NEW PROBLEMS OF PHILOSOPHY

ROUTLEDGE

PERCEPTION

ADAM PAUTZ

PERCEPTION

Perception is one of the most pervasive and puzzling problems in philosophy, generating a great deal of attention and controversy in philosophy of mind, psychology, and metaphysics. If perceptual illusion and hallucination are possible, how can perception be what it intuitively seems to be, a direct and immediate access to reality? How can perception be both internally dependent and externally directed?

Perception is an outstanding introduction to this fundamental topic, covering both the perennial and recent work on the problem. Adam Pautz examines four of the most important theories of perception: the sense datum view; the internal physical state view; the representational view; and naïve realism, assessing each in turn. He also discusses the relationship between perception and the physical world and the issue of whether reality is as it appears.

Useful examples are included throughout the book to illustrate the puzzles of perception, including hallucinations, illusions, the laws of appearance, blindsight, and neuroscientific explanations of our experience of pain, smell, and color. The book covers both traditional philosophical arguments and more recent empirical arguments deriving from research in psychophysics and neuroscience.

The addition of chapter summaries, suggestions for further reading and a glossary of terms make *Perception* essential reading for anyone studying the topic in detail, as well as for students of philosophy of mind, philosophy of psychology, and metaphysics.

Adam Pautz is a Professor of Philosophy at Brown University, USA. With Daniel Stoljar he is the editor of *Blockheads!: Essays on Ned Block's Philosophy of Mind and Consciousness* (2019).

NEW PROBLEMS OF PHILOSOPHY

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PERCEPTION

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PREFACE AND ACKNOWLEDGMENTS

The *New Problems of Philosophy* series provides accessible and engaging surveys of the most important problems in contemporary philosophy. This book is an introduction to the main positions in the philosophy of perception intended for graduate students and advanced undergraduates.

I tried to write the chapters so that they form a narrative, with each chapter leading to the next in a natural progression. But I have also tried to make each of them self-standing, so that teachers can use them separately.

In keeping with the aim of the series, this book mostly has a contemporary focus. I do begin with a chapter on the traditional sense datum view, because it appeals to students' imaginations and it is a good vehicle for introducing the problem of perception to them. The rest of the book focuses on contemporary alternatives to the sense datum view.

Like some other books in the series, this is an opinionated introduction. I do not stake out my own position. But my opinions naturally affected what issues and arguments I decided to cover and how I presented them.

I am grateful to many people for helpful discussion of various parts of this book.

Parts of the book were tried out on audiences at Oxford's Jowett Society, the University of Southern California, the University of California at Berkeley, and New York University. I am grateful to audience members on those occasions for helpful comments.

I have used drafts of this book in undergraduate seminars at Brown University and in a graduate seminar at MIT (co-taught with Alex Byrne and Jack Spencer). I am grateful for the invaluable feedback I received in those classes.

I am grateful to many people for reading parts of the manuscript and helping me to revise it. Farid Masrour, John Morrison, Jacob Beck, and James van Cleve used parts of the book in their undergraduate classes and gave me useful feedback. Brian Cutter, Matt Duncan, Boyd Millar, Alex Moran, Brad Saad, and Jeff Speaks read drafts of the book in whole or in part and kindly provided me with invaluable comments. I am also grateful to Neil Mehta and the members of his summer 2020 perception group (especially Chris Hill, Farid Masrour, Boyd Millar, David Papineau, and Susanna Schellenberg) for reading parts of the book and giving me a lot of helpful advice.

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INTRODUCTION
WHAT IS THE PUZZLE OF PERCEPTION?

In cases of illusion or hallucination of a pink vase ... one's state of mind can hardly be vase-shaped or pink, so what is one describing when one asserts that it looks to one as if there is a [vase-shaped, pink] vase before one?

—M. G. F. Martin (1995)

The qualitative difference between red and green, the tastiness of fruit and foulness of carrion, the scariness of heights and prettiness of flowers are products of our common nervous system.

—Stephen Pinker (2008)

The subject of this book is perception – the mind's first point of contact with the world. We will mainly focus on visual perception but we will also consider our experience of sound, smell, and pain.

