

# A Theory of Sense-Data

ANDREW Y. LEE

Australian National University, Philosophy

I develop and defend a theory of sense-data. My theory follows the spirit of classic sense-datum theories: I argue that what it is to have a perceptual experience is to be acquainted with some *sense-data*, where sense-data are private entities that characterize what it's like to have a perceptual experience, that have all the properties they appear to have, that are common to both perception and hallucination, and that may be described as pictures inside one's head. But my theory also diverges from conventional sense-datum theories in some key respects: on my view, (1) sense-data are first-person presentations of neural states, (2) the sensational qualities of sense-data differ in kind from the sensible qualities of external objects, and (3) sense-data are the vehicles in virtue of which we perceive, rather than the objects that we perceive. I argue that this package of claims is appropriately labeled 'sense-datum theory', and that the resultant view ought to be a live contender in contemporary philosophy of perception.

## Introduction

The sense-datum theory is dead. It's not clear exactly when the moment of death occurred, but most agree it was a slow process that started sometime in the early twentieth century. Since then, a few brave theorists have attempted to resurrect the theory.<sup>1</sup> But whatever one might think about the merits of their arguments, it's fair to say that none of those attempts have brought sense-data back to life.<sup>2</sup>

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<sup>1</sup> For recent-ish defenses of sense-data, see Jackson [1977], Lowe [1992], Robinson [1994], García-Carpintero [2001], and O'Shaughnessy [2003]. For some classic discussions of sense-data, see Russell [1912, 1914], Moore [1913-1914], and Price [1932]. For a classic critique of sense-data, see Barnes [1944].

<sup>2</sup> In the 2020 PhilPapers Survey, fewer than 1% of respondents accepted sense-datum theory, rendering it one of the least popular views in the survey.

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The situation used to be different. Sense-data once occupied a central role in analytic philosophy. A century ago, few doubted the existence of sense-data—instead, the question was simply how to best understand their nature.<sup>3</sup> Since then, the idea of a sense-datum has become an object of philosophical ridicule. Few living philosophers choose to identify as sense-datum theorists. Those who favor views within the vicinity often take pains to emphasize why their view doesn't actually count as a sense-datum theory. Nowadays, to suggest that a theory is committed to sense-data is to expose an embarrassing consequence of that theory.

The aim of this paper is to develop and defend a version of sense-datum theory. In my opinion, the current unpopularity of the view is more a matter of sociological artifact than philosophical wisdom. I don't think we ought to take the existence of sense-data for granted, as philosophers did in those old days. But I do think the view ought to be taken much more seriously than it is now. There are caricatures of the view that are easy to disparage, and that may well be vulnerable to fatal objections. But once we move past those easy targets, we will see that the sense-datum theory is—or rather, ought to be—a live contender in contemporary philosophy of perception.

The theory I'll develop follows the spirit of classic sense-datum theories. I'll argue, alongside all sense-datum theorists, that what it is to have a perceptual experience is to be acquainted with some sense-data and that the phenomenal character of one's perceptual experience is constituted by the sense-data that one is acquainted with. I'll also accept—given the appropriate precisifications—that sense-data are private particulars that are common to perception and hallucination, that have all the properties they appear to have, and that are analogous to pictures inside one's head.

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<sup>3</sup> Price [1932: 18] says that “the admission that there are sense-data is not a very large one; it commits us to very little.” Instead, “the term sense-datum is...a *neutral* term” that “is meant to stand for...something from which all theories of perception ought to start, however much they may diverge later.”

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At the same time, my theory diverges from prototypical sense-datum theories in some key respects. On my view, (1) sense-data are first-person presentations of neural states, (2) the sensational qualities of sense-data are categorically different from the sensible qualities of external objects, and (3) sense-data are perceptual vehicles, rather than perceptual objects. These claims diverge from the picture that philosophers often have in mind when they hear the term ‘sense-datum theory’. But I’ll argue that this package of views is coherent, plausible, and in the spirit of classic sense-datum theories.

The divergences between my theory and more familiar versions of sense-datum theory will lead some to question whether my theory really ought to count as a sense-datum theory at all. I’ll say quite a bit over the course of the paper about why I think the best analysis of ‘sense-datum theory’ includes my view. And even those who still think my theory violates the right definition of ‘sense-data’ may still reinterpret this paper as an endeavor in conceptual engineering (rather than merely conceptual analysis). There’s a picture of perception that I want to paint, and I think it’s apt to label it with the term ‘sense-datum theory’. I’ll argue for the aptness of the label, but the more important element is the picture itself.

My dialectical aims are ambitious in one way and modest in another. The ambitious aim of this paper is to resurrect sense-datum theory: I want to show that those of us who feel the allure of sense-data need no longer resist such temptations, that those who have been quick to dismiss sense-data have overlooked the best versions of the view, and that appeals to sense-data need no longer be causes for embarrassment. But my aim is also modest in that I won’t attempt to persuade those already sympathetic to other views in the philosophy of perception. Given the present unpopularity of sense-data, it’s already an audacious task to argue that sense-datum theory is viable. The task of convincing those already swayed by another theory will wait another day.

Here’s the structure of the paper. §1 characterizes ‘sense-data’, articulates a core motivation for sense-datum theory, and defines what I’ll call

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the ‘standard sense-datum theory’; §2 presents the core claims of my theory of sense-data; §3 says more about the roles of acquaintance and representation in my theory; §4 explains how my theory answers the standard objections to sense-datum theories; and the APPENDIX discusses the relationship between sense-datum theory and qualia/inner-state theory.

## §1 Sense-Data

A philosophical theory of perceptual experience—in the sense that I’m interested in—must answer two questions:

- Q<sub>1</sub>: What is it for a subject to have a perceptual experience at all?
- Q<sub>2</sub>: What makes a given perceptual experience feel the way it does?

An answer to Q<sub>1</sub> tells us what the theory says about the *nature* of perceptual experience. An answer to Q<sub>2</sub> tells us what the theory says about the *character* of perceptual experiences. Here’s how sense-datum theories answer these questions:

### Sense-Datum Theory

NATURE: To have a perceptual experience is to be acquainted with some sense-data.

CHARACTER: The phenomenal character of one’s perceptual experience is constituted by the sense-data that one is acquainted with.<sup>4</sup>

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<sup>4</sup> Is CHARACTER a claim about partial or whole constitution? Well, consider a sense-datum theorist who thinks that only low-level phenomenal properties are wholly constituted by sense-data, but that perceptual experiences also instantiate high-level phenomenal properties (see Siegel 2010). Or, consider a sense-datum theorist who thinks that the qualitative character of perceptual experiences is wholly constituted by sense-data, but that perceptual experiences also have a subjective character (see Kriegel 2013). The coherence of these views indicate that it’s merely partial constitution that’s relevant. But for simplicity, I’ll set aside these sorts of views, and I’ll assume for the rest of the paper that the sense-datum theorist takes all phenomenal character to be wholly constituted by sense-data.

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A few remarks on terminology. I'll use *perceptual experience* non-factively, and I'll use *perception* to denote veridical perceptual experiences (so hallucinations are perceptual experiences, but not perceptions). In many contexts, I'll drop the term 'perceptual' and just use the term 'experiences'. I'll always use *sense-data* to denote particulars, and *sensational qualities* to denote the qualities that characterize sense-data. I'll use *sensible qualities* to denote the qualities referred to by sensible terms such as 'red', 'sweet', and 'loud'. A substantive question is whether sensational qualities just are sensible qualities—I'll discuss that later.

Over the rest of this section, I'll discuss how to define 'sense-data', the core motivation for sense-datum theories, and the commitments of what I'll call the 'standard sense-datum theory'.

### **'Sense-Data'**

Let's start with a basic question: What exactly are sense-data?

This question can be interpreted either as asking for (1) a *definition* of 'sense-data', or (2) a *theory* of sense-data. To answer the first question is to specify what is meant by the term 'sense-data'. To answer the second question is to provide an account of the nature of sense-data. Two philosophers might agree on how to use the term 'sense-data' yet disagree on which sense-datum theory is best (or whether any sense-datum theory is viable at all). For now, I'll focus merely on how to define 'sense-data'. This will enable us to identify the core commitments of any sense-datum theory, including my own.

Many characterizations of sense-data fare poorly as general definitions. Sometimes 'sense-data' is defined overly permissively, such as when sense-data are characterized as whichever objects one is acquainted with in having an experience. This definition has the undesirable consequence that even naïve realists count as sense-datum theorists, since naïve realists hold that perception involves acquaintance with external objects. Other times, 'sense-data' is defined overly restrictively, such as when sense-data are

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characterized as non-physical entities that one cannot have mistaken beliefs about. This definition has the undesirable consequence of excluding many authors who have explicitly called themselves ‘sense-datum theorists’, including some of the originators of the view.

I’ll understand ‘sense-data’ as any entities that satisfy all the following criteria:<sup>5</sup>

- (a) perceptual experience is a matter of acquaintance with sense-data.
- (b) sense-data are common to both perception and hallucination.
- (c) sense-data have all the properties they appear to have.
- (d) sense-data are particulars.
- (e) sense-data are private.

(a) is simply a paraphrase of NATURE and CHARACTER, and specifies the core theoretical role that sense-data play in a theory of perception. (b), (c), (d) and (e) specify what are arguably essential properties of sense-data.

