

# What is intuition?

## Abstract

This article presents an account of the nature of intuition that may serve as a unifying framework for the study of intuition in philosophy and psychology. Section 1 describes the current lack of any theoretical foundation for an integrated study of this kind. Section 2 introduces the basic distinction between judgement and appearance. Sections 3 to 5 demonstrate the integration of the recent philosophical literature, on the basis of a prototype of intellectual appearance, which is derived from a common kind of paradox—thus showing the analogy with perception to be non-essential to the conception of intellectual appearance. Section 6 explains the general spontaneity of intuitive appearance. The concluding section 7 shows how the account developed in the previous sections not only integrates previous philosophical and psychological work on intuition but may also be used to systematise future study of intuition in both disciplines.

Our knowledge of the world comes to us through what, for lack of a better term, we might call ‘modes of intuition’, such as our senses of sight, touch, smell, taste, our interoceptive sense, our memory, etc. This much is at least a psychological fact.

—John L. Pollock

## 1 Introduction

This paper provides a more general account of the nature of intuition than has previously been achieved.<sup>1</sup> In the philosophical and psychological literature one is faced with a myriad of implicit and explicit views of intuition, ranging from those which hold that intuition is of great importance to the human pursuit of knowledge to those which deny its

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<sup>1</sup> Compare, for example, Dane and Pratt 2007, Epstein 2010, Glöckner and Witteman 2010, Gore and Sadler-Smith 2011, Hodgkinson, Langan-Fox and Sadler-Smith 2008, Hogarth 2010, Newell and Shanks 2014 and Osbeck and Held 2014 (especially 14–16 and 24–30).

very existence.<sup>2</sup> This current lack of a theoretical basis constitutes an important motivation for developing the general account presented in this paper, which is designed to establish common ground on which to discuss and investigate the finer details of what is variously described as ‘intuition’, ‘intuitions’ or ‘intuitive’.

A very superficial comparison of a handful of respectable dictionaries shows that the noun ‘intuition’ currently lacks any widely agreed meaning. However, the general account of intuition presented in this paper may be used to explain all of the contemporary alternatives given below, each of which is indeed sometimes intended when people nowadays speak of intuition. Moreover, it may be used to systematise all of the different ways in which relevant terms have been employed in recent academic and popular treatments of the topic and, likely, to systematise discourse on intuition in general.

So, to begin with, here are the alternatives listed by the *Oxford English Dictionary*, including some historical definitions (with a few points of interest underlined by me):

- †1. The action of looking upon or into; contemplation; inspection; a sight or view. (= Latin *intuitus*.) *Obsolete*. 1497–1664
- †2. The action of mentally looking at; contemplation, consideration; perception, recognition; mental view. *Obsolete*. 1628–1755
- †3. The action of mentally looking to or regarding as a motive of action; ulterior view; regard, respect, reference. *with intuition to (of)*, with reference to; *in intuition to*, in respect to, in view of, in consideration of. *Obsolete*. 1626–1718
4. *Scholastic Philosophy*. The spiritual perception or immediate knowledge, ascribed to angelic and spiritual beings, with whom vision and knowledge are identical.
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<sup>2</sup> The following works may provide further useful points of entry to readers who are unfamiliar with some of the recent literature in either philosophy or psychology. For examples of philosophy, see Boghossian and Williamson 2020, Cappelen 2012, Chudnoff 2013, Dennett 2013 and DePaul and Ramsey 1998. For examples of psychology, see Dane, Rockmann and Pratt 2012, Davis-Floyd and Arvidson 1997, Ericsson, Hoffman, Kozbelt and Williams 2006/2018, Hogarth 2001, Kahneman and Klein 2009, Myers 2002, Liebermann 2000, Reber 1993 (especially 158–9) and Topolinski and Strack 2009.

- a. *Modern Philosophy*. The immediate apprehension of an object by the mind without the intervention of any reasoning process; a particular act of such apprehension.
- b. Immediate apprehension by the intellect alone; a particular act of such apprehension.
- c. Immediate apprehension by sense; a particular act of such apprehension. Esp. in reference to Kant, who held that the only intuition (*Anschauung*, *intuitus*) possible to man was that under the forms of sensibility, space, and time.
6. In a more general sense: Direct or immediate insight; an instance of this.

*Collins English Dictionary* lists the following contemporary alternatives (again, my underlining):

1. knowledge or belief obtained neither by reason nor by perception
2. instinctive knowledge or belief
3. a hunch or unjustified belief
4. *philosophy*: immediate knowledge of a proposition or object such as Kant's account of our knowledge of sensible objects
5. the supposed faculty or process by which we obtain any of these

*Merriam-Webster* has this (notable for its relative generality):

- 1 a : the power or faculty of attaining to direct knowledge or cognition without evident rational thought and inference
  - a : immediate apprehension or cognition
  - b : knowledge or conviction gained by intuition
- 2 : quick and ready insight

Most recently, the philosophical debate on the nature of intuition has focused on whether intuitions are beliefs, judgements, dispositions to believe or judge, or, perhaps, a kind of experience. If nothing else, recent work on the issue has shown the enormous extent of disagreement concerning almost any characterisation of intuition, including considerable differences of methodology. For example, some authors have attempted to characterise intuition primarily from the subject's point of view.<sup>3</sup> Others have attempted to do so by specifying the type of object that an intuition takes, one notorious candidate being 'the a priori'.<sup>4</sup> Yet others have attempted a characterisation primarily in terms of what causes the

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<sup>3</sup> See, for example, Bengson 2015 and Chudnoff 2013.

<sup>4</sup> See, for example, Bealer 1996 and BonJour 1998.

relevant relation between subject and object to occur.<sup>5</sup> The present account is an attempt at a more balanced approach.

