, according to whom Reid is, or rather, "would appear to be," he says, "forced to admit that our beliefs in visible figures are beliefs in something that does not actually exist in the external world, though they serve as signs for the things that do so exist."[6] Since he seems to contrast things that "exist in the external world" with visible figure as he takes it, I infer that Falkenstein is suggesting that visible figure has status as a non-existent, fictional object. One hurdle in attributing this to Reid concerns whether or not Reid has any place for fictional objects such as this in his ontology. Though Falkenstein does not delve into the matter, Reid—surprisingly, given his common-sense commitments—does indeed endorse a form of Meinongianism according to which we can coherently predicate of truly non-existent objects.[7]

Despite the removal of this obstacle, though, we have scant reason to think that Reid endorses such an account *of visible figures*. We have no textual evidence to think that his Meinongianism about fictional objects informs

his discussion of visible figure. And clearly most of the constraints Reid puts upon visible figure cannot be secured if visible figures are fictional objects for they would thus have no geometrically describable features, no causal powers and we would not be capable of being perceptually aware of them.

Falkenstein obliquely claims that Reid is "forced" into this position, not that Reid explicitly endorses it. While I understand his difficulty in finding other ways to describe visible figure, when marshaled as sufficient evidence for a Meinongian construal of visible figures I find this unpersuasive. Falkenstein presents no philosophical reasoning on behalf of his admittedly brief suggestion other than this abbreviated argument from elimination. Thus, we should only adopt this proposal as a last resort, and there are many options yet to consider.

Visible Figures as Retinal Impressions

We know Reid believes visible figure is external to immaterial minds. Impressions on a retina conform to this requirement. Second, retinal impressions can suggest the perception$_{C\&B}$ of mind-independent objects. Third, about the geometrically necessary connection between visible and tangible figure, Reid comments,

> I require no more knowledge in a blind man, in order to his being able to determine the visible figure of bodies, than that he can project the outline of a given body, upon the surface of a hollow sphere, whose centre is in the eye. This projection is the visible figure he wants: for it is the same figure with that which is projected upon the *tunica retina* in vision. (I 143a; B 95)

It might seem from this that visible figures are retinal impressions.

But there are several problems with such a view. First, because Reid admits that we are in some sense perceptually aware of visible figure, this interpretation falters. It is true we can be made aware of retinal images with ophthalmological equipment, but Reid indicates that we can attend to visible figure when we wish. In addition, Reid more directly repudiates this characterization of visible figure when saying, "If our powers of perception be not altogether fallacious, the objects we perceive are not in our brain, but without us. We are so far from perceiving images in the brain, that we do not perceive our brain at all" (E 257a).

Thus, visible figures cannot be retinal impressions. What of the inset passage supporting this interpretation? The visible figure and the retinal impression share all relevant *geometrical* (not perceptual or sensory) properties with the

material impression. "Same" in the above quotation refers to the sameness of these properties only.

Visible Figures as Humean Impressions

Perhaps against Reid's wishes the functional role of visible figure is best filled by something with the ontological makeup of a Humean impression. Reid's grasp of the nature of Humean impressions is, however, weak. In differentiating visible figures from Humean impressions he assumes that Humean impressions are not physical (I 144b; B 98). On the contrary, Hume unambiguously describes certain impressions of touch *and sight* as extended, physical, and as bearing parts (T 1.4.5.9; SBN 235). Due to Reid's misunderstanding, Hume's spatial visual impressions could be used to derive the dimensions of tangible figure and meet the interderivability condition.

However, Reid's interpretive mistake has no harmful repercussions. Since Humean visual impressions are physical states, this suggestion succumbs to the problems of the previous proposal.

Visible Figures as Sensations

Suppose, though, that in addition to material impressions there are *mental* impressions. Might visible figures reduce to such impressions? Antony Pitson believes so. He hints that Reid's use of "appearance" refers to the color an object seems to have.[8] He favorably quotes Reid's comment that "It is impossible to know whether a scarlet colour has the same appearance to me which it hath to another man" (I 134a; B 80). Here the notion of appearance is used "by Reid to refer to a feature of the perceiver's state of mind."[9] This state may be purely qualitative or it may have propositional content. Given Pitson's mention of sensations of color in this context, let's first consider visible figure as a qualitative state, i.e., as a sensation.

There is some textual evidence favoring a view in this neighborhood because Reid thinks visible figures and sensations of color are closely related. He says that, *ceteris paribus,* sensations of color are constantly conjoined with seeing visible figure. Furthermore Reid endows experiences of visible figure and sensations of color with the power of suggesting bodies, even though he does not reduce the perception of visible figure to the perception of discrete color patches in our visual field (I 144; B 97).

However, it was often a similar Berkeleyan view that serves as Reid's main target.[10] One crippling problem is that sensory experiences cannot bear informational content of the sort required to meet the interderivability constraint. Sensations are mere qualia. "In sensation, there is no object distinct from that

act of the mind by which it is felt," says Reid (E 310a). Qualia do not have geometrical properties, but visible figures must. Thus the suggestion that visible figure might be resolved into some type of adverbial state fails to meet Reid's constraints. Considerations about the independence of sensations of color and visible figure are also sufficient to show that construing visible figures as sensations cannot succeed.

However, one might object here that the color experiences Pitson urges us to take as explicating visible figure are not sensations in Reid's sense (i.e., phenomenal mental states) but rather are a special type of contentful mental state, or "conception."

Visible Figures as Conceptions

It happens that Phillip Cummins tacitly considers such a view when he identifies visible figure with conception.[11] It is not apparent whether Cummins means to identify visible figure with the *products* or the *process* of conception in his admittedly brief reflection on the matter, so I will consider both options.

In a discussion of variation in the objects of visual perception Cummins indicates that Reid's direct realism can avoid absurdity in perceptual relativity cases because Reid "can admit that in such cases our conceptions vary, such that first a coin is perceived as round and, subsequently, is perceived as elliptical. Conceptions, not actual objects, determine the objects intended in perception and the objects of conception need not exist."[12] It is true that Reid seeks to explain variation in the objects of sight by appeal to visible figure (I 135; B 81, and E 303–4). In addition, this proposal has unforeseen textual support. Reid says,

> what is commonly called the image of a thing in the mind, is no more than the act or operation of the mind in conceiving. . . . The image in the mind, therefore, is not the object of conception, nor is it any effect produced by conception as a cause. It is conception itself. . . . [T]he common language of those who have not imbibed any philosophical opinion upon this subject, authorizes us to understand *the conception of a thing, and an image of it in the mind,* not as two different things, but as two different expressions, to signify one and the same thing. . . . (E 363a–b)

Though these considerations make Cummins's suggestion initially plausible, I do not believe visible figures are products or processes of conception.

A textual criticism applies to either option. Reid does not identify either sort of conception with visible figure *in contexts in which he analyzes visible*

figure. One would think that if Reid did believe visible figures are conceptions he would have made the connection clear to his readers, particularly since conception is a notion of great currency in his corpus. But, given Reid's own confusion about the status of visible figure, he didn't seem to make this alleged connection clear even to himself.

Furthermore conceptions construed as mental processes are neither publicly observable nor objective. They thus lack mind-independence. Clearly an *act* of conceiving is not external or extended. Visible figure is two-dimensional—a property an act of mind cannot have on Reid's dualist views, nor will this interpretation facilitate the interderivability with tangible figure.

Cummins (and Pitson) may mean to suggest that visible figures are *objects* of conception rather than acts of apprehension. In this case they may be on track, though at this level of generality the view is little more than a placeholder.