I’ll use ‘sense-datum theory’ to denote the class of all theories that endorse the existence of sense-data. If we adopt this definition, then we include as sense-datum theorists nearly all authors who have explicitly labeled themselves so and exclude nearly all authors who have explicitly rejected that label.<sup>6</sup> I’ll say more later in support of this definition, and I’ll explain later how exactly I wish to substantiate notions such as ‘acquaintance’, ‘appear’, and ‘private’.

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<sup>5</sup> I’ll treat these conditions as individually necessary and jointly sufficient, though it won’t really matter if they are instead treated merely as diagnostics.

<sup>6</sup> Two odd cases are Bermudez [2000] and Forrest [2005], who both adopt the label ‘sense-datum theory’ (though who both also contrast their view with traditional sense-datum theories). Bermudez identifies sense-data with the facing surfaces of external objects, and Forrest identifies sense-data with universals. Both these authors are using ‘sense-data’ in a more permissive way than I’m using it here, and neither author aims to preserve mutual exclusivity between sense-datum theory, naïve realism, and intentionalism. In my preferred taxonomy, Bermudez is a naïve realist and Forrest an intentionalist.

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There's a subtle question, for sense-datum theorists, of whether phenomenal character is to be identified with sense-data themselves or with one's acquaintance of sense-data. I'll say more later about acquaintance. But for simplicity, I'll freely move back and forth between ascribing properties to sense-data and ascribing properties to experiences (where sense-data, on certain views, are constituents of experiences, rather than experiences themselves). I'll also make the following linguistic assumption: if a sense-datum is  $F$ , and if that sense-datum is a constituent of experience  $x$ , then there's a true reading of the sentence 'experience  $x$  is  $F$ '.

Sense-datum theories are often contrasted with *intentionalism*, according to which perceptual experience is a matter of experientially representing certain contents, and *naïve realism*, according to which perceptual experience is a matter of acquaintance with external objects. There are also qualia theory, inner-state theory, and adverbialism, whose definitions are murkier. It will be obvious how to demarcate my view from naïve realism. Otherwise, I'll discuss the relationship between my view and intentionalism in §3, and the relationship between my view and qualia/inner-state theory in the APPENDIX.<sup>7</sup>

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<sup>7</sup> There's also *adverbialism*, the view that different kinds of perceptual experiences are to be understood in terms of how one perceives (say, redly vs. greenly) rather than what one perceives. However, adverbialist theories tend to focus on a somewhat different explanatory target than other theories of perception. First, adverbialism is primarily an account of how to differentiate between different kinds of perceptual experiences, leaving open the question of what it is to have a perceptual experience in the first place. Second, adverbialist theories tend to focus mainly on linguistic issues (such as how to translate the objectual clauses in sentences about perceptual experiences into adverbial expressions), rather than the metaphysical and epistemological questions that other theories tend to focus on. These divergences make it difficult to characterize the relationship between adverbialism and other theories of perception. Sometimes, adverbialism is defined as rejecting PRESENTATION, in which case my theory is incompatible with adverbialism. Other times, adverbialism is taken to reject merely the claim that perceptual experience involves perceptual awareness of perceptual objects, in which case my theory is compatible with adverbialism.

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Sense-datum theory is often illustrated using metaphors and analogies. It's often said that sense-datum theorists think that perception is analogous to a virtual reality simulation occurring inside one's head, that the entities we are directly aware of are in some sense mental pictures, and that there is a veil of experience between ourselves and the external world. These expressions are sometimes invoked to evince the implausibility or extravagance of sense-datum theory. But these ideas all strike me as fundamentally correct, at least once we identify their most charitable interpretations. A goal of this paper is to argue that the kind of picture evoked by these colorful remarks is defensible.

### **The Core Motivation**

My aim is to develop a theory of sense-data. But I won't develop new motivations for sense-data; instead, my new theory will retain the support from old motivations. Although there are a number of classic arguments for sense-data, I'll mention only the argument that I find most compelling. The argument appeals to the following two premises:

PRESENTATION: If one has a perceptual experience, then one is presented with some particular instantiating certain qualities.<sup>8</sup>

COMMON KIND: If two experiences have the same phenomenal character, then they are of the same kind.

PRESENTATION leaves open the nature of the relevant particulars and the relevant qualities. That is, PRESENTATION leaves open whether the objects one is presented with are ordinary external objects, sense-data, or something else, and whether they instantiate sensible qualities, sensational qualities, or something else. Initially, it's tempting to endorse PRESENTATION on the grounds that whenever one has a perceptual experience, one is presented

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<sup>8</sup> Obviously, PRESENTATION is to be read narrow-scope rather than wide-scope.

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with an external object. But, as we all know, this claim is hard to sustain once we begin thinking about non-veridical perceptual experiences.<sup>9</sup>

COMMON KIND doesn't specify what it is for two experiences to be of the same kind. But I'll assume that anyone who endorses COMMON KIND is committed to the following: if experience  $x$  is of the same kind as experience  $y$ , and if the phenomenal character of  $x$  consists of being presented with entities of kind  $F$ , then the phenomenal character of  $y$  also consists of being presented with entities of kind  $F$ . This cumbersome claim is intended to capture the common idea that the phenomenal characters of hallucinations and perceptions ought to be given the same metaphysical analysis.

Much of the philosophy of perception is oriented around how to deal with these two claims (and whether we must give up on one of them). Those who endorse intentionalism tend to give up PRESENTATION, and those who endorse naïve realism tend to give up COMMON KIND. I find both PRESENTATION and COMMON KIND extremely compelling, and I think it's a great theoretical cost to give up on either claim. My intention isn't to argue for these claims here; instead, I simply wish to show how those sympathetic to these claims have reasons to be attracted to sense-datum theory.

If we accept both PRESENTATION and COMMON KIND, then it's relatively straightforward to construct an argument for sense-datum theory. We need two auxiliary premises, both of which are widely endorsed: (1) HALLUCINATIONS: hallucinations are possible, meaning that perceptual experiences can occur in the absence of external objects, and (2) SAME CHARACTER: for any perception, there is a possible hallucination that has the same

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<sup>9</sup> D'Ambrosio & Stoljar [MS] argue that 'perceive' can be interpreted as an intensional transitive verb, where one can perceive  $x$  even if  $x$  doesn't exist (just as one can search for  $x$  even if  $x$  doesn't exist). This move might enable one to vindicate the idea that whenever one has an experience, one is presented with some external particular instantiating sensible qualities. But whether or not that's right, this move doesn't satisfy the version of PRESENTATION that I take to motivate sense-datum theory, since the particulars that one is aware of in cases of hallucination would still be non-actual.

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phenomenal character.<sup>10</sup> Given these two premises, alongside COMMON KIND, we may conclude that perceptual experience is not a matter of awareness of external objects. But then, given PRESENTATION, there must be some other kind of particular that we are presented with in experience. Sense-data are intended to satisfy that theoretical role.

There are other arguments for sense-datum theory. But I take the argument sketched above to be its core motivation. And there's much more that may be said on whether it's viable to give up on either PRESENTATION or COMMON KIND. But I won't try to defend those premises here. Instead, I want to take the force of this argument for granted and show how we can develop a plausible theory that respects PRESENTATION and COMMON KIND (as well as HALLUCINATIONS and SAME CHARACTER).

### **The Standard Theory**

Before turning to my theory of sense-data, I'll first define what I'll call 'the standard theory'. The standard theory is intended to be the version of sense-datum theory that most contemporary philosophers have in mind when they hear the term 'sense-datum theory', that is the intended target of the standard objections to sense-datum theories, that is the most commonly invoked exemplar of sense-datum theory, and that will serve as a useful foil for my own view.

The standard theory accepts NATURE and CHARACTER, the core commitments of any sense-datum theory. It also accepts the following:

SUBSTANCE DUALISM: Sense-data are non-physical entities.

QUALITY MONISM: Sensational qualities are sensible qualities.

OBJECTUALISM: Sense-data are perceptual objects.

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<sup>10</sup> Although these premises are widely endorsed, though some have contested them. See Masrour [2020] and Byrne & Manzotti [forthcoming] for articles contesting the possibility of hallucinations, and Hinton [1967], Martin [2006], and Fish [2009] for articles contesting sameness of phenomenal character.

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The challenges for the claims above are familiar and well-examined. I'll mention some of the challenges later, when I discuss traditional objections to sense-datum theories. My main focus, though, will be on how my view diverges from the standard theory, especially on the three claims above. But before moving to my view, I'll first address a metatheoretical worry:

**The Verbal Objection:** No view that rejects SUBSTANCE DUALISM, QUALITY MONISM, and OBJECTUALISM can count as a sense-datum theory. At least one of these claims is built into the definition of 'sense-data'. Therefore, even if the theory developed in this paper is defensible, it's not a version of sense-datum theory.

I'll make five points in response. None is intended to be individually decisive, but I think they collectively make a strong case for resisting this objection.

**HISTORICAL PRECEDENT**—In the early twentieth century, many sense-datum theorists, such as Moore [1914] and Russell [1914: 149], explicitly rejected SUBSTANCE DUALISM, holding instead that sense-data are physical entities. Other sense-datum theorists, such as Price [1932: 18], took it to be an open question whether sense-data are mental, physical, both, or neither.<sup>11</sup>

During this time, sense-datum theorists usually took for granted that sense-data instantiate sensible qualities (such as redness). But this may be partly due to the limited vocabulary available for describing the qualities of sense-data. Furthermore, some historical philosophers explicitly rejected QUALITY MONISM: for example, Russell [1912: 17] held that the qualities

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<sup>11</sup> Russell [1914: 116] says, "I regard sense-data as not mental, and as being...part of the actual subject-matter of physics." See Hatfield [2021] for more discussion.