## 2 Judgement vs appearance

Intuition is sometimes described as ‘seeing with the mind’s eye’ or ‘intellectual perception’. Similarly, perhaps, people often say things like ‘that looks correct to me’ or ‘that sounds right’.<sup>6</sup> Philosophers have always been interested in the analogy between intuition and perception. Plato, Augustine, Descartes, Locke, Husserl and Gödel all famously deployed this analogy. Indeed, the Latin root of the modern term ‘intuition’—the verb *intueri*, a composite of *in* (at, in, on) and *tueri* (to look at, watch over)—suggests an original analogy specifically with intense observation.<sup>7</sup> Today, both philosophers and psychologists continue to make frequent use of the analogy as they understand it. The exact nature of the analogy has of course always been a controversial issue. I shall argue that at least an analogous distinction between judgement and appearance may, however, be fairly uncontroversial.

If, following Frege and Kant, we take judgement simply as assent—*fürwahrhalten*, literally ‘holding-true’—then we can give a corresponding characterisation of subjective appearance, in the sense of things appearing to a subject to be a certain way, as something that the subject may assent to.<sup>8</sup> Of course, these broad-stroke stipulations leave many

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<sup>5</sup> See, for example, Ludwig 2007 and Sosa 2014.

<sup>6</sup> Jung famously defined intuition as ‘perception via the unconscious ... a kind of perception which cannot be traced back directly to conscious sensory experience’ (1931, §951).

<sup>7</sup> From an etymological perspective, the Kantian and post-Kantian term *Anschauung*—which stems from the composite verb *anschauen*—is precisely equivalent to ‘intuition’.

<sup>8</sup> See Frege 1918 and Kant 1781/7. On these two thinkers, see also Kremer 2000.

possible questions unanswered, including that of the proper object of assent, but for present purposes this level of precision will suffice.<sup>9</sup>

We may, then, take perceptual judgement to be simply a subject's judgement that things are as they perceptually appear to them. And we may permit, quite naturally, amongst the possible objects of perceptual appearance different sorts of things and states of affairs, including the smell of roses or the cat's being on the table. The resulting distinction between perceptual judgement and appearance is easily illustrated by any case in which something sensorily appears to someone a certain way and yet they know that it is not in fact the way it appears. For instance, in a curved mirror my legs may look twice the length of my torso, but I know that they are not, and so I do not (or, at any rate, need not) judge that things are as they subjectively appear.

Most people, including most psychologists and historical philosophers, would classify perceptual judgement in the sense defined above as intuitive, so that perceptual judgement and appearance would be a species of intuitive judgement and appearance.<sup>10</sup> However,

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<sup>9</sup> Some scholars prefer to speak in terms of impression, presentation or seeming rather than appearance, but this usually amounts to no more than a terminological difference. I offer a brief elaboration on the question of the proper objects of appearance and assent in note 40, at the end of this paper.

<sup>10</sup> Notable past philosophers include Scotus, Auriol and Ockham as well as Kant and Husserl. Even Locke, who defines 'intuition' as pertaining only to subjective ideas, consistently describes it as a kind of perception, even calling it 'intuitive perception'; see Locke 1690, book 4, chapter 2. The same conceptual constellation is found in Descartes, who says: 'By "intuition" I do not mean the fluctuating testimony of the senses or the deceptive judgement of the imagination as it botches things together, but the conception of a clear and attentive mind ... indubitable ... which proceeds solely from the light of reason. ... Perceptions such as these are more numerous than most people realize' (Descartes [1985], 14). See also Davidson 1882, Hume 1739–40, 1.3.1.2, McCosh 1860/72 and Russell 1912, chapter 11.

modern philosophers frequently work on the assumption that any such cross-classification is incorrect, or somehow undesirable, and a number have explicitly argued against it.<sup>11</sup> Thus, it is first of all noteworthy that the distinction between judgement and appearance can also be made in a way that will be more satisfactory to those with a special interest in ‘non-perceptual’ intuition.<sup>12</sup>

### **3 An intellectual case**

The case which is standardly used to demonstrate the distinction for intuition that is of an intellectual rather than sensory sort is that of the naïve comprehension principle for sets:

For every predicate (‘... is a chair’, ‘... is a number’, etc.), there is a set which consists of all and only those objects that satisfy that predicate.

This tends to appear true to most people when they first encounter it. But it is generally agreed nowadays that it is not, due to Russell’s paradox of the set of all sets that do not contain themselves.<sup>13</sup> Yet many people, including many logicians and philosophers, who

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<sup>11</sup> See, for example, Bealer 1998, Ludwig 2007 and Sosa 2007. By contrast, compare Parsons 1995, 57–9.

<sup>12</sup> I put scare quotes around ‘non-perceptual’ here, because the variety of ways in which the notions of intuition and perception have been employed are so disparate, both historically and in the present, that to some readers ‘non-perceptual intuition’ may sound oxymoronic and to others pleonastic. For example, the former type of reader may habitually conceive of intuition as a kind of perception, like Descartes and Locke (see my note 10), while the latter type may, and this is especially common nowadays, habitually conceive of perception as nothing but what used to be called more fully ‘sense perception’.

<sup>13</sup> Russell argued that for the predicate ‘is a set which contains all and only those sets that do not contain themselves’ there is in fact no set which consists of all and only those objects that satisfy the predicate, because, assuming that such a set would have to either contain itself or not contain itself, no such set can exist due to the contradiction that the supposed set would have to both contain

therefore believe that the principle is false have said that it still ‘intuitively’ appears true to them. Supposing that at least some of these reports are correct, we can infer the relevant kind of difference: it intuitively appears to some people that the naïve comprehension principle is true, but they do not judge accordingly.

#### **4 Generalisation of the intellectual case**

Arguably, it is frequently the case that something appears to us a certain way intellectually rather than sensorily, and yet we do not judge accordingly because we know better or think we know better. Politics, advertising and numerous other types of public and private discourse would seem to offer many examples of this. However, there is substantial disagreement amongst philosophers regarding which, if any, of these types of cases really instantiate the phenomenon. Fortunately, the standard example of the naïve comprehension principle can be generalised.