There are many questions about perception. What constitutes how things appear to us – the character of our experiences of the world? What is it to perceive an object? How does perception enable us to think about objects and form a conception of the world? How does perception give us knowledge of that world?

In this book, we will focus on the question of what constitutes the character of experience, although here and there we will address the other

questions too. The main views in the philosophy of perception are defined by how they answer this question. This book covers four of them: the sense datum view, the internal physical state view, the representational view, and naïve realism.

In this introduction, I will first explain the "character question". Then I will explain why it is puzzling. Finally, I will explain why it is important.

1 The character question

Suppose you first view a tomato and then a lemon. The object you now perceive is different from the one you first perceived. The *character* of your experience is also different. In ordinary language, we would simply say that "you have a different experience". And we would convey the difference by talking about the difference in how things "appear" or "seem" to you.

In this example, the character of your experience changes, and so does the object you experience. However, the character of your experience can change even if the object you perceive doesn't change in its intrinsic features. For instance, if you move closer to a table, the table doesn't change, but your experience of it does, because your perspective on the table changes. Again, if you take off your glasses, the character of your experience changes because things look blurry, but the objects you see don't change.

There are also illusions. In an illusion, you experience a real thing, but it seems other than it is. A recently famous example is "the dress", which became a viral internet sensation in 2015. This is an image of a dress which to some people looks white and gold and to other people looks black and blue. The explanation is that the color signal is ambiguous and different individuals' visual systems resolve the ambiguity in different ways. If the dress cannot have multiple colors, at least one of the groups must be subject to an illusion, but it is not clear which one. This caused heated debate on twitter, with many celebrities chiming in. The dress nicely illustrates important philosophical worries about how we could know whether perception is a reliable guide to reality. Taylor Swift tweeted that thinking about it left her "confused and scared".

After-effect illusions can also be very powerful. My favorite examples can be found on YouTube (just search "color after image"). For example, in one video, you start off by seeing an image of a castle on top of a grassy hill with the sky in the background. At first the castle, the sky, and the grass

are shown with very odd colors. Then in fact the odd colors are replaced with black and white. But, because of the after-effect, even though image is now in black and white, you experience the grass as being vividly green, the sky as vividly blue, and so on. Your brain "projects" onto the black and white image a variety of colors that aren't really there. The illusion is perfect. The illusory colors really appear "out there", and there is nothing that could tip you off that they are not. After a while, the illusion goes away: the illusory colors go away and the image begins to look black and white, just as it really is.

Hallucination is a more extreme perceptual failure. In a visual hallucination, you have a visual experience but you don't experience any real thing at all. For example, there is a fascinating condition called "Charles Bonnet syndrome" (CBS) that is common among those who have lost their sight, often through an age-related condition (e.g., macular degeneration). While they lose the ability to see, they acquire a tendency to have extremely vivid hallucinations. For instance, on a webpage about CBS, you can find the following description:

> I have macular degeneration and about six months ago, I started to see these super colorful shapes and figures. Fortunately, I was told about CBS by my eye doctor so I then began to enjoy them. Sometimes I see these climbing vines or plants which are such a rich green. I love seeing the strong colors but sometimes they are really, really colorful like when you put up the colour control on the TV to the maximum.

So far, I have given examples of radical changes in the character of your experience. Other changes are more subtle. For instance, you can see the drawing below as a rabbit or as a duck. This is called a "gestalt" (German: "shape, form") shift.

In other cases, it is hard to tell whether there is a difference in your experience or in your cognitive reaction to the experience. For instance, if you see a long-lost friend from childhood, and don't recognize her at first, and then all of a sudden recognize her, there is a change in your overall mental state. But is it a change in your visual experience?

In spite of such tough cases, we have a pretty good grip on the idea of having two sensory-perceptual experiences with "the same character". In ordinary language, we would simply say that you "have the same experience" (so that perhaps the term "character" can be eliminated).