5. Taxonomy of Visible Figures

Now that we have shown that previous interpretations of visible figure cannot conform to these constraints, I make my own attempt to answer our question in a way most consistent with what Reid says. Part of the problem with the other attempts is that they do not account for the implications of Reid's geometry of visibles on his account of visible figure. For when he uses "visible figure" in that context, I submit that he's using it in a very different way than in other contexts. I'll distinguish between three types of—or three ways to analyze—visible figure. They are geometrical, seen, and perceived figure.

Three Types of Visible Figure

Imagine a vase suspended in the middle of a room. In the geometrical sense of the term, the vase possesses a visible figure for each set of coordinates in the room from which it can be viewed. As we've seen (from the inset quotation on p. 53), Reid chooses to represent visible space using a model in which the eye is a point in the middle of a sphere and visible figures are represented as patches on the inside surface of a sphere. Let's briefly explore this model.[13]

Reid argues that theorems about figures projected onto the inner surfaces of spheres are proof-theoretically equivalent to theorems about visible figures and lines. This is more intuitive than might appear, but I don't propose to state or defend Reid's proof of this thesis since Gideon Yaffe has already and ably done so.[14] The result of Reid's proof is that the figure that the vase would project to any set of coordinates can be deduced with information about the vase's dimensions and its distance from those coordinates. Let's call this sense of visible figure *geometrical figure*.

Any physical, mind-independent object will thus possess an infinite number of geometrical figures. Geometrical figure need not be identified with any particular projection of points on any particular sphere. In fact, Reid's geometry of visibles is not even wedded to a spherical model. We might say that the geometrical figures of an object are the collections of points modeled from all hypothetical lines of sight toward the object, where said collections of points mathematically represent the dimensions of the object's real figure.

The second type of visible figure is produced when a single geometrical figure is instantiated in the world and represented to the eyes, or to be precise, to an eye. (Reid's geometry of visibles is designed for monocular vision. We can continue to speak of "eyes" but as we do so let's resist the urge to impute stereoscopic assumptions to his theory.) I propose to call this *seen figure*. There is no harm in using this term so long as we're clear that seen figure only refers to the representation of physical objects to the eyes. So in this sense of the word "see," *I* do not see; my *eyes* do.

Reid's geometry of visibles allows us to deduce the dimensions of a seen figure from data about surface dimensions of a physical object and its distance from the hypothetical eye. This is possible because a seen figure inherits the relevant geometrical features of geometrical figure. (If we were interested in working this out in detail, we would need to take a theoretical position on the relation of models to reality, but doing that goes beyond the scope of this essay.) So seen figure too will mathematically represent real figure, *ceteris paribus*.

The third and final type of visible figure is *perceived*$_{C\&B}$ *figure*. Perceived$_{C\&B}$ figure is simply seen figure that is also conceived of and believed in. When I typically perceive a vase I form a conception and belief of the vase itself, and *not* of its visible figure. Yet as those who have attempted to sketch or paint would attest, there are circumstances in which one perceives$_{C\&B}$ the visible figures of objects.

6. Seen Figure

Geometrical figure aids in shoring up claims of immediate perceptual knowledge from vision, but that isn't strictly part of Reid's theory of perception. And since we so rarely conceive of and believe in visible figure, perceived$_{C\&B}$ figure is unimportant for our purposes. Seen figure, on the other hand, is an essential component of all visual perception and it deserves our scrutiny. Its status is as unclear in Reid as it is important. Let's find out a bit more about the nature of this beast and whether it can meet our constraints by answering some questions.

In what sense, precisely, is seen figure a relational property? First of all, geometrical figure will constitute a relational or relativized property holding

between a set of coordinates and the facing surfaces of a figure. When a geometrical figure is instantiated in the world, the product, a seen figure, inherits the geometrical properties of its predecessor. The ontological status of relations differs from the ontological status of relational properties, or so it is generally thought. The class of dyadic *relations* includes items such as *is smaller than* whereas the class of *relational properties* includes properties referred to by predicates like *a is smaller than b*, or $F(a,b)$. We should be clear that seen figure is a relational property, not merely a relation.

It is often thought that relational properties are ontologically distinct from *relativized* properties. Whereas a relational property is signaled by additional terms in a formula, a relativized property is sometimes construed as a modifier that operates over an entire formula. In order to relativize the predication of a property to a time, for example, the suggestion is that we modify the entire formula *Fa* by *t* as $(Fa)_t$. This contrasts with giving the time a term *t* and claiming $F(a,t)$, as we do to describe a (temporal) relational property. But there are two reasons why I will not attempt to refine my account further by discussing whether seen figure is a relational or a relativized property. For one, I agree with James Van Cleve that there is no "philosophical significance" to the distinction.[15] For two, my primary goal is to provide a cogent explanation of Reid's position. Since Reid nowhere describes what visible figure is in any significant way—let alone describes visible figure in such a way as to enable us to take a stand on the current, subtle point—deciding that Reid's seen figure is relational or relativized is beyond the purview of this essay. Thus I'll rest content with showing that the best explanation of Reid's analysis of seen figure is that it is a standard relational property.

We can now ask: Can we perceive the instantiations of such properties, according to Reid? While Reid developed no theory of relations, he does claim that instantiated relational properties can be immediately perceived. Reid describes two ways we arrive at concepts of relational properties, the first of which is by perceptually comparing relata: "By this comparison, *we perceive the relation*, either immediately, or by a process of reasoning. That my foot is longer than my finger, I perceive immediately; and that three is the half of six. This immediate perception is immediate and intuitive judgment" (E 420b; my emphasis). Despite the propositional form Reid gives to these examples—perception *that*—this passage implicitly assumes that we do in fact see instantiated relational properties like the comparative length of my finger and foot.

Is seen figure actually mind-independent? One might wonder how something seen couldn't but be dependent on a mind. But consider first, that seen figures are independent of immaterial minds because they are relational properties between *eyes* and objects. Second, seen figures are also mind-independent in the sense that they are independent of any particular visual system. The

seen figure projected from a vase to the coordinates my eyes currently inhabit is the same seen figure that would be projected from the vase to another's eyes, were hers to occupy the same coordinates. This secures the objectivity of seen figure across perceivers.

Does Reid allow that visible figures can be seen in the way my interpretation suggests they are seen? That an eye takes visible figures as objects is more often assumed than argued for in Reid, in part because he does not want to violate established linguistic practice according to which we 'see' bodies. Nonetheless, when he needs to be clear on the matter he is. For example, at I 193b (B 188) Reid remarks that, "when I look at a globe which stands before me, by the original powers of sight I perceive only something of a circular form, variously coloured." He adds, "we perceive originally the visible figure and colour of bodies only, and their visible place," and not, for instance, their extension (I 185a; B 171). Visible figure is the only type of object represented to our eyes. As the phenomenon of perceptual relativity (discussed below in §8) makes clear, Reid is quite right about this. Note, though, the ambiguity in Reid's terms. We've seen that he often uses "perceive" to refer to perceive$_{C\&B}$, but here he is not using it in that way, for we do not form conceptions and beliefs of visible figure. Elsewhere he says as much, e.g., "the visible appearance of objects is hardly ever regarded by us. It is not at all made an object of thought or reflection, but serves only as a sign to introduce to the mind something else . . ." (I 134b–135a; B 81).

Can seen figure possess geometrical properties like dimensions? Just as a single geometrical figure is a relational property between a specific collection of points and a geometrical object, seen figure is a relational property between an eye and a physical object. Relational properties are often geometrical. A golf ball might possess the property of being 1/48th the volume of a basketball. My delete key possesses the property of being 17 inches south and 6 inches west of my cup of coffee. The geometrical properties of seen visible figures will typically be substantially more complicated than these traits given the accuracy of Reid's model of visual space. Given the current position of my eyes, the seen figure of my computer monitor will not be a simple rectangle because in my visual field it is as though it were projected onto the surface of a sphere. But still, these complicated dimensions are features of the relational property we're calling the seen figure.