Many well-known paradoxes are typically presented as a set of premises and a conclusion such that at least one premise appears true while the rest of the argument either follows or appears to follow. In the case of Russell’s paradox, the naïve comprehension principle constitutes such a premise. Another example is ‘Where there is no heap of sand, adding one grain of sand will not make it a heap either’. To many people this will appear true. However, if conjoined with additional premises, it may be used, via apparently correct reasoning, to support the paradoxical conclusion that there can be no such thing as a heap of sand; this is known as a sorites paradox.<sup>14</sup>

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and not contain itself (if the supposed set contained itself, then it would not consist of *only* those objects that satisfy the predicate, but if it did not contain itself, then it would not consist of *all* those objects that satisfy the predicate).

<sup>14</sup> The name is derived from ancient Greek: *soros* means heap.

This shows that at least some paradoxes, including some of the most important ones in the history of logic and philosophy, can be presented in the form of an argument that may appear sound to a person, in virtue of at least one premise appearing to be true, and yet—even if it so appears—that person may or may not judge accordingly because, at the same time, they may have reason to believe that the argument cannot be sound. Thus, this kind of paradox entails the relevant distinction between judgement and appearance, which will naturally be specified in terms of intuition rather than perception.

And so this kind of paradox allows us to identify something like a prototype of intuitive judgements and appearances that are of an intellectual rather than a sensory sort. To be sure, it gives us neither a necessary nor a sufficient condition. To obtain a sufficient condition for what constitutes intellectual appearances, we would at least require a precise distinction between ‘intellectual’ and ‘sensory’.<sup>15</sup> And this kind of paradox does not give us a necessary condition either, because clearly not all intellectual appearance should need to involve this kind of paradox, or any paradox for that matter. The identification of a prototype may therefore seem only a small step forward. In fact, however, it represents important theoretical progress. A prototype-based account of intuition may be conceptually adequate.<sup>16</sup> Moreover, the prototype itself offers theorists a rigorous model to work with that everyone can accept, as will be demonstrated in the next section.<sup>17</sup>

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<sup>15</sup> Many great philosophers have presented elaborate accounts of such a distinction; most notably perhaps Kant, beginning with his inaugural dissertation. None of this previous work readily lends itself to the present purpose, however, because that would require a precise distinction significantly less controversial than any of the ones developed to date.

<sup>16</sup> Conceptually adequate or not, a prototype-based account would be strong enough to prevent the kind of overgeneration of the category of intuition that is discussed in Williamson 2004 and 2016.

<sup>17</sup> There is a large body of literature in cognitive science on prototype theory. See, for example, Lakoff 1987, Rosch 1973 and Rosch and Mervis 1975, and, for a useful overview, Lewandowska-Tomaszczyk 2007.

## 5 The analysis of intellectual appearance

A number of scholars have expressed doubt about the notion of intuitive appearance as distinct from perceptual appearance. Timothy Williamson's voicing of a well-known objection has been particularly influential:<sup>18</sup>

In the moment of its intellectually appearing that something is so, often nothing much else intellectually appears. Although mathematical intuition can have a rich phenomenology, even a quasi-perceptual one, for instance in geometry, ... I am aware of no intellectual seeming beyond my conscious inclination to believe Naïve Comprehension, which I resist because I know better. (Williamson 2007, 217)

Many intuition theorists have sought to establish a notion of intellectual appearance using an analogy with perception. Williamson argues that this strategy is unsuccessful, insofar as supposedly paradigmatic examples of intellectual appearance lack the required phenomenal character. Elijah Chudnoff has suggested that thinkers like Williamson are 'wildly mistaken' about the nature of intuitive appearance and so are not looking for the right kind of thing when trying to introspect it.<sup>19</sup> However, I believe Williamson and those who share his view are at most mildly mistaken. I will address these two positions in turn.

As is evident, Williamson speaks freely of intellectual appearances (and, interchangeably, intellectual seemings). Still, in the passage quoted above he goes on to conclude that even supposed paradigms of intellectual appearance 'provide no evidence' of the existence of 'anything more' than a conscious inclination to belief. It is not clear what Williamson means by 'more', but it is interesting to note that he consistently specifies his inclination as being conscious and, even more so, that he reports resisting this conscious inclination to believe the naïve comprehension principle due to possessing better knowledge. This report is enough to commit himself implicitly to a dispositional analysis of intellectual appearance. What Williamson reports having is, of course, precisely the sort

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<sup>18</sup> See also, for example, Cappelen 2012, 117, Deutsch 2015a, 28, Lewis 1983, x, Plantinga 1993, 105, and van Inwagen 1997, 309.

<sup>19</sup> See Chudnoff 2013, 53.

of encounter with paradox discussed above which entails the relevant distinction between intuitive judgement and intuitive appearance.<sup>20</sup>

Several philosophers have suggested that thinkers like Williamson, including the most prolific defender of a dispositional analysis, Ernest Sosa, simply fail at the introspective task.<sup>21</sup> Paul Boghossian has argued, plausibly, that this should not be surprising, because the successful introspection of certain types of mental phenomena sometimes requires prior instruction. However, the instruction that Boghossian himself gives mainly consists in the claim that in the case of its sensorily appearing to one that things are a certain way, one's coming to know that they are not in fact the way they appear will result in one's losing all inclination to judge otherwise despite the persistent perceptual appearance to the contrary. The same, he adds, is true for cases of intellectual appearance such as the one involving the naïve comprehension principle. The problem with these instructions is that they merely represent the introspective experience of Boghossian, and perhaps a few others.<sup>22</sup> This, in turn, allows their opponents to insist on their own introspective experience.<sup>23</sup>

The principal difficulty facing authors like Boghossian, who wish to analyse intellectual appearance as being thoroughly pre-judgemental and non-dispositional, can be expressed as the difficulty of demonstrating how it is possible that something could intellectually appear to you to be so and yet for you not to have any inclination whatsoever to judge

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<sup>20</sup> Williamson is widely believed to be a sceptic about the existence of intellectual appearance, but he is not. Rather, he is a closet dispositionalist. Perhaps the closest Williamson has come to acknowledging this can be found in his 2020a, 165.

<sup>21</sup> See especially Sosa 2007, chapter 3, and 2014.