We can use our grip on this idea to introduce another idea that will be very important in this book: the idea of having an experience of a certain

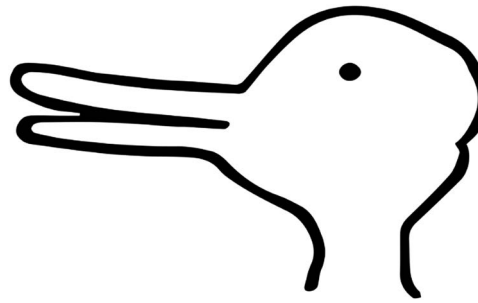

Figure 0.1 Duck-rabbit.

maximally-specific type. Suppose you see a tomato on one occasion and then an identical tomato on another occasion. Or – to take a more extreme case – suppose you have an identical hallucination of a tomato. Even though the cases are very different in certain respects, we all recognize a sense in which you "have the same type of experience" in each case. You have an experience of a different type when you view a lemon. Likewise, when you view the table from different places, or interpret the image in Figure 0.1 differently, then you have different experience-types. When you hear a sound or feel a tickle, you again have different experience-types.

This brings us to:

> **The character question.** What is it to have a certain specific experience-type? For instance, what is it to have the tomato-like experience, or the quite different lemon-like experience? Or a specific experience of the table from a particular vantage point, or a specific experience of the figure shown above? What is it to have a specific type of auditory experience? And so on.

An answer to this question will tell us what differences in the character of experience consist in. It will take the form of a definition:

> To have an experience with a certain character (that is, to have an experience of a certain type) *just is* to _____.

This whole book will be devoted to filling in the blank here. Different views fill in the blank in different ways.[1]

I have mentioned many examples where there is variation in experience without variation in the world: change of perspective, blur, color illusion, gestalt shifts. So any adequate answer to the character question must answer the following question: in such cases, what does the variation in

experience consist in, if not variation in the world you perceive? This is part of what makes the question difficult.

You might wonder how we can give an interesting "definition" of something as basic as having an experience with a certain character. What would such a definition look like? So let me briefly describe some examples of the main answers to the character question that philosophers and scientists have proposed through the years in order to give you a rough sense of them. Each of these views will be the subject of a subsequent chapter.

Naïve realism. This view holds that, at least in normal cases, to have an experience with a certain character is just to experience the actual character of external things. Normally, differences in the character of your experience just consist in differences in the world you experience. Naïve realists face a big problem: how can they explain cases, such as the above-mentioned cases of illusion and hallucination, where the character of your experience changes but the world doesn't change? (Chapters 1 and 5)

The sense datum view. Sense datum theorists think that illusion and hallucination show that your brain is always creating non-physical images ("sense data") in a kind of virtual world; it is this virtual world that you perceive, not the real world. To have certain experience-type is just to be aware of a certain array of images (and also perhaps to "interpret" them in a certain way) created by neural activity in the brain. Differences in experiences are constituted by differences in the images in the virtual world (or, perhaps in some cases, your "interpretation of them"). (Chapter 1)

The internal physical state view. This view gets rid of non-physical images created by brain states and instead maintains that to have a certain experience-type is just to be in a certain brain state. Modulations in experiential character *just are* modulations in brain states. (Chapter 2)

The representational view. This view holds that to have a certain experience-type is just to "experientially" represent the external world to be a certain way, where this is somewhat akin to believing the world to be a certain way, but more automatic and vivid. Our experiences are, so to speak, hypotheses about the world that the brain arrives at. These representational states are enabled by brain states but they are more than brain states (just as a story is more than a series of marks and lines in a book). Differences in the character of experience are constituted by differences in how your experience represents the world to be. In cases of illusion and hallucination, the world is not that way. (Chapters 3 and 4)

We are not assuming from the start that one of these theories applies to all types or aspects of experience. That is one possibility. But another possibility is that one theory is correct for some types of or aspects of experiences, and another theory is correct for other types of or aspects of experiences.