Reid most clearly describes seen figure as meeting constraint (a), being capable of being represented by figures cast on the inner surface of a sphere, and constraint (b), interderivability with tangible figure, when he says that "A projection of the sphere or a perspective view of a palace is a representative in the very same sense as visible figure is," adding that "wherever they have their lodging in the categories, they will be found to dwell next door to them" (I

144b; B 99). Reid intends that the "perspective view," i.e., the seen figure, possesses the same representational properties as does the geometrical figure.

Is seen figure reducible to the experience of color? To show that this is not so, let's describe the relation between seen figure and color. The only qualitative mental states present in the experience of visible figure are color sensations. Reid says, "When I see an object, the appearance which the colour of it makes, may be called the sensation, which suggests to me some external thing as its cause; . . . At the same time, I am not conscious of anything that can be called sensation, but the sensation of colour" (I 145a; B 99). So to determine whether and how seen figure is associated with sensations, we can answer this question: Is seen figure colored, or necessarily colored?

There is evidence that seen figure is not necessarily colored and, in fact, that it is necessarily *not* colored, according to Reid. But Reid's views about the nature of color and the semantics of color terms are perplexing, so I'm hereby treading softly on this point.[16] First, one reason to think that seen figure is not colored is that, for Reid, colors are only unknown causes of known sensory effects. Reid uses "color" and other secondary quality terms to refer to the physical base properties causing effects in our sensory systems, effects that most other philosophers label with the same terms, e.g., 'red.' While physical objects possess the power to cause color sensations, they are not themselves colored. For these reasons seen figures are also not colored. Second, Reid performs a thought experiment:

> Let us suppose, therefore, since it plainly appears to be possible, that our eyes had been so framed, as to suggest to us the position of the object, without suggesting colour, or any other quality: What is the consequence of this supposition? It is evidently this, that the person endued with such an eye, would perceive the visible figure of bodies, without having any sensation or impression made upon his mind.

Hence, he adds, there "seems to be no sensation that is appropriated to visible figure, or whose office it is to suggest it" (I 146a–b; B 101). (This confirms that Reid endorses the claim, codified as constraint (d) above, that visible figure is suggested by material impressions on retinas, not by sensations.) Since seen figures can exist apart from experiences of color, visible figure is not necessarily conjoined with or reducible to experiences of color.[17] But this is not to deny that seen figure and the experience of color are closely related in the actual world. They are constantly conjoined in our normal experience. Reid associates the presentation of color to the mind with the position of the object relative to the perceiver: "[T]he position of the coloured thing is by the laws of my constitution presented to the mind along with the colour" (I

145a; B 99). He adds, "Visible figure is never presented to the eye but in conjunction with colour: and, although there be no connection between them from the natures of things, yet, having so invariably kept company together, we are hardly able to disjoin them even in our imagination" (I 143b; B 97).[18]

We began this section by wanting to know whether there is some thing or property or entity that can meet the textual constraints on visible figure that we assembled from Reid. By way of my tripartite distinction between types of visible figure I've attempted to present a case for concluding that seen figure, a relational property holding between eyes and (the facing surfaces of) physical objects, is such a property. Furthermore, I do not see the pathway to any other substantially different 'thing' that is consistent with Reid's constraints better than seen figure as I have construed it. This seems to me to be the best that Reid can do. Let me lay stress on this point: if it is our goal to construct an account of visible figure that will be textually unproblematic by meeting the constraints Reid imposes upon it, then something like the foregoing seems to be the only sort of thing that meets our needs. This is so despite the fact that the account on offer may have its share of problems, particularly concerning the nature of properties, but more on that below in section 13.

For the sake of argument let's allow Reid a theory of properties that does the job and examine where he can go from there. Assuming that such a theory can be made coherent, the account of seen figure developed thus far will be sufficient to extricate Reid from the inconsistent set of three propositions stated above. For seen figure is a mind-independent property, unlike the Ideal Theory's ideas. In this way (3) is falsified and Reid's rejection of the Ideal Theory is not inconsistent with his theory of visual perception. And as we will see below, it seems that Reid has good non-*ad hoc* reasons for positing seen figure in order to account for the phenomenon of perceptual relativity.

7. Awareness of Seen Figure

Before turning to an appraisal of Reid's theory of visible figure and to his account of perceptual relativity, I want to say a brief word about our conceptual awareness of visible figure. I've mentioned above that Reid does not claim that we regularly perceive$_{C\&B}$ seen figure and I've cited some texts in support of this. But I haven't yet characterized the way in which we are aware of seen figure. Showing *that* we are aware of seen figure is much easier than showing in what that awareness consists. I suggest that our awareness of visible figure is constituted by a *de re* mental state of apprehension, which falls far short of any doxastic or propositional mental state.

First, consider Reid's distinction between original and acquired perception. Roughly, an acquired perception is a conception and belief produced by the performance of inductive inferences on a large body of original perceptions. An original perception is one in which our minds come into contact with qualities of external objects via our sense faculties.[19] Touch puts us into immediate contact with non-relational, primary qualities of external objects, whereas through vision we are only immediately aware of relational properties of external objects, like visible figure. We've seen Reid say, in the passage about globes, that "we perceive originally the visible figure and colour of bodies only, and their visible place." Picking up this distinction in the *Intellectual Powers* we read that, by sight, "we perceive visible objects to have extension in two dimensions, to have visible figure and magnitude, and a certain angular distance from one another" (E 331b).

If we interpret 'perceive' in such passages as perceive$_{C\&B}$ then Reid contradicts himself. Besides, in these passages and others about original perception, Reid does not invoke any sort of *conceive that* or *perceive that* locution, as we might expect him to do were he using the notion of perceive$_{C\&B}$. The most charitable course is to suppose that Reid implicitly invokes some form of non-propositional *de re* visual apprehension with the term "perception" in these and other cases (e.g., at E 313b and E 322a).

Reid also describes the eye itself as perceiving: "For the eye, perceiving only the position of objects with regard to itself, and not their distance, will see those points in the same visible place which have the same position with regard to the eye, how different soever their distances from it may be" (I 147b; B 103). With this non-literal use of "perceive" Reid wants to capture the fact that seeing is not merely a purely physical relation, while stopping short of implying that we perceive$_{C\&B}$ visible figures. Reid makes other comments indicating that we do not perceive$_{C\&B}$ the visible figures of objects. For example, Reid says, as noted above, "[T]he visible appearance of objects is hardly ever regarded by us. It is not at all made an object of thought or reflection . . ." (I 134b–135a; B 81). While those who have reconstructed Reid's geometry of visibles have not explicitly addressed the nature of our awareness of seen figure, they seem to have taken it for granted that there is some type of *de re* mental state involved in visual perception.[20]

The preponderance of texts strongly suggests that there is a non-doxastic, non-propositional mode of awareness—a form of Russellian acquaintance—through which we are aware of visible figure. (We can now see why it is that we require a cumbersome term like "perceive$_{C\&B}$" given the other quite different senses of "perceive" used throughout Reid's corpus.) I propose to use the term *visually aware* to refer to this state of awareness in events of visual perception.