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instantiated by sense-data differ in kind from the qualities instantiated by external objects.<sup>12</sup>

It's harder to find historical works that explicitly deny OBJECTUALISM. But (as I'll discuss more later) this may be largely an artifact of shifts in vocabulary. The theory of sense-data I'll develop construes sense-data as perceptual vehicles (instead of perceptual objects), but talk of 'vehicles' became popular within analytic philosophy only in the late twentieth century.<sup>13</sup> Moreover, historical sense-datum theorists often drew a distinction between direct vs. indirect objects of perception that sometimes mirrored the distinction that I'll draw between perceptual vehicles and perceptual objects.

**TERMINOLOGICAL VARIANCE**—Sometimes 'physical' means any entities that are ultimately constituted by microphysical entities. Other times 'physical' means only entities that are paradigmatic physical objects, usually with clear spatial boundaries. As examples, economies and beliefs are physical in the former sense but non-physical in the latter sense. Likewise, sense-data clearly aren't physical in the latter sense, but they may be physical in the former sense. In some contexts where sense-data are defined as non-physical, it's only the former sense that's intended, but the polysemy of 'physical' may lead some to interpret such claims as defining sense-data to be non-physical in the latter sense.

The core theoretical roles associated with sensible terms have shifted over time. Historically, sensible terms were used primarily to denote whichever qualities are directly presented in experiences. Nowadays, sensible terms are used primarily to denote the qualities of external objects. If we privilege the former role, then sense-data do instantiate sensible qualities

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<sup>12</sup> Hatfield [2002: 210], using the language of contemporary philosophy, writes that Russell [1912] distinguished "between phenomenal color as found in sense-data and the physical color properties that cause those sense-data."

<sup>13</sup> It's not clear exactly when the term 'vehicles', in the relevant sense, was first used in analytic philosophy, but Dennett [1991], Millikan [1991], and Dennett & Kinsbourne [1992] were influential in popularizing the term.

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(but we ought not take it for granted that sensible qualities are instantiated by external objects). If we privilege the latter role, then it's external objects instantiate sensible qualities (and we ought not take it for granted that sense-data instantiate sensible qualities). Given this shift in theoretical roles, it's unsurprising that sense-data were historically defined as instantiating sensible qualities. But once we disentangle these roles, it's better to leave open whether sense-data instantiate sensible qualities.

**CONTEMPORARY DEFINITIONS**—In contemporary philosophy, it's relatively common to see either SUBSTANCE DUALISM, QUALITY MONISM, or OBJECTUALISM built into the definition of 'sense-datum theory'. But there's no single standardized definition associated with 'sense-datum theory', and it's often unclear whether a given gloss is intended to cover all versions of the view (including historical precedents). Moreover, many contemporary authors focus mainly on mentioning the excesses of the standard theory, rather than on developing a general analysis of 'sense-datum theory'.

For each of the claims of the standard theory, there are contemporary precedents for leaving that claim out of the definition of 'sense-datum theory'. Crane & French [2021: 3.1] characterize a sense-datum as "just *whatever* it is that you are directly presented with that...characterize[s] the character of your experience," leaving open questions about "the *nature* of sense-data." They also suggest that the sense-datum theorist might construe sense-data "the medium by which we perceive ordinary objects." Robinson [1993: 214] considers sense-datum theories where the qualities of sense-data are merely isomorphic (rather than identical) to the qualities of the objects they represent. Macpherson [2014: 388] considers sense-datum theories that hold that "sense-data and their properties are vehicles of representation for contents that are mind-independent objects," where "phenomenal character consists in the sense-datum and its properties (the vehicle)" rather than "what is represented." And García-Carpintero [2001: 26, 29] distinguishes the "primed" redness instantiated by sense-data from the redness instantiated by external objects, leaving open whether the primed redness "might be identified *a posteriori* with a neurological property."

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**THEORETICAL SPACE**—A taxonomy of theories of perception ought to carve up the theoretical space in interesting and fruitful ways. A more loaded definition of ‘sense-datum theory’ yields a less elegant partition of the theoretical space, leaving unsightly cracks between the categories. On my preferred taxonomy, the main theories of perception are distinguished via their answers to two fundamental questions for the philosophy of perception: (1) What is it to have a perceptual experience at all?, and (2) Which kinds of entities constitute the phenomenal characters of perceptual experiences? Further questions—about whether experiences are physical or not, about whether sensible qualities are instantiated by experiences or not—depend on the specific version of the theory one adopts.<sup>14</sup>

**CONCEPTUAL ENGINEERING**—Theoretical terms vary in how standardized their definitions are. When we have a term that’s loosely defined—as with ‘sense-datum theory’—it’s partly up to us how to define it. There’s probably no definition of ‘sense-datum theory’ that includes all and only those who have called themselves sense-datum theorists. But we can still construct a definition that respects historical precedent, that generates a natural partition of the theoretical space, and that captures the spirit of the view. In other words, constructing a definition of ‘sense-datum theory’ is an endeavor both in conceptual analysis and in conceptual engineering.<sup>15</sup>

It may strike some readers as silly to expend this much philosophical effort over how we classify views. But while classification is in some sense

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<sup>14</sup> Since naïve realists think that the phenomenal characters of perceptual experiences are constituted by the qualities of external objects, there’s little room for them to endorse QUALITY DUALISM. By contrast, while most intentionalists have favored QUALITY MONISM, it’s possible for an intentionalist to endorse QUALITY DUALISM. In fact, intentionalists who take perceptual experiences to be characterized by Edenic contents—such as Chalmers [2006]—may be construed as endorsing QUALITY DUALISM.

<sup>15</sup> Coates [2007] says the following: “There has never been a single universally accepted account of what sense-data are supposed to be; rather, there are a number of closely related views, unified by a core conception. This core conception of a sense-datum is the idea of an object having real existence, which is related to the subject’s consciousness. By virtue of this relation the subject becomes aware that certain qualities are immediately present.”

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a verbal issue,<sup>16</sup> it's also dialectically significant, at least for this particular case. The mere accusation that a view might be classified as a sense-datum theory is oftentimes construed as an objection to that view. And this fear of embarrassment by association distorts the philosophical conversation. Occasionally, a philosopher develops a theory of perceptual experience that looks, sounds, and feels very like a sense-datum theory, but then stresses that their view isn't actually a version of sense-datum theory. Other philosophers, meanwhile, accuse such views of merely being sense-datum theory repackaged in language more agreeable to contemporary philosophers.<sup>17</sup> A goal of this paper—alongside developing a theory of perception—is to undermine the dialectical force of that move. Whatever you think about the substantive claims of my view, you won't win a debate by accusing me of being a sense-datum theorist.

## §2 The Core Theory

I'll now present the package of claims that collectively comprise my theory of sense-data. In the next section, I'll further characterize my theory by discussing how acquaintance and representation fit into the view.

A preliminary qualification: I won't have room to fully defend each individual component of my theory. But when possible, I'll note other authors (who may or may not be sense-datum theorists) who have defended similar claims. In fact, many of my arguments are intended to show how a contemporary sense-datum theorist can avail themselves of philosophical moves that hadn't yet been developed in earlier periods.

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<sup>16</sup> Verbal issues—at least about which classification procedures we ought to use—can also still be philosophically interesting and substantive. See Nado [forthcoming] for discussion of conceptual engineering as a matter of developing classification procedures

<sup>17</sup> Here's a recent example: Jackson [2018: 2], in a review of Levine's "Quality and Content: Essays on Consciousness, Representation, and Modality," says that Levine's "virtual objects"—objects that characterize what it's like to have perceptual experiences, and that are of a distinct metaphysical category from external objects—are perhaps merely "sense data under another name."

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The first two claims of my theory are just the ones constitutive of any sense-datum theory:

NATURE: To have a perceptual experience is to be acquainted with some sense-data.

CHARACTER: The phenomenal character of one's perceptual experience is constituted by the sense-data that one is acquainted with.

The other three claims mark the ways in which my theory diverges from the standard theory:

QUALITY DUALISM: The sensational qualities of sense-data differ in kind from the sensible qualities of external objects.

SUBSTANCE MONISM: Sense-data are first-person presentations of neural states.

VEHICALISM: Sense-data are perceptual vehicles.

In what follows, I'll discuss and motivate each of these claims. I'll also discuss advantages of my theory over the standard theory.

### 1. QUALITY DUALISM

On my view, the sensible qualities of external objects (which I'll denote using terms such as 'redness', 'sweetness', and 'loudness') differ from the sensational qualities of sense-data (which I'll denote using terms such as 'redness\*', 'sweetness\*', and 'loudness\*'). Apples are red and pears are green, but the sense-data in virtue of which we perceive apples and pears are red\* and green\*.

This follows a familiar move in the philosophy of mind. While it's clear what is meant when someone uses sensible terms to describe experiences, few people nowadays think that it's literally true that experiences themselves are red, sweet, or loud. Still, it's obvious that the qualities that characterize experiences bear important relations to sensible qualities.

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Because of this, many philosophers denote the qualities of experiences via some systematic modification of sensible terms. For example, the quality of experiences typically caused by red objects might be labeled ‘phenomenal red’, ‘reddish’, or (by the convention I adopt here) ‘red\*’.<sup>18</sup> Most philosophers who make this move don’t endorse the existence of sense-data. But they do endorse a view in the spirit of QUALITY DUALISM, since they draw a distinction drawn between the kinds of qualities that characterize experiences and the kinds of qualities instantiated by external objects.