<sup>22</sup> See Boghossian 2020b, 223–5. The same diagnosis applies to Bengson 2015, 712–3 and 726–7, and Chudnoff 2013, 53.

<sup>23</sup> Williamson responds precisely in this way. See his 2020b, 232–4.

accordingly.<sup>24</sup> Any serious attempt to develop a compelling account of this kind will require substantial work to be undertaken in philosophy and psychology. In the following section, I will briefly review one possible strategy that has recently been proposed by Chudnoff.<sup>25</sup>

## **6 Spontaneity**

There is another way, on top of the distinction between judgement and appearance, in which intuition and perception are generally analogous. Like perceptual appearance, all intuitive appearance is spontaneous: both perceptual and intuitive appearances come and go of their own accord, while the subject can only try to be more receptive or less receptive. For example, looking in the right direction may or may not make it visually appear to a subject as if the cat is on the table, regardless of whether it is in fact there or not. Trying to be more receptive, by looking closer for example, may still not make things appear that way, because the subject might persistently mistake the cat for a bunch of wool, or the cat might be hiding behind the fruit bowl. On the other hand, when looking in the right direction,

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<sup>24</sup> Incidentally, many prominent defenders of this position in the literature try to use it in support of a theory of the a priori and reject the possibility that a dispositional account of intellectual appearance could lend such support. See especially Bealer 1998, Boghossian 2020a, 202–4, and BonJour 1998.

<sup>25</sup> Another possible strategy can perhaps be found in Michael Huemer’s work. Huemer argues that subjective appearances in general are thoroughly pre-judgemental and non-dispositional, because the same inclination to judge—for example, that the naïve comprehension principle is true—might just as well be the result of, say, one’s reliance on testimony. So, he concludes, ‘appearances are only one sort of ground for the disposition’ (2013, 329; see also his 2007, 31, and further his 2001, 71–2). But while his generalisation about subjective appearances would give a neat theory, Huemer provides insufficient evidence for the claim that the case of intellectual appearances fits the bill. Thus, again, it would seem that much more work needs to be done by philosophers and psychologists in order to substantiate this kind of claim.

with the cat in plain sight, one typically cannot help but have it visually appear to one that the cat is on the table. Similarly, reflecting on whether it is true that grass is green may or may not make it intuitively appear to a subject as if this is so (or, perhaps, not so), regardless of whether it is in fact true or not. Trying to be more receptive, reflecting more or harder, may still not make things appear that way. On the other hand, there are many things where, on a given occasion, one typically cannot help but have them intuitively appear to one a certain way, for example that lying is wrong, or that  $2 + 2 = 5$ .<sup>26</sup>

Both in philosophy and psychology, the key distinctive feature of intuition is often taken to be that it is ‘un-reflective’.<sup>27</sup> However, it is important to distinguish intuitive judgement from intuitive appearance in this respect. Intuitive judgement, as defined here, is correctly described as being unreflective insofar as any intuitive judgement is made in accordance with, and in direct consequence of, an intuitive appearance. But intuitive appearance is not necessarily unreflective. Spontaneity is different from lack of reflection, although lack of reflection can be a useful indication of the characteristic spontaneity of intuitive appearance. It is possible for an intuitive appearance to occur only after one has spent considerable

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<sup>26</sup> Both Descartes and Kahneman agree. Descartes says: ‘As for simple propositions, the only rules we provide are those which prepare our cognitive powers for a more distinct intuition of any given object and for a more discerning examination of it. For these simple propositions must occur to us spontaneously; they cannot be sought out’ (Descartes [1985], 50). Kahneman writes: ‘A core property of many intuitive thoughts is that under appropriate circumstances, they come to mind spontaneously and effortlessly, like percepts’ (Kahneman 2003, 699). A small qualification to Kahneman’s claim worth making here is that spontaneity is indeed essential but effortlessness is not—hence, for example, Descartes’ rules to ‘prepare our cognitive powers’. On this last point, see also my discussion in the next paragraph; for an interesting related study, see Dane 2011 (especially 1008–9).

<sup>27</sup> Useful reviews of the literature, in this connection, are offered in Mercier and Sperber 2009 and Nagel 2012.

effort focusing one's attention or even after extensive reflection and yet, when it occurs, it will do so spontaneously. The naïve comprehension principle may serve as an example once again. Most people will need to reflect on it for some time upon first encountering it, before it may appear true to them.<sup>28</sup>

The spontaneity of intuition shows an otherwise intriguing analysis of intellectual appearance to be false. In an attempt to provide a thoroughly pre-judgemental and non-dispositional analysis, Chudnoff has argued that all intellectual appearance is entirely constituted by other, conscious (or, at any rate, introspectable) mental states or processes.<sup>29</sup> He often gives conscious thoughts and imaginings as examples of such supposed constituents. He illustrates his key claim largely by using cases from geometry, presumably because reflection on them invites the use of quasi-perceptual imagination. A particularly nice example is this:

Two circles can have at most two common points.

Like the naïve comprehension principle, this will not immediately appear true to everyone. Rather, most people will need to reflect on it for a while upon first encountering it, before it may appear true to them. Naturally, the exact sequence of reflections culminating in an intuitive appearance can vary from subject to subject. Chudnoff argues that such variations confirm his theory, because this theory can be used to explain why the resulting intuitive appearances are 'phenomenally different' (2013, 56). However, his 'phenomenological

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<sup>28</sup> Similarly, the spontaneity of intuition is different from 'speed of judgement', although speed of judgement can be a useful indication. Compare Cappelen 2012, 114–5. Compare also Goldman and Pust 1998, which wrongly suggests that intuitions are 'spontaneous mental judgments' (179), and McMahan 2000 and Weinberg, Nichols and Stich 2001, 19, each of which defines intuition as spontaneous judgement. Notably, the revised McMahan 2013 more accurately omits the word 'spontaneous' from its definition of intuitive judgement.