This form of acquaintance with the mind-independent relational properties of objects is the type of mental state undergirding Reid's case on behalf of non-inferential perceptual knowledge from vision. It seems to be what Reid is alluding to with the term "apprehension," which is a type of ("non-bare") conception. (see, e.g., E 360a) It requires some serious analysis, but in this context I will have to take it as primitive—much as Reid himself does.[21]

8. Hume's Perceptual Relativity Argument

At this point someone may argue that even if Reid's theory of visual perception is not inconsistent with his rejection of the Ideal Theory—and thus in some sense succeeds in being direct—it follows neither (i) that Reid's theory of visual perception is direct in any philosophically important sense of the term, nor (ii) that it will be compatible with an account of non-inferential perceptual *knowledge*. Thankfully Reid employs his account of visible figure in responding to a perceptual relativity argument presented by Hume. By examining that argument we will be able to appreciate the ways in which, entirely on its own terms, Reid's theory of visual perception is and is not direct, and is and is not compatible with accounts of non-inferential perceptual knowledge. (By implication we will also be able to learn whether Reid's theory of visual perception is direct on his commentators' senses of the term.)

Advocates of perceptual relativity arguments hold that we are only immediately aware of ideas or sense-data because the objects of perception vary from person to person. From the premise that we do not directly perceive objects, one infers that we must draw inferences in order to gain perceptual knowledge. And if the content of what is given in my experience is not immediately about external objects but instead is about my awareness of seen figure, how can I attain knowledge of such external objects but by inference?

Let's reconstruct a version of Hume's perceptual relativity argument concerning vision, since this is the version Reid addresses. Our analysis of Reid's objections to this argument will bring his theory of visual perception into clearer focus.

Contrary to the "universal and primary opinion of all men," philosophy teaches us, according to Hume, that

> nothing can ever be present to the mind but an image or perception, and that the senses are only the inlets through which these images are conveyed, without being able to produce any immediate intercourse between the mind and the object. The table, which we see, seems to diminish, as we remove farther from it: but the real table, which exists independent of us, suffers no alteration: it was, therefore, nothing

> but its image, which was present to the mind. These are the obvious dictates of reason. (E 12.9; SBN 152)[22]

Notice that this is a highly circumscribed argument. Hume purports to show that the object of sight from perspective *P* is not identical with the object of sight from perspective *Q*, even though common sense dictates that an agent sees the same object from both points. Reid does not reconstruct Hume's argument in premise/conclusion form, but on the basis of his criticisms, he conceives of the argument in roughly this way:

(4) The shape and dimensions of the immediate object of awareness vary relative to the position of my eyes with respect to the object.

For example, the immediate object of my awareness when looking at a table from one hundred yards away has different dimensions than the immediate object of my awareness does when the table is four feet away.

(5) The mind-independent table *ex hypothesi* does not possess shape and dimensions that vary relative to the position of my eyes.

(6) So, the mind-independent table is not an immediate object of awareness.

(7) So, at most we immediately perceive ideas or images of mind-independent objects.

In the quoted passage above, Hume does not address the epistemological implications of the argument, but we will add a further conclusion on his behalf since Reid takes the epistemic consequences as being of crucial importance.

(8) So, we do not have non-inferential knowledge of mind-independent objects.[23]

Hume uses the terms "present to the mind" and "see" to describe modes of awareness in this argument. Using these terms equivocally may be a source of confusion, particularly from Reid's point of view. Reid distinguishes between higher-order modes of perceptual awareness—involving conception and belief—from lower-level *de re* intentional states of mind—involving demonstrative acquaintance. As it stands, I have formulated (7) so as to contrast sharply with standard theories of Reidian direct perception (which is as Reid took the argument). This contrast is preserved by Pappas's interpretation of Reid.

Pappas renders the perceptual component of what he dubs "Reidian direct realism" as follows: "Typically we immediately perceive objects and their qualities, i.e., we perceive them without perceiving intermediaries."[24] The term "immediately" here (and in Alston's work on this issue[25]) has a fairly specific meaning that Pappas unearths by contrasting Reid's direct theory

with an indirect one: "Indirect perception of external physical objects requires not merely that there be perceived intermediaries, but also that the perception of the physical object should be dependent upon the perception of the intermediary."[26] This constitutes two admirably clear necessary and jointly sufficient conditions for *indirect* perception, which begin to get at what's philosophically important about the view. These conditions are: (i) in order to perceive the external physical object O, subject *S* must perceive an intermediary *R*, "where R ≠ O, and where R is not a part of O nor is O of R"[27]; and (ii) *S*'s perception of O must be dependent upon *S*'s perception of *R*. Hume's argument through (7) reputedly shows that the (visual) perception of mind-independent physical bodies must be indirect. Ideas and images clearly are not parts of objects.

9. Hybrid Theories of Perception

First of all I want to identify an assumption underlying (4) through (6) that I think the advocate of a direct theory of perception should roundly reject. Hume assumes that the competing views he considers are purchased wholesale; he assumes that if the table is not the immediate object of sight then it is not immediately sensed whatsoever. Reid rightly thinks this is erroneous. *Even if* my visual awareness of the table is mediated by an idea of the table, it does not follow that I cannot directly sense the table *with my hands*. Simply because the object of sight is not the mind-independent table, it does not follow that the table cannot be an immediate object of some other sense, touch being the best candidate to serve as understudy.

This point reveals a shortcoming in Hume's argument and in analyses of Reid's theory of perception. Reid insists that the process of vision is structured differently than the process of our other sense modalities (even though, under definitions I favor, he offers 'direct' theories of perception for both sense modalities). To my knowledge, previous analyses do not take heed of this point, though Wolterstorff's discussion marks a recent exception.[28] Suppose we clarify Pappas's perceptual thesis. Where "perceptually aware," a companion term to "visually aware," refers to *de re* intentional states tokened in vision *and other senses*, Pappas's thesis might read:

> (P) Typically we are immediately perceptually aware of objects and their qualities, i.e., we are perceptually aware of objects without being perceptually aware of intermediating objects.

The scope of (P) is unresolved. We have two options, (P') and (P"):

(P') Through *every* sense modality we are typically perceptually aware of mind-independent objects and their qualities directly.

But to hold a substantive direct theory of perception Reid need only affirm:

(P") Through *at least one* sense modality we are typically perceptually aware of mind-independent objects and their qualities directly.

Hume, on Reid's interpretation, takes himself to have shown

(Q) Through *no* sense modality do we typically perceive mind-independent bodies and their qualities directly.

However, Reid believes Hume does not argue for (Q), but rather only for the negation of (P'). This leaves it open to Reid to affirm (P"), whether or not he actually concedes the falsity of (P').

When setting out the case against Reid at the outset of the paper, I suggested that philosophers may look askance at hybrid theories, and well they might. But I want briefly to dispel the worry that, by arguing that the structure of one sense modality differs from the structure of the others, Reid's theory of perception becomes implausible. Despite the way in which such an insight complicates one's theory of perception, drawing this distinction is the only way to make theoretical room for phenomenological facts about our senses. These facts are not lost on other philosophers who favor introspective analysis, like Brian O'Shaughnessy. O'Shaughnessy also argues that the sense of vision possesses some important structural differences from the sense of touch:

> What must be emphasized about touch is that it involves the use of no mediating field of sensation. There is in touch no analogue of the visual field of visual sensations which mediates the perception of the environment . . . The role of bodily sensation in tactile perception is wholly disanalogous to the representational role of visual sensation in visual perception . . . [I]n tactile perception no intervening third sensuous entity gets between one and the object.[29]

What O'Shaughnessy dubs "visual sensation" Reid calls "visible figure." Finer points of comparison aside, complicating the theory of perception in this way renders one's theory more plausible, not less, since only by doing so can one account for the ways in which the phenomenology of touch and sight differ.[30]

Note that I am not claiming that Reid actually endorses a hybrid theory of perception on which one sense is and another is not "direct," but rather that even if Hume's argument were entirely successful, one could still endorse a

hybrid direct theory of perception. This is the sort of weapon the would-be advocate of a direct theory of perception should keep, not in his conceptual toolbox, but in his shoulder holster, for emergency use only.