By endorsing QUALITY DUALISM, my theory avoids many of the problems that face standard sense-datum theories. Suppose you hallucinate a red tomato. Any sense-datum theorist who endorses QUALITY MONISM must accept that you are thereby aware of something that is red. But where is this red thing located? Since you’re hallucinating, there may be nothing red in your local environment. And if we look inside your head, we will find nothing red either. If we instead adopt QUALITY DUALISM, then this puzzle dissolves. The fact that you hallucinate a red apple doesn’t entail that you’re aware of anything red. Instead, it merely entails that you’re aware of something red\*. And there’s no reason to think that an external observer looking inside your head would be able to see the redness\* of your sense-data (just as there’s no reason to think that they would be able to see your pain).

Sometimes sense-datum theories are characterized as committed to the *Phenomenal Principle*: if it perceptually appears to one that something is F, then one is aware of something that is F.<sup>19</sup> However, this commitment holds only if one assumes QUALITY MONISM. More precisely, one could motivate the Phenomenal Principle by appealing to QUALITY MONISM, PRESENTATION (whenever one has a perceptual experience one is presented with some sense-data), and the appearance criterion (sense-data have all the

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<sup>18</sup> Byrne [2009] distinguishes qualities of experiences (sensory qualities) from qualities of sense-data (sensational qualities). This is a subtle distinction that isn’t important for present purposes—I’ll assume that the qualities instantiated by an experience just are the qualities instantiated by the sense-data that constitute that experience.

<sup>19</sup> See Crane & French [2021].

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properties they appear to have). Since I reject QUALITY MONISM, I think the Phenomenal Principle is mistaken. At the same time, I think the intuitions that motivate the Phenomenal Principle can be accommodated by my theory. On my view, there's a variant of the Phenomenal Principle that's true: if it perceptually appears to one that something is F, then one is aware of something that is F\*. If you have an experience as of a green circle, then it may turn out that there aren't in fact any green circles, but it will be the case that there are green\* circular\* sense-data.

QUALITY DUALISM is a primarily a metaphysical thesis, rather than a semantic thesis. There's debate about whether sensible terms, such as 'redness', 'sweetness', and 'loudness' denote properties of external objects, or experiences, or both, or neither.<sup>20</sup> Here I'm following current orthodoxy and assuming that sensible terms denote properties of external objects. But the semantic question of the referents of our sensible terms is distinct from the metaphysical question of whether the qualities that characterize sense-data differ in kind from the qualities that characterize external objects. The core dispute behind QUALITY DUALISM vs. QUALITY MONISM isn't about which things are properly labeled 'red', 'sweet', and 'loud'. What's more important is the metaphysical claim that there are two distinct classes of qualities, which I distinguish using the labels 'sensational qualities' and 'sensible qualities'.

This last point pertains to those who wish to hold that sense-data, by definition, instantiate sensible qualities.<sup>21</sup> This might be motivated by the idea that sensible qualities are the qualities instantiated by whatever we are

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<sup>20</sup> See Peacocke [1984], Rosenthal [1999], Brown [2006], and Raleigh [2022] for discussion.

<sup>21</sup> Here's one example, from Papineau [2021: 29]: "Might not sense data be identified with physical brain states to which we have introspective access?...[S]uch brain states are not qualified to play the role of sense data. It is essential to sense data that they can bear such properties as yellowness and roundness. They are introduced precisely to bear such properties in the bad cases where no external physical objects do this. But neural brain states do not fit this bill. The brain states occasioned when I have an experience of a yellow ball are not themselves yellow or round."

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directly presented with in experiences. Personally, I don't find it obvious that sensible qualities *must* satisfy that theoretical role: I think it's tenable to hold that we are never directly presented with sensible qualities (but instead only with sensational qualities). But for those inclined to make this move, my countermove is to restructure the semantics of my view. The alternative version of my view draws a distinction between sensible qualities of sense-data (denoted by sensible terms such as 'red'), and perceptible qualities of external objects (denotable by modified terms such as 'red\*'). On this view, nothing in the external world is red, loud, or sweet; instead, it's only our experiences that instantiate those qualities. In response, one might object that a simple semantic restructuring ought not make the difference between whether or not one is a sense-datum theorist. But that's exactly my point: the important issue concerns QUALITY MONISM vs. QUALITY DUALISM, rather than whether sensible terms denote properties of sense-data or properties of external objects. (For the rest of the paper, I'll return to assuming that sensible terms refer to qualities of external objects).

Some might object that QUALITY DUALISM renders sensational properties mysterious. We all know what redness, sweetness, and loudness are. But what are redness\*, sweetness\*, and loudness\*? I'll say more about this in a moment.

## 2. SUBSTANCE MONISM

According to SUBSTANCE MONISM, sense-data are first-person presentations of neural states.<sup>22</sup> Put another way, sense-data are neural states accessed from a first-person perspective.

There's a subtle metaphysical question about whether sense-data are to be identified with the first-person presentations or with the neural states

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<sup>22</sup> My discussion is framed in terms of neural states. But nothing essential turns on either the term 'neural' or the term 'state'. If one instead prefers the view that sense-data are identical to (say) *functional* states or to neural *events*, then there will be straightforward ways of translating my claims into the preferred framework.

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that are presented. I'll remain agnostic between these options. It may turn out that the relevant neural states are individuated in such a way that they exist only when presented first-personally, in which case these two versions of the view will be extensionally equivalent. Otherwise, the question basically turns on whether sense-data can exist unconsciously (at least if we assume that to be presented first-personally just is to occur consciously). I don't see a strong reason for favoring either view, and I suspect that which option is best will depend on one's other theoretical commitments. For the rest of the paper, I'll talk as though sense-data are identical to the neural states themselves (but that we call them 'sense-data' only when they're presented first-personally). But this is mostly for simplicity of prose: those who instead favor identifying sense-data with the first-person presentations can translate all my claims.

Note that SUBSTANCE MONISM is a claim about particulars; it leaves open the metaphysical relationship between sensational properties and physical properties. In the context of classic metaphysics of mind, SUBSTANCE MONISM is a very modest claim: it's analogous to token physicalism, and leaves open whether sensational properties are identical to physical properties. Nevertheless, the claim marks an important point of divergence between my sense-datum theory and the standard theory. Whereas the standard theory takes sense-data to be fundamentally different in kind from physical entities, my theory holds that every sense-datum is identical to some physical entity.

The idea that sense-data are identical to neural states may strike some as puzzling. The claim entails that every property of a sense-datum is likewise a property of a neural state, and that every sense-datum itself instantiates a number of neural properties. But it seems a category mistake to say that a neural state is red\*, sweet\*, or loud\*, or to say that a sense-datum is located in the parietal lobe or fires at a rate of .3Hz. To precisify the worry, let's say a *sensational fact* is any fact that predicates only sensational properties, and a *physical fact* is any fact that predicates only physical properties.

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On the face of it, sensational facts seem radically different from physical facts. How can we reconcile this with SUBSTANCE MONISM?

I think the responses to this question basically correspond to familiar strategies for addressing the explanatory gap between physical facts and phenomenal facts. In what follows, I'll mention two responses: the first is a natural response for physicalists, and the second is a natural response for non-physicalists. These aren't the only moves available to the sense-datum theorist, but they're responses that I think many will find compelling. I won't elaborate on these responses. Instead, my aim is to point out how sense-datum theorists can avail themselves of moves that are already commonly made in contemporary philosophy of consciousness.

The first response denies that sensational facts are different from physical facts. Instead, according to this response, there's merely a difference in modes of presentation. On this view, every sensational fact *Q* is identical to some physical fact *P*. But the very same fact strikes us differently when it's accessed via a first-person mode of presentation vs. a third-person mode of presentation. The apparent difference between sensational facts and physical facts is merely a matter of the way in which we are presented with the relevant facts, rather than a matter of those facts themselves. This response is analogous to the phenomenal concepts strategy endorsed by many physicalists as a response to the explanatory gap.<sup>23</sup> The idea behind the phenomenal concepts strategy is to hold that (*a*) phenomenal facts are grounded in physical facts, but (*b*) phenomenal concepts are conceptually isolated from physical concepts. A structurally analogous strategy can be deployed to defend a physicalist theory of sense-data.

The second response accepts that sensational facts differ in kind from physical facts. Though every sense-datum is identical to a neural state, sensational properties are distinct from physical properties. On this view, there's a class of facts about physical entities that physical sciences leave us ignorant about. One popular way of developing this strategy is to hold that

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<sup>23</sup> See Balog [2012] for a defense of the phenomenal concepts strategy.

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physical sciences yield knowledge of only the structural and functional roles that physical entities play, leaving open the qualitative nature of those physical entities.<sup>24</sup> The sense-datum theorist who favors this move would then hold that the sensational properties of sense-data characterize the qualitative nature of the neural states that those sense-data are identified with. A structurally analogous strategy can be deployed to defend a non-physicalist theory of sense-data.

I'll remain neutral on how exactly to understand the relationship between sensational facts and physical facts. There's plenty of prior literature (on the explanatory gap between phenomenal facts and physical facts) that explores the kinds of strategies mentioned above. My general point is that the sense-datum theorist can appeal to analogous strategies to account for the relationship between sensational facts and physical facts.<sup>25</sup> Although it may initially be puzzling how sense-data could be identified with neural states, it's also puzzling how phenomenal particulars could be identified with physical particulars. Yet nearly everyone (except for substance dualists) accepts the latter identification. Given the analogy between the cases, the sense-datum theorist has plenty of available moves for defending the former identification.