<sup>29</sup> See Chudnoff 2013, chapters 1 (especially 48–57) and 2.

observations' (57) are incorrect: he is wrong to believe that the various ways in which an intuitive appearance can be reached constitute different intuitive appearances. Rather, the various ways in which an intuitive appearance can be reached are simply various ways in which an intuitive appearance can be reached, which may or may not be the same intuitive appearance.

First, the same set of reflections may result in an intuitive appearance for one subject but not for another. Thus, any reflections that are associated with an intuitive appearance in such a case cannot, contra Chudnoff, be all that constitutes it. Second, some intuitive appearances occur immediately.<sup>30</sup> For instance, when asked whether killing a person is wrong, it might immediately appear to one that yes, it is. Similarly, when asked whether a tennis racquet is an endangered bird species—a question one may well never have been asked before—it might immediately appear to one that no, it is not. Chudnoff's theory, implausibly, entails that this cannot be so.<sup>31</sup> But the fundamental mistake of the theory, in both types of cases, is that it fails to recognise the essential spontaneity of intuitive appearance.

## **7 Conclusion**

Many people find intuition mysterious. Its common association with traditions and practices with a dubious reputation—fortune-telling, mediumship, religious mysticism, etc.—has naturally been unhelpful in this regard. And given the rich history of the concept

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<sup>30</sup> It is not a coincidence that all three dictionary entries quoted above mention immediacy.

<sup>31</sup> The closest Chudnoff comes to addressing the issue of immediate intuitive appearance is in his discussion of what he calls 'unreflective intuitions'. See Chudnoff 2013, 72–6. In keeping with his constitutedness thesis, the positive account he gives of unreflective intuitions makes them different from immediate ones. Thus, his account of unreflective intuitions is as vulnerable to my first objection as the rest of his theory, while it leaves my second objection concerning immediate intuitive appearance unanswered.

and the many popular books on the topic, it should not be surprising that some scholars have also raised serious doubts about the existence of intuition. At the same time, there are some very influential research programmes in psychology, which have existed for many decades now and are still growing, that naturally—and, no doubt, correctly—claim to be investigating intuition. Moreover, intuition has played an important role in many of the great works of philosophy throughout its history. Yet philosophers, and indeed psychologists, are in as much disagreement as ever concerning the question of what, if anything, intuition might be.

Still, why should we find intuition particularly mysterious? Is it any more so than many of the other things that people have found similarly fascinating, such as love, death, morality, consciousness or truth? Presenting substantive theories about any of these things may be difficult, but that is not a reason to stop trying or to pretend that they do not exist. In fact, the vast majority of cases in which things are commonly called ‘intuition’, ‘intuitions’ or ‘intuitive’ are perfectly unproblematic, both within philosophy and psychology and outside them.<sup>32</sup> The trouble only begins when we ask ourselves what intuition really is. And it seems fair to say that philosophical discourse on the nature of intuition has too often been dominated by authors with only a passing interest in the question, because they were following broader agendas which required intuition to play some particular role or other.<sup>33</sup> Perhaps as a result we are still relatively ignorant of its nature, but intuition is not therefore mysterious.

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<sup>32</sup> See Parfit 2011, 544–5, for a similar line of defence.

<sup>33</sup> Speaking about the rationalist problem of explaining the a priori, Boghossian once fittingly observed: “‘Intuition’ seems like a name for the mystery we are addressing, rather than a solution to it” (2000, 231). Thus, what is mysterious is not intuition but the role that some rationalists would like it to play. The same seems to hold of the mystery that Chudnoff is addressing in his 2013, 57.

The general account outlined in this paper provides useful common ground. Its components—the judgement–appearance distinction, the prototype of intellectual appearance, and the spontaneity of intuitive appearance—are practically, even if often unknowingly, agreed upon by almost everyone currently working on intuition.<sup>34</sup> In conclusion, I will briefly demonstrate how the account may be used, first, to explain various contemporary employments of ‘intuition’, ‘intuitions’ and ‘intuitive’ and, second, to systematise philosophical and psychological work on intuition.

Although not all the things that we ordinarily call ‘intuition’ or ‘intuitions’ are intuitive appearances, it is easy to see how ordinary usage of relevant terms can be explained in line with what has been said so far. To begin with, the word ‘intuition’ has already been used above not only to refer to single instances (*‘an intuition’*) but also, occasionally, to refer to the capacity for intuitive judgement in general. Other ways of using the noun—in particular all of the contemporary dictionary alternatives quoted at the start—are easily construed as being derivative of the central notion of intuitive appearance in broadly the same kind of way in which the notion of intuitive judgement is derivative of it. Similarly, it is easy to see how the adjective ‘intuitive’ may be used to yield meaningful composite terms, such as ‘intuitive action’, ‘intuitive belief’, ‘intuitive knowledge’, ‘intuitive proposition’ or ‘intuitive thought’, on the basis of corresponding intuitive appearances which may be present or past, conscious or unconscious, actual or merely possible.

The present account maintains that spontaneity is a necessary condition for subjective appearance to qualify as intuitive. Perhaps the most elegant way to complement this necessary condition with a sufficient one would be to simply take it as being both at once: thus, all spontaneous subjective appearance would be intuitive appearance. The resulting theory would classify not only perceptual appearances as intuitive—including interoceptive and proprioceptive appearances—but also imaginative, introspective and memorial

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<sup>34</sup> Chudnoff, with his constitutedness thesis, is a rare exception.

appearances. To see how, for example, memorial appearances may be spontaneous, try asking yourself the question ‘What year were you born?’ or ‘What is your name?’, or try to fill in the blanks ‘Donald J. ...’, ‘hammer and ...’, ‘bread and ...’. Such a broad classification is neither unnatural nor uncommon.<sup>35</sup>

Less natural and less common, although not obviously false either, would be the classification of dreams as intuitive appearances. One way in which this result might perhaps be avoided is by taking intuitive appearance to be necessarily conscious, as many philosophers have done. However, this condition excludes various other things which are commonly called ‘intuitions’ or ‘intuitive’, including some of the phenomena extensively studied under that heading in psychology. For instance, neither intuitive action nor intuitive thought need involve conscious intuitive appearance. Yet it follows from my having done something intuitively that things intuitively appeared to me a certain way. Therefore, we should not take intuitive appearance to be necessarily conscious.