10. The Structure of Vision Is Not the Structure of Touch

Reid attempts to refute Hume's argument at several stages, first with the distinction between visible and tangible figure occurring at I 135 (B 81–2). When I see a table at ten yards and then at a hundred, its "visible appearance, in its length, breadth, and all its linear proportions, is ten times less in the last case than it is in the first." Reid has much to say about the placeholder "immediate object of awareness" in (4)—or "table" in Hume's statement of the argument. It can either refer to the seen figure of the table or to the table itself. The first premise is true if we take "immediate object of awareness" to refer to the seen figure of the table.

Reid invokes his distinction between visible/apparent figure/magnitude from real/tangible figure/magnitude. (About Reid's terminology see note 2.) "The real magnitude of a line is measured by some known measure of length—as inches, feet or miles" (E 303b). In contrast, seen figure is a property dependent upon the position of the eyes of the perceiver relative to the external object. In Reid's terms, this "is measured by the angle which an object subtends at the eye. Supposing two right lines drawn from the eye to the extremities of the object making an angle, of which the object is the subtense, the apparent magnitude is measured by this angle" (E 303b). The real figure of the table is measured by different means, sensed by a different faculty and is extended.

With this distinction—and the notion of seen figure it presupposes—Reid charges Hume with equivocation. "This ingenious author has imposed upon himself by confounding real magnitude with apparent magnitude" because, in Hume's syllogism, "apparent magnitude is the middle term in the first premise; real magnitude in the second" (E 304b). (The structure that this criticism attributes to Hume's argument goes a long way toward explaining why this way of putting the argument resembles the way Reid thought of it.) Assuming there are mind-independent objects, this point seems sufficiently obvious so as not to merit further discussion. Indeed, to this extent Reid *concurs* with Hume: our eyes do not immediately see the real magnitude of objects, but, Reid adds, we shouldn't expect them to. "This [real] magnitude is an object of touch only and not of sight; nor could we even have had any conception of it, without the sense of touch" (E 303b). Neither a body's "real magnitude, nor its distance from the eye, are properly objects of sight, any

more than the form of a drum or the size of a bell, are properly objects of hearing" (E 304a). Seen figures are the only objects of our visual systems. Once we have separated the wheat from the chaff, Reid argues, Hume has only shown that vision is suited to perceive things in a way that touch is not. This is not equivalent to (6), so Reid grants both (4) and (5), but denies (6).

11. "Immediate Object"

It doesn't follow from this point about equivocation in (4) and (5) that the way in which I am visually aware of things is in fact direct. This, in addition to my comment about hybrid theories, may give the false impression that Reid holds that we directly (or immediately) perceive the objects of touch, but that we do *not* directly perceive the objects of vision. Instead of this, I claim that Reid's theories of both touch and vision are direct and allow for direct perception *even though* the structure of those two senses differs. (I will not be addressing the structure of the other senses here; suffice it to say that Reid thinks they are more similar to touch than vision.) No doubt there are some definitions of 'immediate' and 'direct' that would render Reid's theory of perception a hybrid theory in accord with the false impression around which I'm steering. Of course, *some* definitions of these terms would have it that *none* of the sense modalities are immediate on Reid's analysis. The many uses of these terms threaten to make the process of showing that Reid endorses a direct theory of perception like leading an elephant through circus tricks: with careful training Reid's views can do amazing things. But I'm no ringmaster. We need to know what is philosophically important about directness in, for present purposes, the context of visual perception.

Reid imposes the constraints upon visible figure that he does primarily in order to show that visible figure is radically unlike the Ideal Theory's ideas and impressions. Suppose the foregoing analysis of visual perception is correct and that through visual perception I am immediately aware of seen figure and not tangible figure. Reid resolutely argues that it does not follow from this point that we are visually aware of *ideas* or *images* or *sense-data* of objects, as in (7). For seen figure is *not* merely a representational intermediary; it is a relational property between objects and eyes of perceivers. This gives visible figure its mind-independence, public observability, and objectivity. Ideas, images, and sense-data lack these philosophically important traits. Seen figure is constituted by real (not ideal, not mental) relational properties. The philosophical importance of mind-independence, public-observability, and objectivity should be obvious: only because ideas lack them can Hume move from (6), *viz.* the mind-independent table is not an immediate object of awareness, to (7),

viz. at most we immediately perceive ideas or images of mind-independent objects. In other words, since seen visible figure has these characteristics, Hume is not entitled to infer (7), even if (6) were true. Reid rightly thinks that securing these traits for the immediate objects of perception constitutes the philosophically important task of a direct theory of visual perception, for only with them does visual awareness bring us into contact with the world.

One lesson to take from Reid's analysis of this part of Hume's argument is that we must be especially careful when using terms like "immediate object" since they are prone to ambiguity. The way philosophers have defined accounts of direct perception—including definitions attributed to Reid—has forced Reid's actual view out of consideration in much the same way that Hume's argument does. Return to Pappas's discussion, for example. He uses the term "part" in his formal statement of his necessary conditions to imply that if the object of perception is not the mind-independent object or a part of the object, then perception is not direct. This way of putting the point calls for drawing an important distinction on Reid's behalf. While relational properties are not mereological parts of objects, there seems to be a philosophically important sense of "part" at work here on which relational properties would meet the necessary condition. The importance of the term "part" lies in recognizing that if we perceive a property of the object directly, then we can be said to perceive the object directly. This non-mereological sense of "part" must be specified so as to recognize the philosophical importance of our seeing an objective, publicly observable, mind-independent property of objects.

It is well worth observing that Reid takes his response to what I've identified as premise (6) one step further by arguing that the law-like variation in the seen figure of an external object is best explained by an appeal to the objective, mind-independent relation a given seen figure bears to its correspondent tangible figure. In other words, he thinks that the specific way the immediate objects of visual awareness vary, far from disconfirming his theory, lends it considerable support. He says,

> [T]he real table may be placed successively at a thousand different distances, and, in every distance, in a thousand different positions; and it can be determined demonstratively, by the rules of geometry and perspective, what must be its apparent magnitude and apparent figure, in each of those distances and positions. . . . [O]pen your eyes and you shall see a table precisely of that apparent magnitude, and that apparent figure, which the real table must have in that distance and in that position. (E304b)

Reid's predecessors wrongly assume that the relationship between a seen figure and an object is subjective and mind-dependent. But to what could they appeal to account for this amazing regularity? Reid counters by arguing that the systematic variation of the visible figure is evidence *for* the objectivity of this relationship. [31]

12. Non-Inferential Perceptual Knowledge

Having shown that (6) does not follow from (4) and (5), and that (7) would not follow from (6), were (6) established, Hume cannot get to (8), *viz.* that we do not have non-inferential knowledge of mind-independent objects. At least, if Hume wants to infer (8), he must do so on the basis of premises other than those having to do with perceptual relativity. And he might well attempt to do this by arguing that we have so attenuated Reid's theory that he cannot secure the epistemological benefits of a direct theory of visual perception. Let's call the first and failed route to (8) the "perceptual relativity" route and this new alternative the "epistemological" route.

One way to understand the epistemological route is as follows. Even if visible figure is external and publicly observable, it does not follow that visible figure will necessarily represent the tangible figure accurately. It may seem, for example, that there is no logically necessary connection between my awareness of the seen figure of St. Paul's Cathedral and the present existence of the Cathedral. Since there is no necessary connection, Hume might argue, it follows that by being aware of a seen figure of St. Paul's Cathedral I am not justified in believing in the existence of the Cathedral. Since reaping epistemological dividends is arguably Reid's central purpose in adopting a direct theory of perception, this line of reasoning concludes, the foregoing account of visible figure must be rejected, or at least recognized as dissonant with Reid's central philosophical motivations.