Some might object that SUBSTANCE MONISM is in tension with the appearance-reality condition for sense-data. If sense-data are identical to neural states, then sense-data have neural properties, but sense-data don't appear to have neural properties, so perhaps sense-data cannot be identified with neural states. However, the appearance-reality criterion says only that if a sense-datum appears F, then it is F. By contrast, the present objection appeals to the converse conditional: if a sense-datum is F, then it appears F. This converse conditional is implausible. A sense-datum might have the

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<sup>24</sup> CITATIONS.

<sup>25</sup> The only strategy that strikes me as unavailable to the sense-datum theorist is illusionism. Since illusionists deny the existence of phenomenal consciousness, the analogous strategy would involve denying the existence of sense-data, which is tantamount to denying sense-datum theory.

property of being my favorite mental state, but that doesn't mean that it appears to have that property. Just because sense-data have all the properties they appear to have doesn't mean that they appear to have all the properties they have.<sup>26</sup>

### 3. VEHICALISM

A *perceptual vehicle* is a mental state in virtue of which one perceives; a *perceptual object* is that which is perceived. A central claim of my theory is that sense-data are perceptual vehicles, rather than perceptual objects. Put another way, sense-data are *how* we perceive, rather than *what* we perceive.

A preliminary remark: many philosophers contrast vehicles with contents, rather than objects.<sup>27</sup> A vehicle is what does the representing; a content is how things are represented as being. The term 'content' is ambiguous between denoting something abstract (such as a proposition or a property) vs. something concrete (such as an external object), but I'll always use 'content' in the former way (I'll use 'object' for the latter). On my definition of 'sense-data', it's an analytic truth that sense-data are particulars. By consequence, sense-data cannot be contents. But that still leaves open whether sense-data are vehicles or objects, which turns on the question of OBJECTUALISM vs. VEHICALISM. In §4, I'll say more about contents; for now, I'll focus on vehicles and objects.

Sense-datum theorists have traditionally taken OBJECTUALISM for granted. But the distinction between 'vehicles', 'contents', and 'objects' is relatively recent terminology. Since VEHICALISM wasn't easily expressible in the vocabulary of the early twentieth century, it's not obvious which historical sense-datum theorists would endorse OBJECTUALISM vs. VEHICALISM

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<sup>26</sup> Pautz [2021: 58] argues that 'sense-datum theory' ought not be defined as committed to the claim that if a sense-datum is F, then it appears F.

<sup>27</sup> Dretske [2003: 68]: "There are representational vehicles—the objects, events, or conditions that represent—and representational contents—the conditions or situations the vehicle represents as being so. In the case of mental representations, the vehicle (a belief or an experience) is in the head."

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once the theoretical options are distinguished. Moreover, some contemporary philosophers, such as Macpherson [2014: 388], explicitly say that “sense-data and their properties are vehicles of representation.”

Historically, many sense-datum theorists distinguished between *direct* vs. *indirect* perceptual objects: whereas external objects are indirect perceptual objects (because we perceive external objects only in virtue of perceiving sense-data), sense-data are direct perceptual objects (because there is no  $x$  such that we perceive sense-data in virtue of perceiving  $x$ ). This version of OBJECTUALISM is structurally similar to VEHICALISM: both hold that the relation we bear to sense-data differs in kind from the relation we bear to external objects. The question comes down to whether both relations (or only the latter) is a form of perception. This question is largely verbal. But I think it’s conceptually cleaner to reserve ‘perception’ for relations we bear to external objects. By doing so, we (1) avoid the consequence that we perceive our own sense-data, (2) avoid the consequence that we never perceive external objects directly, (3) retain a mutually-exclusive distinction between acquaintance and perception, and (4) retain a clear distinction between direct and indirect perception of external objects.<sup>28</sup>

Some might nevertheless prefer OBJECTUALISM to VEHICALISM because of *transparency*: normally, we attend to the objects of perception, rather than to experiences themselves. If we endorse OBJECTUALISM, then we retain that claim, since on such a view our awareness of sense-data is simply a matter of attending to certain kinds of perceptual objects. On the other hand, if we endorse VEHICALISM, then it may seem unobvious how to

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<sup>28</sup> On VEHICALISM, when you see an apple in your immediate environment, you perceive the apple directly; when you see a photograph of that apple, you perceive the apple indirectly. On OBJECTUALISM, you perceive the apple only indirectly in both cases. A proponent of OBJECTUALISM might try to save this distinction by appealing to higher-order levels of indirectness (you indirectly-indirectly perceive the apple when seeing the photograph), but I think it’s conceptually cleaner to reserve ‘perception’ for the representational relation we bear to external objects (rather taking it to also cover the acquaintance relation we bear to our own sense-data).

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accommodate the claim that we are aware of our own sense-data. If sense-data aren't the objects of perception, then in what sense can we be said to be aware of them?

The argument above assumes that in order to be aware of  $x$ , one must attend to  $x$ . But anyone sympathetic to both SENSE-DATA and VEHICALISM should simply deny this claim. More specifically, let's distinguish between the *objects* vs. the *occupants* of attention. Objects of attention are what one attends to; occupants of attention are the mental states in virtue of which one attends. When you look at a tomato, the tomato is the object of your attention, but your visual experience of the tomato is the occupant of your attention. Perceptual experience essentially involves awareness of sense-data, but that awareness isn't a matter of perceiving sense-data themselves. A better locution is to say that we perceive *with* sense-data.<sup>29</sup>

Is it possible for sense-data to be the objects, rather than the occupants, of attention? This is equivalent to asking whether it's possible to attend to one's own sense-data. The question parallels current debates about the extent to which experiences are transparent. On a *strong transparency* view, we can attend only to external objects, but never to our own experiences. On an *weak transparency* view, we normally attend to external objects, though it's possible to attend to our own experiences. I favor weak transparency: I think we can attend to our own sense-data, in a way analogous to how we can attend to the image on a screen. But my theory is compatible with strong transparency, since my theory doesn't require holding that we ever attend to sense-data themselves.

It should now be evident how my theory accepts that sense-data are analogous to pictures inside one's head. Imagine looking at a photograph. The photograph itself is a vehicle. Your attention isn't directed at vehicular properties of the photograph; instead, it's directed at what is represented. You see *through* the photograph, into the scene. Yet you're able to attend to

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<sup>29</sup> See Watzl [2017: 87, 93] for more discussion of the distinction between objects and occupants of attention, as well as what it is for a mental state to occupy one's attention.

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the scene only in virtue of your awareness of the photograph. And even though your attention is directed at the scene, there's still a sense in which you're aware of the photograph. There are limits to this analogy: whereas you directly perceive the photograph (and indirectly perceive the scene), you don't perceive sense-data at all (you perceive external objects). But I think there are many ways in which the pictorial analogy is apt.

Oftentimes, sense-datum theory is characterized as an indirect theory of perception. My theory of sense-data takes perception to be indirect in some senses but direct in other senses. Perception is indirect in that (a) perception of external objects is mediated by sense-data, and (b) perceptual experiences aren't constituted by external objects. But perception is direct in that (c) perception of external objects isn't mediated by perception of some other kind of entity, and (d) normally, the objects of perceptual attention are external objects (rather than experiences).

### **Summary**

Here's the essence of my theory of sense-data: To have a perceptual experience is to be acquainted with some sense-data, and the phenomenal characters of perceptual experiences are constituted by the sense-data that one is acquainted with. Sense-data are first-person presentations of neural states. Sense-data instantiate sensational qualities, rather than the sensible qualities of external objects. And sense-data are that in virtue of which we perceive, rather than the objects that we perceive.

### **§3 Acquaintance, Representation, and Sense-Data**

I've articulated the core claims of my theory. To further characterize my view, I'll say more about acquaintance and representation, and about how my theory of sense-data satisfies the criteria for sense-data mentioned in §1.

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## Acquaintance

Both NATURE and CHARACTER—the core claims of any sense-datum theory—invoke acquaintance. Most authors take acquaintance to be conceptually primitive, meaning that there’s no analysis of acquaintance in terms of more fundamental concepts.<sup>30</sup> But even so, we can still characterize acquaintance by identifying its theoretical roles and by contrasting it with other epistemic relations. Here are two of its core roles:

- AWARENESS: If one is acquainted with  $x$ , then one is aware of  $x$ .
- FACTIVITY: If one is acquainted with  $x$ , then  $x$  actually exists.

Oftentimes, acquaintance is contrasted with representation. I’ll assume, following orthodoxy, that acquaintance (but not representation) is an epistemic relation that cannot be illusory or veridical, and that states of acquaintance (but not representation) are partially constituted by their objects. I won’t assume that acquaintance suffices for any sort of knowledge, and I won’t make any assumptions about what one is in a position to know about  $x$  in virtue of being acquainted with  $x$ . Traditionally, acquaintance theories have been associated with principles that take knowledge of one’s own experiences to be especially secure: for example, some acquaintance theorists have held that one is in a position to know every phenomenal fact about one’s experience, or that phenomenal knowledge of one’s own experiences is infallible. But my theory of sense-data doesn’t require endorsing any such principles, and I’ll leave open exactly how we should understand the epistemic consequences of acquaintance.

Because sense-datum theories are committed to acquaintance, they are commonly described as endorsing the idea that experiences have an *act/object structure*. This is sometimes intended to demarcate sense-datum theories from qualia/inner-state theories (see APPENDIX for more

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<sup>30</sup> See Hasan [2019] and Duncan [2021] for overviews of acquaintance, including more systematic discussions of its theoretical roles.