Recent philosophical work on the nature of intuition has, on the whole, been too narrowly focused to come anywhere close to forming a psychologically adequate inquiry into the topic. Some of the best work shows at least some acknowledgement of this fact.<sup>36</sup> For example, John Bengson’s article ‘The Intellectual Given’ does an exceptionally good

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<sup>35</sup> See, for example, Russell 1912, chapter 11, which classifies memorial appearance as intuitive. George Bealer also explicitly concedes the point with regard to memorial appearance but insists, on purely phenomenological grounds, that the classification is false: ‘Many items that are, somewhat carelessly, called intuitions in casual discourse in logic, mathematics, linguistics, or philosophy are really only a certain sort of memory. For example, it does not *seem* to me that  $25^2 = 625$ ; this is something I learned from calculation or a table’ (Bealer 1998, 210). On Kirk Ludwig’s account of intuitive judgements, these judgements are ‘akin to propositional memories ... not in being expressions of antecedent propositional knowledge, but in being expressions of prior know-how or conceptual competence’ (Ludwig 2010, 432).

<sup>36</sup> See especially Nagel 2007 and 2012.

job of distinguishing its target notion of intuition from other ways in which the term is commonly used. Bengson does not discuss the variety of intuition phenomena studied in psychology, but he is careful enough to distinguish some instances of conscious intuition from non-conscious ones. He also correctly points out that epistemologists have naturally been most interested in conscious intuitive appearance.<sup>37</sup> However, ethical theorists and moral psychologists, for example, have traditionally been more interested in other forms of intuition, such as intuitive belief.<sup>38</sup> And intuitive belief no more needs to involve conscious intuitive appearance than do intuitive action or thought. The same holds for other, related mental states and processes. One can act, believe, know, think, etc. intuitively without being conscious of an intuitive appearance, even though it follows from one's having acted, believed, etc. intuitively that things intuitively appeared to one a certain way. Thus, an exclusive focus on intuitive appearance that is conscious, which Bengson shares with many epistemologically minded intuition theorists, cannot lead to a theoretical framework that would be psychologically adequate, nor indeed to one that would cover all major forms of intuition that have attracted philosophical interest.<sup>39</sup>

The general account of intuition outlined in this paper offers a unifying framework for the study of intuition that is philosophically and psychologically adequate. With the notion of intuitive appearance at its centre, and using the prototype of intellectual appearance, the account helps to reduce existing philosophical disagreement on the nature of intuition and

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<sup>37</sup> Bengson is wrong, however, to suppose that this interest on the part of epistemologists was traditionally limited to intellectual appearance. In fact, the empiricist problem of explaining sense data is just as natural a continuation of mediaeval discourse on intuitive cognition as is the rationalist problem of explaining the a priori; see, for example, Russell 1912, chapter 11. See also my note 10.

<sup>38</sup> See, for example, Audi 2004, Ross 1930 and Sinnott-Armstrong, Young and Cushman 2010. See also Lewis 1983, x, Ludwig 2010, 442, Parsons 1995, 56, Plantinga 1993, 105–6, van Inwagen 1997, 309, and Weinberg, Nichols and Stich 2001, 19.

<sup>39</sup> Compare also Audi 2015, 63.

related phenomena to the question of the correct analysis of intuitive appearance and its objects, thus enabling theorists to draw more widely on connections with other work on intuition in philosophy and psychology.<sup>40</sup> The prototype of intellectual appearance—derived from a common kind of paradox and an uncontroversial distinction between judgement and appearance—has shown that the analogy with perception is non-essential to the conception of intellectual appearance. And it has been shown that there does indeed exist a broader analogy between intuitive appearances and all kinds of spontaneous subjective appearances, including imaginative, introspective and memorial as well as perceptual ones. This analogy, it has been argued, provides the basis for a possible theory according to which all spontaneous subjective appearances are intuitive appearances, which is indeed plausible both from the perspective of psychology and that of the history of philosophy. Following this theory, future psychological research may show whether the different kinds of intuitive appearance can be fully explained in terms of familiar cognitive

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<sup>40</sup> Just as the general account outlined in this paper remains neutral on the analysis of intuitive appearance (see section 5), it puts no substantive restrictions on the possible objects of subjective appearance or, for that matter, corresponding judgements or inclinations to judge. Thus, for example, the account can in principle admit facts, particulars, propositions and universals in these places. This is in virtue of the fact that anything's appearing to you entails its appearing to you to be a certain way—even if that is only its appearing *to be there*—whilst judgement in the sense of assent (*fürwahrhalten*, 'holding-true') need not strictly be propositional either. For example, Gödel famously defended an account of intuitive knowledge of the objects of set theory. See Gödel 1964; see also Maddy 1980. For other examples of non-propositional views of the objects of intuition, see also Chudnoff 2013, chapter 7, Husserl 1901/21, Kant 1781/7, Locke 1690, McCosh 1860/72 and Russell 1912, chapter 14. On Husserl's influence on Gödel's account of intuition, see Føllesdal 1995.

processes such as vision, touch, smell, imagination, memory—which, if so, will rightly be called ‘modes of intuition’.<sup>41</sup>