Let me begin by saying a few things about non-inferential perceptual knowledge generally, after which I'll address non-inferential perceptual knowledge from vision in particular. First of all, the epistemological route to (8) requires some assumptions about knowledge that must be explicitly stated. First, one might think that Hume claims (i) that there must be necessary connections between a mind-independent object and the representational content of a belief in order to have non-inferential knowledge of that object. Reid also associates a type of internalism about knowledge with Hume. This might come in two crude forms: (ii) that each perceiver must show that there are such connections, or (iii) that someone or other must show that there are such connections. Theses like (ii) would only be affirmed by card-carrying

internalists about knowledge, and Reid isn't in that club. The majority of interpreters is correct to take Reid as endorsing—probably founding—a form of externalism about perceptual knowledge that denies requirements like (ii). According to most forms of externalism, we can acquire non-inferential knowledge of our perceptual environment. It is not clear whether Reid takes Hume to endorse both (ii) and (iii) or merely (iii). But Reid explicitly refuses to oblige Hume on (iii) by arguing that our faculties cannot be non-circularly proven reliable.[32]

As for (i), Reid would no doubt deny that the connection between object and belief state must be unfailing and necessary in order to have non-inferential knowledge of such an object. But Reid seems to claim that his account meets such a condition anyway. For on the basis of the success of Reid's geometry of visibles and the correlation between visible figure and tangible figure, seen figures model the real figures of physical objects necessarily. They inherit this trait from the geometrical figures from which they are built. This correspondence between visible figure and tangible figure, in Reid's terms, "results *necessarily* from the nature of the two senses" (E 326a; my emphasis). In this way sight and touch reliably converge epistemically, contrary to the views of Reid's predecessors.

Reid does—at least to some small degree—characterize the non-inferential nature of perceptual knowledge positively. He argues that the mind typically becomes habituated to this necessary correspondence. Since the relations between visible and tangible figure are geometrically necessary and confirmed by daily experience, our mind instantiates a rule (I 121–2; B 59–61). This results in what Reid calls "suggestion"—a relation that obviates the need to perform inferences in order to have knowledge of perceptual beliefs. This is true of all our sense modalities, including vision. He says,

> [T]he visible appearance of things in my room varies almost every hour . . . A book or a chair has a different appearance to the eye, in every different distance and position: yet we conceive it to be still the same; and, overlooking the appearance, we immediately conceive the real figure, distance, and position of the body, of which its visible or perspective appearance is a sign and indication. (I 135a; B 81)

Reid's general reticence to prognosticate about knowledge will not obscure the fact that in passages like this he presumes that we are warranted in believing that the objects, of which we are visually aware, are as we think they are. We are warranted in this on the basis of the suggestion relations between seen figure and beliefs about tangible figure that our minds instantiate through habituation. (In other words, visible figure conforms to our constraint (e), that

seen figure regularly suggests our perceptions$_{C\&B}$ of bodies.) Interderivability underwrites the reliability of immediately suggested, non-inferential beliefs about tangible figures. Contrary to (8), Reid is warranted in concluding that we typically arrive at non-inferential knowledge of physical objects by being aware of visible figures.

Naturally, defending a robust account of non-inferential perceptual knowledge is not this easy. First of all, one might argue that if we are aware of seen figure, then knowledge of visual perceptual beliefs depends upon defending the *de re* acquaintance thesis I have earlier attributed to Reid, and I won't embark on such a defense here. Second, though, is a host of more familiar objections, about which I can say a few things in partial defense of Reid. For example, we can see the visible figure of celestial bodies at great distances even if those bodies have vanished long ago. This causes *prima facie* trouble not only for his theory of non-inferential perceptual knowledge, but also for his interderivability thesis. We saw Reid claim that "necessarily" seen figure accurately represents tangible figure, but this is strictly speaking false, as such cases show. Furthermore, hallucination cases seek to show that the figures of items of which we take ourselves to be visually aware do not isomorphically represent the facing surfaces of tangible figures, which would also seem to undercut Reid's thesis of non-inferential perceptual knowledge through vision.

Several responses to these lines of criticism come to mind. First, that visible figures of objects are sometimes misleadingly projected by dead stars should not move Reid. Yes, Reid was unaware of the effects of the speed of light on visual perception, but we should not tailor a theory of visible figure to exceptional phenomena at the expense of adequately explaining typical phenomena. The same may hold true of hallucinations. In each case Reid would invoke the environmental condition of his *ceteris paribus* clause. These cases are not cases in which my faculties are functioning properly in a truth-conducive environment, thus they fail to meet Reid's necessary condition for knowledge, or, to be exact, for the "evidence of sense." He says that he "shall take it for granted that the evidence of sense, *when the proper circumstances concur,* is good evidence, and a just ground of belief" (E 328b; my emphasis). Second, about the perception of stellar objects (or rather, the light they have emitted or reflected), Reid might add that the visible figures projected from these bodies are the merest points of light, lacking the rich geometrical figures possessed by other seen figures. Even if we could know that a certain distant star presently exists as we see its light, we could derive nothing from its seen figure as presented to bare eyes.

This sketch of his response will seem unsatisfactory to those who do not share Reid's epistemic intuitions, of course, but this is not the place to embark

on an account of Reid on perceptual knowledge—if such an account can even be built from the little Reid says about the topic.

13. Metaphysical Status of Seen Figure, Again

When describing visible figure above, we expressed some reservations about Reid's use of the concept. On the one hand, his uses of the term are not clear, hence the need for the tripartite distinction we introduced. On the other hand, it seems as though once we clarify Reidian visible figure, his use of the concept looks less plausible. We have explored why Reid is drawn to the account of visible figure that we have argued he adopts, and we have attempted to determine what work his account can do. But this does not remove some fundamental reservations about the nature of visible figure—about seen figure in particular—which it is time to put on the table. Two objections to the account of seen figure we've developed thus far stem from the intuition that this account sets atop a theory of properties that it is idiosyncratic, if not outright implausible. Consider first this argument:

(9) Token seen figures possess geometrical properties, including shape.

(10) Token seen figures are relational properties.

(11) But relational properties cannot possess geometrical properties like shape.

(12) Therefore, either (9) is false and token seen figures do not possess geometrical properties, or (10) is false and token seen figures are not relational properties.

Earlier I had motivated (9) with some examples, including that the relational property holding between a golf ball and a basketball possesses geometrical properties. But in this case is the property *having 1/48th the volume of a basketball* a property of the relation, or simply a monadic property of the golf ball? The subject of predication in sentences describing the golf ball seems on closer examination to be the golf ball itself, not the relation. Reid needs an account of properties such that relational properties can themselves bear a rich set of properties. It may be that anyone seriously devoted to the task of explaining visual phenomena also needs a similar account of properties to explain, for example, the way in which I see a visible ellipse when looking at the (circular) clock on the wall. But even if responding to this argument is not a requirement unique to Reid, it does not absolve him of the responsibility. This problem is motivated by a suspicion that any type of property alleged to meet all the constraints Reid places upon visible figure is bound to smell fishy.

The second and related reservation concerns the perceptual-cum-metaphysical status of properties. Any account of perceptual experience that

incorporates a cognitive component must, at some point, tackle the problem of explaining how properties *per se* are related to properties as instantiated in the world and perceived by agents. Naturally, Reid is not alone in having difficulty responding to this problem, but one might think that Reid has put some hurdles in his own path to a response. The metaphysical complexities surrounding the various forms of visible figure at work in Reid's discussion make it difficult to see the way to any clear account of the relation between property and its instantiation, which marks a point of concern.