It is important to understand that the character question is not just about what causes or explains or enables your experiences. It is about the *definition* of experience. It is about what your experience, and what changes in your experience, consist in. For example, we know that a neural activation state in your brain is a cause or enabling condition of your experience of a tomato. But that doesn't automatically mean that having a tomato-like experience consists in nothing but undergoing a certain brain state. Maybe this "internal physical state" view is correct, but it cannot be established so easily. Maybe instead having a tomato-like experience is dependent on a brain state but something more than a brain state. For instance, maybe it consists in perceiving a tomato in the world (naïve realism), or in perceiving a non-physical, tomato-like sense datum created by your brain (sense datum view), or representing the presence of a tomato-like object (representational view).

2 Why the character question is hard: the external-internal puzzle

There are many philosophical puzzles about perception. But I think it is helpful to understand the main puzzle in the following way. Experience has a Janus-faced character. Many experiences are essentially "externally directed". But experiences are also "internally dependent". Experiences spring from the inside but they also point outward. And this is puzzling.

The external-internal puzzle will be a unifying theme of this book. For each view we will look at, we will consider whether it can adequately solve the puzzle. For now, it will be enough to explain roughly what it means to say that some experiences are both "externally directed" and "internally dependent", and to give you some sense of the resulting puzzle. As we go along in the book, these ideas will become clearer.

The puzzle comes in two forms. One concerns abnormal perception: illusion and hallucination. The other concerns the experience of "sensible properties" in normal perception.

To illustrate the first puzzle, imagine that you have an experience as of a tomato on a white table. You know simply by reflecting on what the experience is like that it is essentially externally directed. To a first approximation, by this I mean that, necessarily, if you have this type of experience, then you in some sense have an experience of a red and round thing in space. It seems to you that there is a red and round item present. Having

an experience like this is *inseparable* from the seeming presence of a round thing. It is strictly impossible to have the one without the other. Thus, this type of experience is always essentially "directed" at a certain type of item in space, a kind of item that doesn't exist inside your brain when you have the experience. It is not like a headache, which doesn't seem to present any item in space. That some experiences are externally directed should be one of our starting points in theorizing about perceptual experience.

While simple reflection on what the experience is like supports external directedness, the empirical fact that there are illusions and hallucinations supports a form of internal dependence. For instance, imagine that you have CBS (described above). Then you might have a vivid hallucination of a tomato that is just like your normal perception of a tomato because of aberrant neural activity.

These two ideas generate a puzzle. The puzzle can be put like this:

> **External-internal puzzle about hallucination.** Even in such an hallucinatory case, your tomato-like experience is externally directed: it seems you as if a red and round thing is *right there*. Yet, in this case, no physical red and round thing is there. *So how can we account for your vivid impression that a red and round thing is there?* How is it that in this case the experience is both externally directed and internally generated? Does your brain perhaps create a ghostly red and round "mental image" and project it into space? Or what?

As M. G. F. Martin puts the puzzle in the quote I started with, in such a case, "what is one describing when one asserts that it looks to one as if there is a [red and round thing] before one?" Any good answer to the character question must address this question.

The experience of pain provides another example of the same puzzle. Experiences of pains are externally directed. We experience pains in space in various bodily regions and as standing in spatial relations. The apparent location of one pain in your forearm can really be close to the apparent location of a second pain in the same forearm. But, in abnormal cases, experiences of pain are internally dependent. An example is phantom pain. People who have lost a limb continue to feel "phantom pain" there because of aberrant neural activity. Again, the external-internal puzzle is this: in such a case, how come it feels as if there is a pain in the relevant region, even though there is no physical disturbance there at all?

This instance of the external-internal puzzle concerns abnormal experience. The other instance of the puzzle concerns our experience of "sensible properties" in normal experience.

Let me first define the idea of a "sensible property", which has been a central focus of the philosophy of perception. (In this book, I will also sometimes use the synonymous term "sensible quality". Others use the term "qualia".) In experience, we are presented with spatial properties, such as shape, location, and depth. But that is not all we are presented with. We presented with properties together with spatial properties. *Sensible properties* are among the distinctive properties presented to us in experience together with spatial properties. They belong to various "families". It is difficult to locate them in the quantitative world of physics. Here are some examples:

sensible colors

audible qualities

smell qualities

taste qualities

pain qualities

For instance, when you view a bowl of fruit, you experience a number sensible colors in a spatial arrangement. At the same time, you might hear a high-pitched bird call outside the window. You might feel a dull ache in your foot. The sensible properties presented in your experiences are bound up with the character of those experiences.