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discussion), and might be thought of as a motivation for OBJECTUALISM. However, it's often unclear what exactly this expression means. As a first pass, we might think of it as the claim that experiences have the metaphysical structure  $A(s, x)$ , where  $A$  is the awareness relation (the "act"),  $s$  is the subject, and  $x$  is the experience (the "object"). But that claim by itself is very weak: for example, it leaves open the possibility that the subject of experience is partially constituted by the experience itself. Consider, as an analogy, the claim that persons have the metaphysical structure  $C(s, b)$ ,  $C$  is the "constituted by" relation that any person  $s$  stands to their body  $b$ . This claim may be true, but it says little of substance about the metaphysical structure of persons.

Some might think that the ascription of an act/object structure to experiences requires that the subject of experience be metaphysically disjoint from the experience itself. But there's no obvious reason that acquaintance theorists must be committed to that claim. Some acquaintance theorists, such as Bonjour [2003], say that acquaintance is "an intrinsic feature of experiences" and think that the grammatical structure of acquaintance ascriptions may be misleading with respect to the metaphysical structure of the target phenomena. These acquaintance theorists favor a deflationary analysis of subjects of experience (where subjects aren't metaphysically disjoint from the experiences themselves).<sup>31</sup> The term 'acquaintance', at its core, expresses an epistemic relation, and what kinds of metaphysical consequences follow from that epistemic relation is a matter for debate.

Sometimes sense-datum theory is criticized on the grounds that acquaintance itself is obscure.<sup>32</sup> Although it's beyond the scope of this paper to defend acquaintance, it's worth noting that many rival theories also postulate acquaintance. In particular, naïve realists hold that perceptual experience is a matter of acquaintance with external objects, and some

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<sup>31</sup> Hasan [2019] describes such a view as follows: "On this view, awareness is not a relation between the self and something else, but is an intrinsic feature of the mental state itself, though one that is still relational in the sense that it is directed at something."

<sup>32</sup> See Coates [2007: §5.c] for a version of this objection.

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intentionalists hold that we are acquainted with certain kinds of universals.<sup>33</sup> If the sense-datum theory's appeal to acquaintance is objectionable, then analogous considerations apply to these rival views as well.

We are now better positioned to see how my theory of sense-data satisfies both PRESENTATION and COMMON KIND (the principles that were invoked in §1 to motivate sense-datum theory). When one has an experience, one is presented with some particulars (namely, the sense-data that constitute one's experience) instantiating certain qualities (namely, the sensational qualities of those sense-data). But PRESENTATION isn't true because one is presented with a perceptual object; instead, it's true because one is presented with a perceptual vehicle. When one has an experience as of a red tomato, there may be no red tomato in one's local environment that one is presented with via perception. But there are some sense-data (representing the tomato) that one is presented with via acquaintance. And since this metaphysical analysis of perception applies equally in both cases of perception and cases of hallucination, my theory satisfies COMMON KIND.

### **Representation**

If sense-data are vehicles—as VEHICALISM claims—then do they have contents? My view is 'yes'. In what follows, I'll say more about the role of representation in my theory of sense-data. I'll also clarify the relationship between sense-datum theory and intentionalism.

To many readers, an appeal to contents will bring to mind intentionalism. But aren't sense-datum theory and intentionalism supposed to be competing views? The meaning of 'intentionalism' varies across different contexts, so it's important to specify exactly which view the term is supposed to denote here. Sometimes 'intentionalism' is used very weakly, to cover any view that ascribes contents to experiences. This sense of 'intentionalism' is compatible with sense-datum theory; there's nothing that precludes sense-data from having contents. In fact, even views that take the

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<sup>33</sup> See Pautz [2017, 2021] for an example of such a version of intentionalism.

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phenomenal character of an experience to supervene on the content of that experience are compatible with sense-datum theory. Sense-datum theory is a metaphysical claim about what it is to have a perceptual experience, while supervenience intentionalism is just a modal claim about how phenomenal characters covary with contents.<sup>34</sup>

A more substantive definition of ‘intentionalism’ makes a metaphysical claim about the nature of perceptual experience. Oftentimes, intentionalists take perceptual experience to be a propositional attitude, akin to believing or desiring.<sup>35</sup> Following Byrne [2001], let’s call the relevant propositional attitude *exing*. For the rest of the paper, I’ll understand intentionalism as any view committed to the following two claims: (a) To have a perceptual experience is to ex some content, and (b) The phenomenal character of the perceptual experience is constituted by the content that one exes. These claims parallel NATURE and CHARACTER, the core claims of any sense-datum theory.<sup>36</sup> And this version of intentionalism is incompatible with sense-datum theory. The fundamental disagreement isn’t about whether perceptual experiences have contents, or even whether phenomenal character covaries systematically with contents. Instead, it’s a disagreement about whether phenomenal character is constituted by certain kinds of particulars (sense-data) or certain kinds of universals (contents).

It’s useful to return to the analogy with pictures. Everyone agrees that pictures have contents. But nobody thinks that pictures *just* are relations to contents: it’s hard to understand what that would even mean. Instead, it’s much more natural to think of pictures as vehicles of representation. A picture has certain color, textural, and spatial properties, which

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<sup>34</sup> See Byrne [2001, 2014] on intentionalism. For discussion of the relationship between sense-datum theory and intentionalism, see Macpherson [2014]. Both Byrne and Macpherson note that sense-datum theory is compatible with supervenience intentionalism.

<sup>35</sup> There’s debate amongst intentionalists about whether phenomenal character is determined wholly by content (or also by attitudes, such as perceiving vs. imagining). For simplicity I assume the pure content view here.

<sup>36</sup> See Pautz [2021: 99] for an example of an intentionalist view in this sense.

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determine its “character.” But that character is a property of the vehicle of representation, rather than of what is represented. Even though pictures have contents, the picture itself is the vehicle. Analogously, even though sense-data have contents, sense-data themselves are vehicles.

There’s another respect in which sense-data are analogous to pictures. In contemporary philosophy and cognitive science, it’s often said that pictures represent *iconically* whereas sentences represents *discursively*.<sup>37</sup> This difference in format isn’t merely a matter of differences in content: even if a picture and a collection of sentences happen to represent the very same things, they do so in very different ways. There are many theories of iconic representation, but a general point of agreement is that iconic representations involve some kind of structural correspondence between the parts and features of vehicles and the parts and features of contents.

It’s natural for sense-datum theorists to hold that sense-data are iconic representations. A defense of this claim is beyond the scope of this paper. But as some indication of the intuitive plausibility of the claim, consider how (a) similarity relations between sensational qualities of sense-data might be mirrored in similarity relations between sensible qualities of external objects, and (b) how different external objects may be represented by distinct sense-data. If sense-data are indeed iconic representations, then that marks another respect in which sense-data are analogous to pictures.

There are many other questions we could ask about the contents of sense-data. This includes first-order questions about whether the contents are narrow or wide, whether they are Russellian or Fregean, and whether they represent properties beyond sensible qualities (such as high-level properties or objectual properties). This also includes metasemantic questions about what makes it the case that a sense-datum has the content that it does, and what exactly it takes for a sense-datum to represent veridically. I’ll remain neutral on all these questions. These questions are interesting

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<sup>37</sup> CITATIONS.

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and important for developing a sense-datum theory in more detail, but my main task in this paper is to paint a general picture.

It's worth pointing out that the sense-datum theorist has much more flexibility than the intentionalist in answering these sorts of questions. Since the intentionalist identifies phenomenal character with representational contents, the intentionalist's theory of the contents of experience must satisfy the constraint of phenomenological adequacy. This leads to a number of familiar challenges, such as spectrum inversion scenarios. By contrast, there's no analogous constraint of phenomenological adequacy for the sense-datum theorist, since the sense-datum theorist takes phenomenal character to be constituted by sense-data (rather than contents).

If we think of perception as a process whose elements are vehicles, contents, and objects, then it's natural to ask: Which element of the perceptual process constitutes one's perceptual phenomenology? Naïve realism says 'objects'; intentionalism says 'contents'; and my version of sense-datum theory says 'vehicles'.

### **Sense-Data**

Previously, I defined sense-data as any entities that satisfy the following criteria:

- (a) perceptual experience is a matter of acquaintance with sense-data.
- (b) sense-data are common to both perception and hallucination.
- (c) sense-data are particulars.
- (d) sense-data have all the properties they appear to have.
- (e) sense-data are private.

Let's verify that each of these criteria are satisfied by my theory.

It's trivial to verify that (a) is satisfied, since that's just a paraphrase of NATURE and CHARACTER, the core commitments of any sense-datum theory. It's also easy to verify that (b) and (c) is satisfied. Sense-data are identical to neural states. While neural states may be classified in terms of the

universals they instantiate, neural states themselves are particulars. And since the very same kind of neural state can occur in both perception and hallucination, the very same kind of sense-datum can occur in both perception and hallucination. This leaves just (d), the appearance criterion, and (e), the privacy criterion.