On the basis of these and related difficulties, we might be tempted to attribute to Reid a commitment to tropes on which tropes are properties and relations instantiated as particulars of a special kind, distinct from concrete particulars. Of course, many readers will dismiss trope theories, taken as philosophical theses, since they often appear to be nothing more than metaphysical blank checks written with no credit. But before we dismiss them as something of no interest in this historical context, let it be said that we have precedent for believing that Reid was willing to adopt what we consider to be very implausible metaphysical theories if he thought doing so was necessary to secure some epistemological or perceptual desideratum. For example, I have argued that he distinguishes between primary and secondary qualities on the basis of features of our experiences of them because he thinks that doing so is necessary to preserve his epistemological intuitions about our relation to the world.[33] I have also argued that he adopts a Meinongian account of fictional objects because he thought it necessary to preserve first-person privileged access to the contents of our thoughts.[34] I suspect that, though Reid's use of visible figure seems to get him into some amount of metaphysical trouble, he won't mind too much—so long as it enables him to refute Hume's argument successfully. Perhaps further work on his tacit view about properties, which underlies his account of seen figure, can bring some more order to this nexus of problems.

14. Conclusion

Given Reid's circuitous descriptions of visible figure codified through our constraints, and given the dialectical uses to which Reid puts visible figure, the preceding account marks a plausible way to interpret Reid and explain the texts at issue. Though Reid does not to his satisfaction determine its Aristotelian category of being (I 144b; B 98), we must discriminate between three types of visible figure: objects of geometrical analysis, objects of which we are visually aware, and objects of perception$_{C\&B}$. Seen figure—the immediate object of visual awareness—is the most important of the three. Despite appearances, our account of visual perception is able to preserve the relevant

philosophical difference between Reid's theory and the Ideal Theory. This is because being immediately aware of seen figure is not relevantly similar to being immediately aware of the Ideal Theory's ideas since seen figures are mind-independent and objective. Reid can maintain his commitment to the psychological and epistemic immediacy of the objects of visual perception while avoiding pitfalls of the Ideal Theory. Even though Reid's theory must rest upon questionable presuppositions about properties to achieve this result, we have seen that Reid is willing to sacrifice some measure of metaphysical plausibility in this and other contexts in the service of perceptual and epistemological cogency.

NOTES

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1 References to Reid are made in the text and are as follows: "E" = *Essays on the Intellectual Powers of Man* and "I" = *Inquiry into the Human Mind*, both in *The Works of Thomas Reid*, vol. 1, ed. W. Hamilton (Bristol: Thoemmes Press, 1994), and "B" = the critical edition of *Inquiry into the Human Mind*, ed. D. Brookes (University Park, Pa.: Pennsylvania State University, 1997). References to Hume are made in the text and are as follows: "T" = *A Treatise of Human Nature*, ed. David Fate Norton and Mary J. Norton, Oxford Philosophical Texts (Oxford: Oxford University Press, 2000); "EPM" = *An Enquiry concerning Human Understanding*, ed. Tom L. Beauchamp (Oxford: Oxford University Press, 2000); and references will also be given with "SBN" to the *Treatise*, ed. L. A. Selby-Bigge, 2nd ed., revised by P. H. Nidditch (Oxford: Clarendon Press, 1978), and *Enquiries concerning Human Understanding and concerning the Principles of Morals*, ed. L. A. Selby-Bigge, 3rd ed., revised by P. H. Nidditch (Oxford: Clarendon Press, 1975).

2 I treat "visible" and "apparent" figure, and "visible" and "apparent" magnitude as synonymous, as are "real" and "tangible" figure and magnitude. These terminological confusions are present at I 133 (B 79), I 135–6 (B 82–4), I 142–4 (B 95–9) and at E 302 and 325ff. He uses the term "perspective appearance" synonymously with "visible figure" at I 135a (B 81). Norman Daniels believes that in the actual world visible and apparent figure and visible and apparent magnitude are synonymous due to contingent facts about us and our environments. Reid believes

it is possible that other creatures apprehend real figure through seeing, hence the need for the distinction. See *Thomas Reid's 'Inquiry'* (Stanford: Stanford University Press, 1974), 15–16, and, in Reid, I 150–2; B 108–12.

3 This relationship has been explored by Daniels, *Thomas Reid's 'Inquiry'*; Susan Weldon, "Direct Realism and Visual Distortion: A Development of Arguments from Thomas Reid," *Journal for the History of Philosophy* 20 (1982): 355–68; R. B. Angell, "The Geometry of Visibles," *Noûs* 8 (1974): 87–117; Gideon Yaffe, "Thomas Reid and the Geometry of Perspectival Shape," *The Philosophical Quarterly* 52 (2002): 602–20; and James Van Cleve, "Thomas Reid's Geometry of Visibles," forthcoming in *The Philosophical Review*. These authors discuss Reid's geometry for visible space, but, with the exception of Van Cleve, stop short of addressing its impact on Reid's theory of perception. Van Cleve's central concern is whether Reid's geometry of visibles constitutes a non-Euclidean geometry, but at the end of the paper he does address the implications of his interpretation on the direct character of visual perception. Though our interests and approaches differ, we seem to agree on the status of visible figure in the process of perception.

4 Alston, "Reid on Perception and Conception," in *The Philosophy of Thomas Reid*, ed. M. Dalgarno and E. Matthews (Dordrecht: Kluwer, 1989), 35–47, 38. See also George Pappas in "Sensation and Perception in Reid," *Noûs* 23 (1989): 155–67. Daniels senses this tension in Reid when remarking that he is "on the verge of plunging sensations into an insignificant role in our theories of mind and knowledge," 73.

5 Berkeley argues for a contrary position in the *Essay Towards a New Theory of Vision*, §149–59, in *The Works of George Berkeley*, ed. A. A. Luce and T. E. Jessop, 9 vols. (Edinburgh: Thomas Nelson and Sons, 1948–57), 1: 232; hereafter "*Works*." He claims that geometrical objects are not visual but tangible, and that visible figure functions merely to suggest tangible shape and size. According to Reid, Berkeley's description of this relation is too weak and falls short of explaining the interderivability between visible and tangible figure. In *Berkeley's Revolution in Vision* (Ithaca: Cornell University Press, 1990), Margaret Atherton identifies Berkeley's central purpose in the *New Theory* as "making a case against those who think what we see represents bodies existing in external space" (14). In contrast, this is precisely what Reid attempts to show with his geometry of visibles.

6 "Reid's Account of Localization," *Philosophy and Phenomenological Research* 61 (2000): 305–28, 318.

7 I have shown this is so in "Reid on Fictional Objects and the Way of Ideas," *The Philosophical Quarterly* 52 (2002): 582–601.

8 "Sensation, Perception, and Reid's Realism," (79–90) in Dalgarno and Matthews, *The Philosophy of Thomas Reid*, 79–90, 83.

9 Pitson, 84.

10 For a representation of this view, consult §§41–5 of the *New Theory* (*Works* 1: 185–8) and Phillip Cummins's helpful exegesis of these passages in "On the Status of the Visuals in Berkeley's *New Theory of Vision*," in *Essays on the Philosophy of George Berkeley*, ed. E. Sosa (Dordrecht: D. Reidel, 1987), 165–94, 168.

11 "Reid's Realism," *Journal of the History of Philosophy* 12 (1974): 317–40.