The sciences of psychophysics and neuroscience suggest that, even in normal perception, our experience of sensible properties is especially dependent on our internal neural processing – even more so than our experience of spatial properties. In Chapter 4, we will formulate this claim more exactly and describe the empirical evidence. But here we can work with the rough idea.

For example, consider again the case of pain. We saw that the experience of phantom pain is internally generated. But there is plenty of evidence that even in normal cases what pain we experience depends more on our internal neural response than on the external bodily disturbance. For instance, when put your hand in scolding hot water, the explanation of why you experience pain of a certain specific intensity (and not a higher or lower intensity) resides most directly in what happens in your brain (namely, firing rates of neurons in the pain-matrix), not anything that happens in your hand itself.

Or consider the experience of smell. There is a lot of empirical evidence that how something smells to us is more closely dependent on our neural response than on the external odorant. For example, the explanation of why you experience a citrus smell and not a minty smell resides most directly in your neural processing – not the objective character of the odorant.

The same applies to the experience of color. You might have thought that things just have certain colors "out there" and that is why we experience the colors we do. But the empirical evidence suggests that the experience of color is just as dependent on neural processing as the experience of pain or smell. For example, light varies continuously but we experience discrete color categories (red, green, yellow, and blue). When you look at a tomato, the reason why you experience red and not green is more directly explained by your neural response to the tomato than it is by the objective reflectance of the tomato (i.e., the way it reflects light). A different species could respond to the same reflectance of the tomato but experience green rather than red because of different neural processing.

So science suggests that the experience of sensible properties is internally dependent. At the same time, first-person reflection shows that the experience of sensible properties is externally directed. You experience sensible properties as "out there", as filling shapes and spatially arranged in various locations, often at a distance from you. As a result, a form of the external-internal puzzle extends to normal perception:

> **External-internal puzzle about sensible properties.** Even in totally normal perception, and not just in illusion and hallucination, your experience of sensible properties (pain qualities, smell qualities, color qualities) is shaped by internal processing. Yet you experience sensible properties as "out there", together with shapes and in various locations, often at a distance from you. How is it that what you seem to experience as "out there" is shaped by internal processing "in here"?

One traditional response is that sensible properties are "unreal" or "projections of the brain". But what does this mean? And even if nothing has ever been objectively minty or objectively red, the *appearance* of these qualities still needs to be accounted for. How did our brains enable us to have illusory experiences of unreal properties of a wholly novel sort (colors, smell qualities, pain qualities, audible qualities), properties that are totally unlike any of the properties (charges, masses, spin) that have occurred in the real world?

Traditionally, the first puzzle is called the "problem of illusion" or "the problem of hallucination" while the second is called "the problem

of sensible properties". But there is a rough similarity between the two problems. So we can see them as instances of the same kind of puzzle: the external-internal puzzle. The external-internal puzzle is what makes the character question so hard to answer.

For example, pretend we didn't know anything about how our visual and other experiences are internally dependent. We didn't know about illusions and hallucinations and we didn't know about the empirical evidence for the role of the brain in shaping our experience of colors and other sensible properties. In that case, we would not think that there is any big problem concerning how to answer the character question. We would probably just accept the simple position of "naïve realism". It is only when we discover that our visual and other experiences are internally dependent that naïve realism becomes problematic. Naïve realists are hard-pressed to explain why an external object might seem to be present in a hallucination case where no physical object is present. And they cannot easily accommodate the big role of internal processes in shaping what sensible properties we experience in normal perception. In short, while naïve realism nicely explains the externally directed character of experience, it has trouble accommodating internal dependence.