The appearance criterion admits of multiple interpretations, depending on how we understand the term 'appears'. There's one sense of 'appears' that makes the claim trivially true: if ' $x$  appears  $F$ ' means that  $x$  instantiates the sensational property  $F$ , then it's trivially true that if a sense-datum appears  $F$ , then it is  $F$ . There's another sense of 'appears' that makes the claim arguably false: if ' $x$  appears  $F$ ' means  $x$  strikes its subject as  $F$ , then it's implausible that if a sense-datum appears  $F$ , then it is  $F$ . And there's yet another sense of 'appears' that makes the claim neither trivial nor false: if ' $x$  appears  $F$ ' means that the subject is acquainted with the  $F$ -ness of  $x$ , then it's both substantive and plausible that if a sense-datum appears  $F$ , then it is  $F$ . This last interpretation of may be paraphrased as the claim that if a subject is acquainted with the fact that  $x$  is  $F$ , then  $x$  is  $F$ .

The privacy criterion also requires disambiguation. On my view, there's a sense in which sense-data are private, though also a sense in which they are public. Since sense-data are identical to neural states, sense-data are publicly accessible in the same ways in which neural states are publicly accessible (say, by looking at a person's brain). However, one's neural states are presented *as* sense-data only to the subject who actually has the experience constituted by those sense-data, since only the subject of that experience has first-person access to those sense-data. Since first-person presentations are private, there's a sense in which sense-data are private.<sup>38</sup>

#### §4 Standard Objections

I'll now explain how my theory handles traditional objections to sense-data.

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<sup>38</sup> Similarly, most physicalist theories of consciousness entail that there's a sense in which conscious experiences are public, though also a sense in which they are private.

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**Objection 1: Metaphysical Extravagance:** Sense-data are metaphysically extravagant.

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The standard theory is committed to SUBSTANCE DUALISM, which leads to obvious worries about metaphysical extravagance. But my theory of sense-data instead endorses SUBSTANCE MONISM, and thereby identifies sense-data with neural states (which are hardly extravagant). One might contend that my theory faces the cost of metaphysical extravagance at the property level, since QUALITY DUALISM requires us to posit a new class of sensational qualities. But this is no more extravagant than the commitments of any phenomenal realist view, and it's an open option for my version of sense-datum theory to identify sensational qualities with certain neural properties.

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**Objection 2: Locations:** There's no good answer as to where sense-data are located. They aren't in one's local environment, since sense-data occur during hallucinations. But they aren't in one's head either, since there may be nothing in one's head that is red, loud, or sweet.<sup>39</sup>

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This objection is compelling only if one accepts QUALITY MONISM. In that case, there seems no good answer as to where the sensible qualities instantiated by sense-data are located, since the fact that a sense-datum is red need not entail that anything in one's local environment or inside one's head is red. But if one instead endorses QUALITY DUALISM, then the objection doesn't even get off the ground. The fact that one is aware of a red\* sense-datum doesn't entail that there is anything red in one's local environment or inside one's head. Furthermore, SUBSTANCE MONISM yields a straightforward

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<sup>39</sup> See Huemer [2001: 150] for a version of this objection.

answer as to where sense-data are located: sense-data are neural states, so they are located inside one's head.

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**Objection 3: Transparency:** Perceptual experiences are externally directed, in that they seem to present us with the external world. And we normally attend to the external world, rather than to our own experiences.

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The first component of this objection is the observation that perceptual experiences are externally directed. This is problematic only if sense-data cannot be externally directed. But if sense-data represent the external world, then they are externally directed. This objection might be more compelling if we assume OBJECTUALISM. Then, one might think that perceptual experiences are directed at sense-data, rather than the external world. But if we instead accept VEHICALISM, then it's hard to even motivate this objection.

The second component of the objection is that we normally attend to the external world, rather than to our own experiences. This is problematic only if the sense-datum theorist is committed to the claim that we normally attend to sense-data. But in the discussion of VEHICALISM, I noted that sense-data ought to be understood as the occupants (rather than the objects) of attention. The sense-datum theorist can thus accept that we normally attend to external objects, rather than to our own experiences. In fact, as noted earlier (§2: VEHICALISM), one could accept my theory of sense-data while denying that we ever attend to our own experiences.

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**Objection 4: Indeterminacy:** Many experiences are indeterminate. Consider, for example, your peripheral color experience. That experience might simply be characterized by redness, rather than any determinate shade of redness. But nothing in reality is indeterminate.

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So the sense-datum theory is committed to a dubious kind of meta-physical indeterminacy.<sup>40</sup>

If one accepts QUALITY MONISM, then it's hard to escape the conclusion that a peripheral visual experience instantiate mere redness (rather than any specific shade of redness). But if we instead accept QUALITY DUALISM, then the objection loses its force. In particular, the objection conflates indeterminacy, a property of the contents of sense-data, with imprecision, a property of sense-data themselves.

Let's say a content is *indeterminate* just in case there are many ways for that content to be satisfied, and that an experience is *imprecise* just in case it has the kind of phenomenal character associated with indeterminate contents (such as the phenomenal character associated with peripheral visual experiences).<sup>41</sup> It's plausible that more imprecise experiences have more indeterminate contents. But that doesn't mean that imprecise experiences are themselves indeterminate. As an analogy, consider an impressionistic painting. The fact that the content of the painting is indeterminate doesn't entail that the vehicle itself is indeterminate. There are perfectly determinate facts about the paint on the canvas, even if there is indeterminacy in exactly which scene is depicted by the painting.

Some might be tempted to formulate the objection in terms of determinability, rather than indeterminacy. This version of the objection contends that the sense-datum theorist is committed to holding that imprecise experiences involve the instantiation of determinable properties in the absence of determinates. A property is *determinable* if there are multiple ways for that property to be instantiated; a property is *maximally determinate* if there is only one way for that property to be instantiated. However, imprecision and determinability are independent.

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<sup>40</sup> See Huemer [2001: 168] and Pautz [2021: 52] for versions of this objection.

<sup>41</sup> See Lee [2021] for a more systematic discussion of imprecise experiences (and of the distinction between imprecision and indeterminacy).

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Here's an example of an imprecise property that's maximally determinate: the maximally determinate property that characterizes exactly what it's like for you to have your current peripheral color experience. There's only one way for this property to be instantiated, so it's maximally determinate. But it's also imprecise, since it characterizes the kind of color experience you have in peripheral vision. And here's an example of a determinable property with only precise determinates: the determinable property that characterizes the various kinds of red\* experiences you can have in foveal vision. There are many ways for this property to be instantiated, so it's determinable. Yet each of its determinates characterizes a precise color experience you have via foveal vision.

The fact that imprecision can be doubly dissociated from determinability indicates that neither notion can be analyzed in terms of the other. So, the fact that some perceptual experiences are imprecise (meaning they instantiate a certain sensational property) is compatible with thinking that all perceptual experiences are maximally determinate (meaning that there's never the instantiation of a determinable without the instantiation of one of its determinates).

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**Objection 5: Demonstrative Reference:** To demonstratively refer to  $x$ , one must be directly aware of  $x$ . Since the sense-datum theorist denies that we are directly aware of external objects, they cannot account for demonstrative reference to external objects.<sup>42</sup>

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My response depends on how we interpret 'directly aware'. On one interpretation, my theory denies that we can be directly aware of external objects, but it's implausible that direct awareness is a condition on demonstrative reference. On another interpretation, it's plausible that direct

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<sup>42</sup> See Bermudez [2000] for a version of this objection.

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awareness is a condition on demonstrative reference, but my theory accepts that we can be directly aware of external objects.

Suppose we interpret 'direct awareness' as acquaintance: to be directly aware of  $x$  is to be acquainted with  $x$ . Since sense-datum theory holds that we are acquainted with sense-data (rather than external objects), this version of the objection precludes sense-datum theory from securing demonstrative reference to external objects. Notice, though, that the same considerations apply to intentionalism; it's only naïve realism that can secure demonstrative reference to external objects (given this condition on demonstrative reference). This might raise some suspicions about whether this is the most apt way of thinking about demonstrative reference.

Here's a more direct reason for resisting the claim that acquaintance is a condition for demonstrative reference. Suppose you and I are standing in a hall of portraits of American Presidents. You ask me which American President was oldest on their inauguration day. I respond by pointing to the portrait of Biden and saying "That guy." Obviously, I'm not expressing the thought that the portrait in front of us is the oldest American President. Instead, it's plausible that my utterance demonstratively refers to Biden. Even though I've never been acquainted with Biden, I can still plausibly demonstratively refer to him.

The objector might respond by distinguishing between direct acquaintance and indirect acquaintance. Though I've never been directly acquainted with Biden, I've still been indirectly acquainted with him (in virtue of seeing his photograph). Then the objection can be reformulated as the claim that indirect acquaintance is necessary for demonstrative reference. But that claim is compatible with my theory. Although my theory of sense-data denies that we are directly acquainted with external objects, it's compatible with holding that we are indirectly acquainted with external objects. Therefore, interpreting 'directly aware' as acquaintance either renders the objection implausible or is compatible with my theory.

Suppose we instead interpret 'direct awareness' as attention: one is directly aware of  $x$  just in case one attends to  $x$ . On this interpretation, the

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objection claims that one can demonstratively refer only to things that one attends to. That strikes me as plausible. But now there's no tension with sense-datum theory, since my theory holds that we normally attend to external objects. In response, one might flip the objection by contending that my theory now cannot account for demonstrative reference to our own experiences. However, nothing in my theory precludes the possibility of attending to our sense-data. I've claimed that we *normally* attend to external objects. That's compatible with thinking that in some circumstances, we attend to sense-data themselves.

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**Objection 6: Skepticism:** If sense-datum theory is true, then we aren't directly aware of external objects or sensible qualities. If we aren't directly aware of external objects or sensible qualities, then we cannot account for our knowledge of the external world.