## References

- Audi, Robert. 2004. *The Good in the Right: A Theory of Intuition and Intrinsic Value*. Princeton University Press.
- Audi, Robert. 2015. Intuition and its Place in Ethics. *Journal of the American Philosophical Association* 1, 57–77.
- Bealer, George. 1996. ‘A priori’ knowledge and the scope of philosophy. *Philosophical Studies* 81, 121–42.
- Bealer, George. 1998. Intuition and the autonomy of philosophy. In Michael R. DePaul and William Ramsey, eds, *Rethinking Intuition*, Rowman and Littlefield, 201–39.
- Bengson, John. 2015. The intellectual given. *Mind* 124, 707–60.
- Boghossian 2020b. Reply to Williamson on intuition, understanding, and the a priori. In Paul Boghossian and Timothy Williamson, *Debating the A Priori*, Oxford University Press, 214–26.
- Boghossian, Paul and Williamson, Timothy. 2020. *Debating the A Priori*. Oxford University Press.
- Boghossian, Paul. 2000. Knowledge of logic. In Paul Boghossian and Christopher Peacocke, eds, *New Essays on the A Priori*, Oxford University Press, 229–54.
- Boghossian, Paul. 2020a. Intuition, understanding, and the a priori. In Paul Boghossian and Timothy Williamson, *Debating the A Priori*, Oxford University Press, 186–207.
- BonJour, Laurence. 1998. *In Defense of Pure Reason: A Rationalist Account of A Priori Justification*. Cambridge University Press.
- Cappelen, Herman. 2012. *Philosophy without Intuitions*. Oxford University Press.
- Chudnoff, Elijah. 2013. *Intuition*. Oxford University Press.
- Dane, Erik and Pratt, Michael G. 2007. Exploring intuition and its role in managerial decision making. *Academy of Management Review* 32, 33–54.
- Dane, Erik, Rockmann, Kevin W. and Pratt, Michael G. 2012. When should I trust my gut? Linking domain expertise to intuitive decision-making effectiveness. *Organizational Behavior and Human Decision Processes* 119, 187–94.

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<sup>41</sup> Such a discovery would not show Chudnoff’s constitutedness thesis to be correct, because it is too narrowly focused on conscious intellectual appearance and constituent appearances that are at least introspectable. But it would prove a similar kind of thesis.

- Dane, Erik. 2011. Paying attention to mindfulness and its effects on task performance in the workplace. *Journal of Management* 37, 997–1018.
- Davidson, William L. 1882. Definition of intuition. *Mind*, 7/26, 304–10.
- Davis-Floyd, Robbie and Arvidson, P. Sven. Eds. 1997. *Intuition: The Inside Story: Interdisciplinary Perspectives*. Routledge.
- Dennett, Daniel C. 2013. *Intuition Pumps and Other Tools for Thinking*. W. W. Norton and Company.
- DePaul, Michael R. and Ramsey, William. Eds. 1998. *Rethinking Intuition: The Psychology of Intuition and its Role in Philosophical Inquiry*. Rowman and Littlefield.
- Descartes, René. [1985]. *Regulae ad directionem ingenii*. Translated as *Rules for the Direction of the Mind*, trans. Dugald Murdoch, in *The Philosophical Writings of Descartes*, volume 1, trans. John Cottingham, Robert Stoothoff and Dugald Murdoch, Cambridge University Press.
- Deutsch, Max. 2015. *The Myth of the Intuitive: Experimental Philosophy and Philosophical Method*. MIT Press.
- Epstein, Seymour. 2010. Demystifying intuition: what it is, what it does, and how it does it. *Psychological Inquiry* 21, 295–312.
- Ericsson, K. Anders, Hoffman, Robert R., Kozbelt, Aaron and Williams, A. Mark. Eds. 2006/2018. *The Cambridge Handbook of Expertise and Expert Performance*, second edition. Cambridge University Press.
- Føllesdal, Dagfinn. 1995. Gödel and Husserl. In Jaakko Hintikka, ed., *From Dedekind to Gödel*, Kluwer Academic, 427–46.
- Frege, Gottlob. 1918. *Der Gedanke, eine logische Untersuchung*. Translated as ‘Thought’, in Michael Beaney, ed., *The Frege Reader*, Blackwell (1997), 325–45.
- Glöckner, Andreas and Wittman, Cilia. 2010. Beyond dual-process models: a categorisation of processes underlying intuitive judgement and decision making. *Thinking and Reasoning* 16, 1–25.
- Gödel, Kurt. 1964. What is Cantor’s continuum problem? In Paul Benacerraf and Hilary Putnam, eds, *Philosophy of Mathematics*, second edition, Cambridge University Press (1983), 470–85.
- Goldman, Alvin I. and Pust, Joel. 1998. Philosophical theory and intuitional evidence. In Michael R. DePaul and William Ramsey, eds, *Rethinking Intuition*, Rowman and Littlefield, 179–200.
- Gore, Julie, and Sadler-Smith, Eugene. 2011. Unpacking intuition: a process and outcome framework. *Review of General Psychology* 15, 304–16.
- Hodgkinson, Gerard P., Langan-Fox, Janice and Sadler-Smith, Eugene. 2008. Intuition: a fundamental bridging construct in the behavioural sciences. *British Journal of Psychology* 99, 1–27.
- Hogarth, Robin M. 2001. *Educating Intuition*. University of Chicago Press.