12 Ibid., 332.

13 There may be some confusion about the claim that, because visible figures are patches on a sphere, they can represent three-dimensional objects. If such figures are two-dimensional, one might argue, their representational abilities are inadequate to the task. Reid says that visible figures are 2-D (e.g., at E 349b), but they are unlike surfaces in plane geometry. Consider the surface of the state of Colorado. Pick a point on Colorado's flat and low eastern plain. Pick another point high in Rocky Mountain National Park. If the surface of Colorado possessed only length and width, then we could shift one point to the other by traversing only two dimensions—by moving only latitudinally and longitudinally. However, these two points are separated not only by distances along those two axes, but also by height. By moving latitudinally and longitudinally I can move the point formerly at the Kansas border near the point high in the Rockies but the two points will still be separated by a distance of two miles or so. While the inner surface of a sphere is not as topographically interesting as the surface of Colorado, it too—in virtue of not being a plane—exists in three-space, as would any patch on its surface. While such a surface isn't robustly 3-D, we might say of such surfaces that they are richly 2-D. But I don't believe that the argument on which only 3-D (and not richly 2-D) objects can represent other 3-D objects (in the sense of visual representation relevant here) can be made out anyway.

14 Some visible phenomena cannot be captured in a planar geometry. Lie on your back in the center of a square room with a flat ceiling. Look up at the four corners of the room. The angles you'll see are obtuse, i.e., the square contains angles that add to more than 360°. Reid's geometry of visibles explains this phenomenon. While this visible square cannot be drawn on a plane it can be drawn on a sphere. See Yaffe, "Thomas Reid and the Geometry of Perspective Shape," for the formal proof.

15 *Problems from Kant* (New York: Oxford University Press, 1999), 247–8.

16 Both Falkenstein ("Reid's Account of Localization") and Antony Pitson ("Reid on Primary and Secondary Qualities," *Reid Studies* 2 [2002]: 17–34) have convincingly shown this. Falkenstein argues that Reid's analysis of color and color terms is fraught with insurmountable conceptual confusion (see 317–24), whereas Pitson is more sympathetic to Reid's position. I address this issue in the context of Reid's epistemic distinction between primary and secondary qualities in a paper, forthcoming in *Journal of the History of Philosophy,* entitled "Concepts, Qualities and Reid's Inheritance from Locke."

17 We might turn this around to ask whether the sensation of color necessarily depends on seeing visible figure. Reid imagines another type of perceptual difficulty with which he denies this direction of dependence. Suppose

> the eye were so constituted that the rays coming from any one point of the object were not, as they are in our eyes, collected in one point of the retina, but diffused over the whole: it is evident that such an eye as we

> have supposed would shew the colour of a body as our eyes do, but that it would neither shew figure nor position. (I 145a; B 99)

This person senses color, but his visual system cannot detect visible figure. Since sensing color can in principle occur without seeing visible figure, color sensations do not reduce to seen figures.

18 Compare Berkeley's comments in the *New Theory*, §43 (*Works* 1: 186–7). Though color and figure are, *ceteris paribus*, constantly conjoined in our experience, this doesn't imply that the same color experiences attend all seen visible figures. Since Reid was attuned to phenomena like colorblindness and cataracts, he would allow, wisely, that subjects may not experience the *same* color even though their eyes will detect the same visible figure.

19 For an explanation and defense of this interpretation, see my "Learning and Conceptual Content in Reid's Theory of Perception," forthcoming in the *British Journal for the History of Philosophy*, where I analyze Reid's distinction between original and acquired perception.

20 See, e.g., Weldon, "Direct Realism and Visual Distortion," 364, 365.

21 I discuss this type of awareness—what underlies what Reid calls "original perception"—in "Learning and Conceptual Content in Reid's Theory of Perception." This type of awareness or acquaintance is *de re* and demonstrative. In the end, it seems indeterminate whether Reid thought the content of this form of awareness is truly conceptual (compare Bill Brewer, *Perception and Reason* [Oxford: Clarendon Press, 1999], chap. 2), or non-conceptual content (compare Christopher Peacocke, "Does Perception Have a Non-Conceptual Content?" *The Journal of Philosophy* 98 (2001): 239–64). I say this because his view seems to me to be sufficiently coarse so as to constrain us from choosing between those two options.

22 The seeds of this argument occur at T 1.4.2; SBN 187ff. Both of Hume's versions of the argument were available to Reid as of his *Inquiry*, which was originally published in 1764.

23 Reid focuses on Hume's argument, but at §§44–9 of the *Essay Towards A New Theory of Vision* (*Works* 1:187–9), Berkeley presents a similar argument. As Kenneth Winkler has brought to my attention, though, Berkeley's conclusion usually differs from the conclusion Reid draws from Hume's text. At *Principles* §15 Berkeley says that "it must be confessed this method of arguing doth not so much prove that there is no extension or colour in an outward object, as that we do not know by sense which is the true extension or colour of the object" (*Works* 2: 47).

24 Pappas, "Sensation and Perception in Reid," 156.

25 Alston, "Reid on Perception and Conception."

26 Pappas, 159.

27 Pappas, 156–7.

28 *Thomas Reid and the Story of Epistemology* (New York: Cambridge University Press, 2001). For an evaluation of the main argument of his book, see my review in this journal, 27 (2001): 349–52.

29 "The Sense of Touch," *Australasian Journal of Philosophy* 67 (1989): 37–58, 38, 45, 49.

30 Reid's maneuver, though, is incomplete. He does not establish here that we *do* sense objects directly via touch, but merely that Hume has not shown that we do not. At this juncture Hume could tailor a new perceptual relativity argument to show that we do not sense objects directly via touch. In fact, we can take Hume as voicing such an argument at T 1.4.4 and Reid should be called to task for not explicitly dealing with that important argument. Reid, however, *does* believe that our sense of touch puts us in some form of immediate contact with external bodies. He argues that primary qualities like hardness and shape immediately convey to us that the object we sense is extended (I 123a–b; B 61–2). Hence, Reid would attempt to contest any parallel relativity arguments that Hume would muster.

31 This way of clarifying Reid's point focuses on the nature of the "immediate *object*." One might also be concerned (though less so) with the use of "immediate" in describing Reid's account of perception. Despite the tendency in contemporary interpretations of Reid's theory of perception to emphasize the concept of immediacy, Reid rarely uses the term. When he does use it, he often uses it in different ways than do his commentators, in whose hands "immediate perception" implies that there are no mental objects that (necessarily?) come between an agent's state of awareness and a physical body. It is difficult to show that Reid uses "immediately" in this manner. Sometimes Reid refers to evidence that is "discerned immediately" and to the "immediate belief" produced in perception (E 258ff). In other words, when modifying "belief" with "immediate" Reid often means that (a) beliefs are produced quickly and irresistibly. He says, for example, that in perception we have "an irresistible conviction and belief of its cause" (E 258a). Failing that, Reid frequently means to convey by "immediate belief" that (b) perceptual beliefs are not brought about by "a train of reasoning and argumentation" (E 259b). Definition (a) is *temporal* and (b) is *epistemological*. Yet most commentators have something different in mind, namely (c) that external bodies are perceived without mediation by other perceived objects. If our driving concern is to clarify Reid's theory of perception, then we must undertake further work to show that there is such a sense of immediacy (even if it doesn't go by that name) at work in Reid's corpus. I think this can be done. We began, for example, with a passage that is at least in the ball park; I quoted Reid saying that the Ideal Theory "leans with its whole weight upon a hypothesis . . . [t]hat nothing is perceived but what is in the mind which perceives it" (I 96a; B 4). But finding textual entitlement to this use of "immediate" requires argument.

32 See I 129–30 (B 70–1) and E 183b. See William Alston's *The Reliability of Sense Perception* (Ithaca: Cornell University Press, 1993) for a fine Reidian response to this demand.

33 "Concepts, Qualities and Reid's Inheritance from Locke."

34 "Reid on Fictional Objects and the Way of Ideas."