Conversely, if all of our experiences were internally dependent but none were externally directed, like diffuse head pains or bouts of nausea, then again experience would not pose such a formidable philosophical puzzle. For instance, if you have a diffuse headache that is not caused by an external object, there is no problem of the form "why does it seem to you that an external object is out there even though there isn't one?", for the simple reason that in having a headache it *doesn't* seem that an object is out there. Headaches are just internal sensations that aren't externally directed in the same way as ordinary visual experiences. Unlike visual experiences, they don't involve the vivid impression that an external thing with certain sensible properties is *out there* in space. Because many of our experiences are both externally directed and internally dependent, experience poses a difficult philosophical problem. How can we have vivid experiences as of objects and sensible properties "out there", because of internal neural processing "in here" – even in hallucination cases where no physical object is really present at all?

What kind of answer to the character question *would* solve the external-internal puzzle? That is what this book is going to be about. But, in order to get across the difficulty of the external-internal puzzle, let me briefly explain to you one quite complex and strange solution: the traditional

sense datum view, which will be the focus on our first chapter. This view had its heyday in the early 20th century and it traces back to John Locke (1632–1704). It could not be more different from the simple, cozy position of naïve realism.

To illustrate, suppose you view a tomato on a table. According to the sense datum view, the physical objects reflecting light into your eyes are in fact intrinsically colorless, made up of colorless subatomic particles. The red and round item in your visual field and the other colored items in your visual field are in fact very detailed images created by your brain. *All this* – this whole realm of colored items – is a figment of your brain. You *think* all these colored items are physical things in a public space, but in fact they are mental images in a private mental realm created by your brain. Likewise, when you feel pain (real or phantom), the brain creates non-physical pain sense data in a kind of private bodily space. In general, each of us lives in her own virtual reality created by her brain. So the perceptual process works like this: first the world, then a brain process, and finally a highly embellished virtual model of the world. Why does your brain go to the trouble of creating for you a virtual reality filled with colors, pain qualities, audible qualities, and so on, even though these qualities are absent from your physical environment and body? Because it helps you to tell objects apart and react appropriately to them.

This "sense datum view" view may seem extreme, but it would at least have the merit of solving the external-internal puzzle. Even though sense data are internally generated, the sense datum view explains the externally directed character of the tomato-like experience: on this view, whenever you have this experience, it vividly seems to you that you experience a red and round item in space, for the simple reason that you really do experience a red and round item in space – even in a hallucination case. At the same time, it also explains internal dependence, by holding that this red and round item is a "sense datum" created by your brain in a private mental space.

I hope the foregoing gives you a sense of the external-internal puzzle and why it may challenge our pretheoretical ideas about perception. Many have thought that its proper solution requires recognizing that there is a big difference between the way things appear and the way they really are.

How might we figure out the correct solution to the puzzle of perception? We can rely on simple reflection on what our experiences are like. For instance, that is where we get our reason to accept external directedness. We can also rely on empirical findings. That is where we get our reason to

accept internal dependence. Our aim is to come up with a simple theory that fits as best as possible with the things we have reason to believe about experience. To do this, we must try to weigh up the costs and benefits of the different theories.

3 Why the character question is important: the significance of experience

I have explained why the character question is hard: the reason is the external-internal puzzle. But what is it important?

The answer is simple: we hold dear certain beliefs about the nature of experience that may be thrown into doubt by the correct answer. Some of these beliefs come from commonsense and reflection; others derive from more general theoretical commitments about the world. Here are some of the beliefs I have in mind.

We perceive elements of the external world in a strong sense. We don't think we perceive things indirectly by perceiving "images" made by the brain (as on the "sense datum view"), in the way we perceive a football game by watching images on a TV screen. Rather, we perceive ordinary physical things themselves in the strong sense upheld by naïve realists: the very character of our experience is *constituted by* our perceiving the character of real things, events, and other items in the external world. In this sense, on occasion, the real, concrete states of things themselves shape the contours of our experience.

We take it that this is part of what gives experience its distinctive value. For instance, we take it to be a good thing that we can in this sense perceive a sunset, or the smile of a friend. So if we do not in this strong sense perceive elements of the external world, then experience doesn't have the value we take to have.

Many theories imply that we do not in this sense strong perceive elements the real world. Clearly, the sense datum view has this implication. But the internal physical state view and representationalism have this implication as well, because they reject naïve realism.