- Hogarth, Robin M. 2010. Intuition: a challenge for psychological research on decision making. *Psychological Inquiry* 21, 338–53.
- Huemer, Michael. 2001. *Skepticism and the Veil of Perception*. Rowman and Littlefield.
- Huemer, Michael. 2007. Compassionate phenomenal conservatism. *Philosophy and Phenomenological Research* 74, 30–55.
- Huemer, Michael. 2013. Phenomenal conservatism über alles. In Chris Tucker, ed., *Seemings and Justification*, Oxford University Press, 328–50.
- Hume, David. 1739–40. *A Treatise of Human Nature: Being an Attempt to Introduce the Experimental Method of Reasoning into Moral Subjects*.
- Husserl, Edmund. 1901/21, *Logische Untersuchungen, Zweiter Theil: Untersuchungen zur Phänomenologie und Theorie der Erkenntnis*, revised edition. Max Niemeyer.
- Jung, C. G. 1931. Psychologische Typologie. In his *Seelenprobleme der Gegenwart*. Translated as ‘A psychological theory of types’, trans. W. S. Dell and Cary F. Baynes, in his *Modern Man in Search of a Soul* (Kegan Paul, Trench, Trübner and Company, 1933), reproduced with minor modifications in his *Psychological Types*, second edition, appendix, in his *Collected Works*, volume 6, ed. and trans. Gerhard Adler and R. F. C. Hull, Princeton University Press (1971), 714–37.
- Kahneman, Daniel and Klein, Gary. 2009. Conditions for intuitive expertise: a failure to disagree. *American Psychologist* 64, 515–26.
- Kahneman, Daniel. 2003. A perspective on judgment and choice. *American Psychologist* 58, 697–720.
- Kant, Immanuel. 1781/7. *Kritik der reinen Vernunft*. J. F. Hartknoch.
- Kremer, Michael. 2000. Judgment and truth in Frege. *Journal of the History of Philosophy* 38, 549–81.
- Lakoff, George. 1987. *Women, Fire, and Dangerous Things: What Categories Reveal about the Mind*. University of Chicago Press.
- Lewandowska-Tomaszczyk, Barbara. 2007. Polysemy, prototypes, and radial categories. In Dirk Geeraerts and Hurbert Cuyckens, eds, *The Oxford Handbook of Cognitive Linguistics*, Oxford University Press, 139–69.
- Lewis, David. 1983. *Philosophical Papers: Volume 1*. Oxford University Press.
- Lieberman, Matthew D. 2000. Intuition: a social cognitive neuroscience approach. *Psychological Bulletin* 126, 109–37.
- Locke, John. 1690. *An Essay Concerning Human Understanding*.
- Ludwig, Kirk. 2007. The epistemology of thought experiments: first person versus third person approaches. *Midwest Studies in Philosophy* 31, 128–59.
- Ludwig, Kirk. 2010. Intuitions and relativity. *Philosophical Psychology* 23, 427–45.
- Maddy, Penelope. 1980. Perception and mathematical intuition. *The Philosophical Review* 89, 163–96.

- McCosh, James. 1860/72. *The Intuitions of the Mind: Inductively Investigated*, third edition, revised.
- McMahan, Jeff. 2000. Moral intuition. In Hugh LaFollette, ed., *The Blackwell Guide to Ethical Theory*, Blackwell, 92–110.
- McMahan, Jeff. 2013. Moral intuition. In Hugh LaFollette and Ingmar Persson, eds, *The Blackwell Guide to Ethical Theory*, second edition, Wiley-Blackwell, 103–20.
- Mercier, Hugo and Sperber, Dan. 2009. Intuitive and reflective inferences. In Jonathan St. B. T. Evans and Keith Frankish, eds, *In Two Minds*, Oxford University Press, 149–70.
- Myers, David G. 2002. *Intuition: Its Powers and Perils*. Yale University Press.
- Nagel, Jennifer. 2007. Epistemic intuitions. *Philosophy Compass* 2, 792–819.
- Nagel, Jennifer. 2012. Intuitions and experiments: a defense of the case method in epistemology. *Philosophy and Phenomenological Research* 85, 495–527.
- Newell, Ben R. and Shanks, David R. 2014. Unconscious influences on decision making: a critical review. *Behavioral and Brain Sciences* 37, 1–19.
- Osbeck, Lisa M. and Held, Barbara S. 2014. *Rational Intuition: Philosophical Roots, Scientific Investigations*. Cambridge University Press.
- Parfit, Derek. 2011. *On What Matters: Volume Two*, ed. Samuel Scheffler. Oxford University Press.
- Parsons, Charles. 1995. Platonism and mathematical intuition in Kurt Gödel's thought. *The Bulletin of Symbolic Logic* 1, 44–74.
- Plantinga, Alvin. 1993. *Warrant and Proper Function*. Oxford University Press.
- Pollock, John L. 1974. *Knowledge and Justification*. Princeton University Press, page 23.
- Reber, Arthur S. 1993. *Implicit Learning and Tacit Knowledge: An Essay on the Cognitive Unconscious*. Oxford University Press.
- Rosch, Eleanor and Mervis, Carolyn B. 1975. Family resemblances. *Cognitive Psychology* 7, 573–605.
- Rosch, Eleanor. 1973. Natural categories. *Cognitive Psychology* 4, 328–50.
- Ross, W. D. 1930. *The Right and the Good*. Oxford University Press.
- Russell, Bertrand. 1912. *The Problems of Philosophy*.
- Sinnott-Armstrong, Walter, Young, Liane and Cushman, Fiery. 2010. Moral intuitions. In John M. Doris and the Moral Psychology Research Group, eds, *The Moral Psychology Handbook*, Oxford University Press, 246–72.
- Sosa, Ernest. 2007. *A Virtue Epistemology: Apt Belief and Reflective Knowledge*. Oxford University Press.
- Sosa, Ernest. 2014. Intuitions: their nature and probative value. In Booth, Anthony Robert and Darrell P. Rowbottom, eds, *Intuitions*, Oxford University Press, 36–49.

- Topolinski, Sascha and Strack, Fritz. 2009. The architecture of intuition: fluency and affect determine intuitive judgments of semantic and visual coherence and judgments of grammaticality in artificial grammar learning. *Journal of Experimental Psychology: General* 138, 39–63.
- van Inwagen, Peter. 1997. Materialism and the psychological-continuity account of personal identity. *Philosophical Perspectives* 11, 305–19.
- Weinberg, Jonathan M., Nichols, Shaun and Stich, Stephen. 2001. Normativity and epistemic intuitions. *Philosophical Topics* 29, 429–60.
- Williamson, Timothy. 2004. Philosophical ‘intuitions’ and scepticism about judgement. *Dialectica* 58, 109–53.
- Williamson, Timothy. 2007. *The Philosophy of Philosophy*. Blackwell.
- Williamson, Timothy. 2016. Philosophical criticisms of experimental philosophy. In Justin Sytsma and Wesley Buckwalter, eds, *A Companion to Experimental Philosophy*, Wiley-Blackwell, 22–36.
- Williamson, Timothy. 2020a. Reply to Boghossian on the distinction between the a priori and the a posteriori. In Paul Boghossian and Timothy Williamson, *Debating the A Priori*, Oxford University Press, 156–67.
- Williamson, Timothy. 2020b. Boghossian on intuition, understanding, and the a priori once again. In Paul Boghossian and Timothy Williamson, *Debating the A Priori*, Oxford University Press, 227–39.