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Skepticism is a challenge for many theories. I'll briefly mention two strategies for answering skeptical challenges. Neither move is uniquely available to the sense-datum theorist—instead, these responses to skepticism may be adopted by just about any theory of perception.

The first strategy is externalism. The externalist postulates an epistemic asymmetry between the good case (where one perceives veridically) and the bad case (where one doesn't). In the good case, one has knowledge of the external world; in the bad case, one doesn't. Although one cannot know from the inside whether one is in the good case or the bad case, the externalist denies that higher-order knowledge is necessary for first-order knowledge. Traditionally, sense-datum theories have been associated with internalist epistemologies. But there's nothing that precludes a sense-datum theorist from favoring externalism (or pluralism).<sup>43</sup>

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<sup>43</sup> Pautz [2021: 47] makes a similar point.

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The second strategy is structuralism.<sup>44</sup> The structuralist holds that most of our ordinary beliefs about the external world (such as your belief that there are tables and chairs in front of you) are true even if a skeptical scenario turns out to be actual. So long as the external environment that one is causally connected to is structured in the right way, most of one's ordinary beliefs will be veridical even in brain-in-the-vat, evil demon, or matrix scenarios. This includes most of the beliefs about the external world that we form on the basis of our perceptual experiences.

Is skepticism a worse problem for sense-datum theory than for other theories of perception? It's often thought that sense-datum theory induces a "veil of experience" between subjects and the external world.<sup>45</sup> I think there's a sense in which this is true: since sense-data are the vehicles in virtue of which we perceive external objects, sense-data might be said to stand "between" ourselves and the external world. But the existence of a medium of representation doesn't preclude knowledge of what's represented. If you watch a documentary / read a book / listen to a recording, then in some sense there's a veil of pixels / words / sounds between you and the subject-matter of the representation. But few would want to say that this precludes the possibility of attaining knowledge of the subject-matter on the basis of the representation. Instead, the representation is what enables us to have that knowledge in the first place.

## Conclusion

Here's a review of the core claims of my theory. To have a perceptual experience is to be acquainted with some sense-data. The phenomenal character of one's perceptual experience is constituted by the sense-data that one is acquainted with. Sense-data are first-person presentations of neural states, the sensational qualities of sense-data differ from the sensible qualities of external objects, and sense-data are perceptual vehicles (rather than

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<sup>44</sup> See Chalmers [2021] for a defense of structuralism as a response to skepticism.

<sup>45</sup> See Silins [2011] for more discussion of the "veil of perception."

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perceptual objects). Perception is a representational relation, where the direct objects of perception are external objects. But hallucinations and veridical perceptions are of a common kind, since both kinds of experiences consist in acquaintance with sense-data. And while perceptual experience doesn't always involve awareness (via perception) of external objects, it does always involve awareness (via acquaintance) of particulars.

Many readers will find the substance of my view agreeable but feel reluctant about the label 'sense-datum theory'. I empathize with that impulse: it's hard to think of a term more anathema in contemporary philosophy. But giving into that impulse has sometimes left me in an uncomfortable position: the classic motivations for sense-datum theory always resonated with me, and I used to secretly wonder why the view is so disparaged. While I once strained to explain why my picture of perception doesn't count as a sense-datum theory, I've come to think that a better move is to embrace and reclaim the label.<sup>46</sup>

I suspect there are many others who think about perception in ways much closer to sense-datum theory than they might publicly admit. An aim of this paper has been to reduce the stigma associated with the label 'sense-datum theory'. Historical versions of sense-datum theory strike me as sources for inspiration, rather than as philosophical blunders. The term 'sense-data' strikes me as apt for describing the kinds of entities we are directly presented with in perceptual experience. And even the metaphors used to caricaturize sense-datum theory—where perceptual experiences are characterized as pictures in one's head, as internal virtual reality simulations, or as veils of phenomenology between oneself and the external world—all strike me as expressing important truths about perception.

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<sup>46</sup> Years ago, in a conversation with another philosopher of mind, I described the picture of perception that I favored. The other philosopher said: "But isn't that basically a version of sense-datum theory?" Even back then, the seeds of sense-datum theory had already begun festering within my mind. But I was too embarrassed to admit this at the time. Since then, I've come to think that that philosopher was right in their accusation. This paper is an admission of guilt, and a coming out of the closet.

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### APPENDIX: Sense-Datum Theory and Qualia/Inner-State Theory

There may be readers who think my view is better classified as a version of 'qualia theory' or 'inner-state theory' rather than 'sense-datum theory'. This appendix discusses the murky relationship between these labels.

In contemporary philosophy of perception, the dominant views are intentionalism and naïve realism. But how should we categorize the other views? Well, there's also sense-datum theory, of course, but few contemporary philosophers want to call themselves 'sense-datum theorists'. In recent years, the most common terms for alternative theories of perception are 'qualia theory' and 'inner-state theory'. But it's often unobvious how exactly to interpret these terms, how to think about their relation to each other, or how to think about their relation to 'sense-datum theory'.

In many contexts, 'qualia theory' and 'inner-state theory' are used interchangeably. Both are usually characterized as alternatives to intentionalism and naïve realism and as internalist theories of perceptual experience. But the terms also have somewhat different connotations. 'Qualia theory' is sometimes interpreted as involving a rejection of supervenience intentionalism. 'Inner-state theory' is sometimes interpreted as involving a commitment to physicalism. And while 'qualia theory' sounds committed to phenomenal realism, 'inner-state theory' sounds compatible with illusionism. For present purposes, I'll treat 'qualia theory' and 'inner-state theory' as equivalent, and I'll interpret the differences mentioned above as a matter of connotation rather than definition.

The more interesting question is how qualia/inner-state theory relates to sense-datum theory. Some of the criteria that are used to draw a line between sense-datum theory and qualia/inner-state theory include: (a) whether perceptual experiences have an act/object structure, (b) the metaphysical nature of sense-data vs. qualia/inner-state, and (c) whether the relevant entities instantiate sensible qualities. In what follows, I'll argue that none of these criteria is a good way of distinguishing sense-datum theory from qualia/inner-state theory. My view isn't that the labels ought to be

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taken as extensionally equivalent. Instead, I'll merely make the case that many theories may reasonably be regarded as versions of both.

**Act/Object Structure:** Sometimes sense-datum theorists are described as endorsing the claim that perceptual experiences have an act/object structure (because sense-datum theorists take perceptual experience to be a matter of acquaintance with sense-data), while qualia/inner-state theorists are described as denying such a claim (because qualia/inner-state theorists take perceptual experience to be a matter of instantiating monadic experiential properties).<sup>47</sup> However, nothing precludes a qualia/inner-state theorist from also being an acquaintance theorist. And a commitment to acquaintance doesn't entail a commitment to holding that the subject of experience is metaphysically disjoint from the experience itself. Given this, a sense-datum theorist could agree that perceptual experiences are, in the relevant sense, a matter of instantiating monadic experiential properties.

**Metaphysical Nature:** Sometimes sense-data are regarded as more mysterious than qualia (and certainly as more mysterious than inner-states). If we assume the standard theory of sense-data, then this line of thought may feel compelling, since the standard theory endorses SUBSTANCE DUALISM. But I've argued that we ought not define sense-data as non-physical, especially if we want 'sense-datum theory' to include many historical exemplars of sense-datum theories. And nothing precludes a qualia/inner-state theorist from taking qualia (or the relevant kinds of inner-states) to be non-physical. Another option is to take the nature of sense-data/qualia/inner-states to be specified by their theoretical roles. But sense-data and qualia/inner-states tend to play similar theoretical roles in their respective theories: for example, both kinds of entities are usually regarded as private particulars that are common across perception and hallucination.

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<sup>47</sup> For example, Pautz [2021: 63] says that "internal physical state theorists allow that the "act-object" view seems true, but they insist that it is totally false...[t]he true nature of experience is different from how it seems."

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**Sensible Qualities:** Sometimes sense-data are defined as instantiating sensible qualities, while qualia/inner-states are not. However, I've argued that we ought not interpret sense-datum theory as committed to holding that sense-data instantiate sensible qualities. Sense-data instantiate qualities of some kind. But whether those are sensible qualities depends on semantic and metasemantic questions about the referents of sensible terms ('red', 'loud', 'sweet', etc.). On the view I've developed, sensible terms refer to properties of external objects, and sense-data instead instantiate sensational qualities (which are distinct from sensible qualities). Conversely, there are authors who have argued on semantic grounds that sensible terms can be felicitously applied to both experiences and external objects. Yet taking a stance on that semantic issue shouldn't preclude such authors from endorsing a qualia/inner-state theory.

In my view, the lines drawn between sense-datum theory and qualia/inner-state theory tend to be superficial rather than substantive. There are versions of sense-datum theory (such as the standard theory) that probably ought not count as versions of qualia/inner-state theory, and versions of qualia/inner-state theories (such as those that reject acquaintance) that probably ought not count as sense-datum theories. But many views may reasonably be taken to fall under either label.

If my theory may be construed as a qualia/inner-state theory, then some might object that it's thereby misleading to construe my view as a sense-datum theory. But the mere fact that a theory of Fs also happens to be a theory of Gs isn't an objection to its status as a theory of Fs. The goal of this paper has been to defend a theory of sense-data. The relevant question isn't whether my theory can be justifiably labeled 'qualia/inner-state theory' (or, for that matter, 'intentionalism'), but instead whether my theory can justifiably be labeled 'sense-datum theory'. And if you think, for whatever reason, that one must choose one of these labels over the other, then I choose 'sense-datum theory'.

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