The external world is generally the way it appears. Relatedly, we believe that, at least normally, the world is pretty much as it appears. The world is *not* devoid of colors, sounds, smells, and so on. Things really do have the colors, sound qualities, tastes, smells, and so on, that they seem to have. They also have the spatial features they seem to have.

As we shall see, many theories of experience go against this commonsense belief as well. As just explained, the "sense datum view", to be

discussed in Chapter 1, goes against this belief. The position of "illusionist representationalism", to be discussed in Chapter 4, does as well.

Perceptual experience is a natural, physical phenomenon, not radically different from other physical phenomena in the natural world. This belief flows from a general kind "physicalism" about the world that many people embrace. Roughly, physicalism is the idea that all facts about the spatio-temporal realm amount to physical facts. So perception is an entirely physical phenomenon, like digestion or photosynthesis. In response to the "mind-body problem", physicalists insist that states of the mind are just purely physical states of the body. This view is recommended by its simplicity.

Some prominent theories of perception cast doubt on this simple physicalist picture of the mind. Consider for instance the sense datum view. If the physical world is colorless, and the detailed colored images you experience are creations of your brain occupying a kind of private "virtual reality", then those colored images must be non-physical. For instance, a neuroscientist looking into your brain would not find them there. So if the sense datum view is true, physicalism fails. Or again, "internalist representationalism", which we will consider in Chapter 4, creates another puzzle for physicalism. On this view, the brain has an intrinsic capacity to enable us to experientially represent (be "acquainted with") properties that are not instantiated *in* the brain – including properties like color properties that have never occurred in the world at all. This is mysterious, and it is unclear whether it can be explained in purely physical terms.

It follows that you cannot tackle the mind-body problem without taking a look at the philosophy of perception. Many discussions of mind-body problem are conducted at a very abstract level; they are focused on general arguments ("the zombie argument", "the knowledge argument", and so on) and grand views (physicalism, pansychism, and so on). But the details matter too. The grand views need to account for the facts of perception. No discussion of the mind-body problem would be complete without a look at the puzzles of perception.

Experience has a unique explanatory and reason-giving significance. It's natural to think being experientially acquainted with certain things or qualities is necessarily *sufficient for* having certain kinds of *reasons*. For instance, necessarily, if you have a vivid experience of a lemon, you have at least some reason to think a yellowish, round thing is there (although the reason could be defeated if, for instance, you are told you are hallucinating). This is related to the essentially "externally directed" character of experience.

Experiences are not just sufficient to give us certain reasons for having certain beliefs about things; it is also sufficient to give us the very capacity to have those beliefs in the first place. For instance, your experiences are enough to enable you to have beliefs about the colors and shapes of things.

In fact, some philosophers find it intuitive that experience is *necessary* for having the relevant beliefs, and for having reasons for those beliefs. For example, a robot lacking experiences couldn't have the same reasons to believe things about the external world, and indeed maybe could not really understand and believe things at all, even if its internal physical states are reliably connected to the environment and it is indistinguishable from a normal human in its behavior and appearance.

We might put these ideas in slogan form: *experience first*. Experience lies at the foundation of our most basic mental capacities and knowledge. In fact, it may be that, before you can have these capacities at all, you need experience first.

4 The organization of this book

The organization of this book is simple. We will start with the traditional sense datum view already touched on and then by a natural train of thought move through the more contemporary views. Here is a brief guide to the book.

Chapter 1 is about the traditional sense datum view. On this view, experiences involve arrays of non-physical "sense data" created by brain processes. As already noted, this provides an interesting solution to the external-internal puzzle. It explains how experience is both "externally directed" at items arranged in space, but also dependent on neural processing. But it requires belief in sense data. Sense data would be very strange items. If you were to hallucinate a tomato, would there really exist a reddish and round mental image? If so, where is it? It is not in your physical brain (there is no physical reddish and round thing in your brain). Maybe the right thing to say is that, even though there vividly seems to be a reddish and round item, there doesn't really exist such a thing – not even a reddish and round image or sense datum.

Chapter 2 is about the internal physical state view. This view is a natural option after setting aside the sense datum view. Instead of holding that experiences are relations to non-physical sense data created by states of the brain, this view holds that experiences are identical with those brain states themselves. It simply removes the additional step. Changes in the character

of experience *just are* changes in brain states. All experiences are therefore entirely "internal" phenomena like headaches. The trouble: this view may not fully solve the external-internal puzzle. It explains the fact that experiences are internally dependent but may not be consistent with the fact that some of them (e.g., visual experiences) are also essentially externally directed. Some recent internal physical state theorists (for instance, David Papineau) are willing to reject or weaken the idea the strong thesis that experiences are essentially externally directed. Thus, they solve the external-internal puzzle by rejecting or weakening one of the ideas that generate the puzzle. However, opponents will say that rejecting essential external directedness flies in the face of phenomenological observation.

Chapter 3 is about the representational view. The lessons of the previous chapters will lead straight to it. Many experiences are essentially externally directed (contrary to the internal physical state view), but they also existence-neutral (contrary to sense datum theorists). These are features that experiences share with "representational" states like beliefs. For instance, your belief that there is a round tomato in the next room is externally directed but existence-neutral: there might be no such thing there. Representationalists propose that experiences are a species of representational states like beliefs, only they are much more vivid and detailed. In this chapter, we will mostly focus on the *basic idea* and how it explains the *externally directed character* of experience.

Chapter 4 continues the discussion of the representational view. Whereas Chapter 3 is about the basic idea of representationalism and focuses on how it explains the externally directed character of experience, Chapter 4 focuses on how the basic idea can be developed in detail, with a view to determining how it might fully accommodate the dependence of experience on internal factors. We will find that some "externalist" forms of representationalism may not fully accommodate the empirically-supported fact (mentioned above) that our experience of sensible properties is especially dependent on internal neural processes. By contrast, "internalist" forms of representationalism may accommodate the way in which many of our experiences are both externally directed and shaped by internal processes. The idea is this: experiencing consists in representing things and qualities in space, but in some cases how we experientially represent the external world is due to our own internal processing, rather than to the character of the world itself. For many, such an internalist form of representationalism offers the best solution to the external-internal puzzle. However, it also faces many problems.

Chapter 5, the final chapter, is on contemporary forms of naïve realism. In particular, it is about the debate between contemporary naïve realism and representationalism. Traditionally, naïve realism had been cast aside because of internally-generated illusions and hallucinations. But contemporary forms of naïve realism show promise in accommodating illusions and hallucinations. Moreover, there is something to be said for naïve realism: it just seems right. But there is a problem: while it nicely explains the externally directed character of experience, it doesn't fit well with empirical evidence for the robust role of internal factors in shaping our experience of sensible properties. The problem for naïve realism is therefore the opposite of the problem with the internal physical state view, which accommodates internal dependence but has trouble with essential external directedness. Some naïve realists are prepared to reject internal dependence. For instance, John Campbell writes, "what I disagree with is the idea that our brain makes a big contribution to experience] … the function [of brain processing] is just to reveal the world to us" and "looking for the qualitative character of experience in the nature of a brain state is looking for it in the wrong place". Thus the viability of naïve realism depends to a large extent on empirical issues in neuroscience and psychophysics.

Finally, the *Conclusion* summarizes the advantages and disadvantages of the main views and points out some important unresolved issues.

Notes

1 In this book, then, I will typically assume that answers to the character question take the form of "real definitions" that apply in all possible cases (Dorr 2016). However, as we will see, answers to the character question might also be understood as specifying what "constitutes" or "grounds" the character of experience (for this notion see Fine 2012). And it may be that different things can constitute or ground the character of experience in different cases. For instance, as we will see in Chapter 5, some say that "naïve realism" is right for normal experiences but some other theory is right for hallucinatory experiences. And sometimes "representationalists" (Chapters 3 and 4) say that naïve realism is wrong for actual humans but allow it might be right for individuals in other "possible worlds" (e.g., Chalmers 2010: chap.12).

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