

Sense Perception

‘**Sense perception**’ refers to a familiar set of processes that provide knowledge about the world: the processes of seeing, hearing, smelling, touching and tasting. These processes depend crucially on certain parts of our bodies, called **sense organs**, which include our eyes, ears, nose, tongue, and fingertips. According to common sense, almost all of our knowledge ultimately comes from sense perception (either from our own sense organs or someone else’s, as blind people can also know about the stars and planets).

Epistemology is the study of knowledge, and asks questions like: *What is knowledge?, Do we have any knowledge? and, If we have knowledge, then how do we get it?* Since perception is apparently so crucial to knowledge, this seems a good place to begin.

The following text is from Charles Landesman’s *An Introduction to Epistemology* (1996), page 5-13. I have cut out some sections, leaving an ellipsis ‘...’, and inserted some comments of my own in square brackets [like this]. I also highlighted some key terms by writing them in **bold face** where they first appear and are defined. Landesman begins by describing how ordinary people, who haven’t learned philosophy or science, think about sense perception. He refers to this as the ‘original understanding’.

1. The Original Understanding

Let us begin thinking about human knowledge by reflecting upon our original understanding of the human knower and his or her situation in the world. We think, first of all, that we are human beings who have bodies some of whose parts we classify as sense organs. We think that the world we live in consists of objects of various sorts, all of which occupy particular positions in space and time. We think of these objects as composed of various stuffs — water, wood, iron, plastic, and so forth and as having various properties that we can observe, such as colors and shapes. In addition to these properties, the objects bear a large variety of relations to one another. Furthermore, they undergo changes; things happen to them; they move from one place to another; they interact with one another. The term ‘**ontology**’ is the name of that branch of philosophy that investigates the sorts of things that actually exist [and the **ontology of a theory** refers to the things that exist, according to that theory]. Thus far, the ontology of our original understanding consists of material objects (bodies, things), the stuffs of which they are composed, their properties and relationships, and the events they undergo.

I almost forgot. There is one group of things I did not list within this ontological framework: namely, we ourselves who drew up the list. Perhaps you think that we are already incorporated in the list under the category of material bodies. It is true that we *have* bodies. But is it plausible to identify the human person with their body? Let us put this question aside for a while. We shall merely add the category of person to our list and leave undecided whether this is a fundamental category in its own right or a subcategory under material objects, or whether it is to be understood in some other way.

How do human beings get to know about the existence of the items that fall within these categories? The answer that the original understanding offers is that we learn about them by means of our *sense organs*. Each sense organ is the physical basis for a sense:

the eyes the basis for vision, the ears for hearing, and so on. By means of our senses we become aware of material bodies and events and their properties and relationships in the spatiotemporal world. Sense awareness, it seems, is the foundation of our knowledge of whatever there is in the world.

Let us take an example. You are looking for your brown gloves: You open the drawer, and there are the gloves in your field of vision; you see them. Do you now know where they are? Perhaps the light was dim, and you were unable to get a good look at their color. So you do not think that these are your brown gloves. Thus, even though something may fall within your field of vision and become an object of visual sense awareness, you still may not know what it is.

Suppose you turn on a nearby lamp in order to obtain a better view of the gloves. Now their brown color appears to you. Do you now know that here are the gloves you were looking for? Well, consider this thought-experiment. Suppose an animal—your dog, for example—was also looking at the brown gloves. It too had the gloves and their color within its field of vision. It had the same sort of sense awareness of the gloves that you have. Does it know that these are brown gloves? Of course not. In order to know that these are brown gloves, one must not only have the gloves in one's field of vision, but one must *judge* [i.e. believe] that these are brown gloves. The possession of knowledge of this sort involves not just sense awareness, but also the power of judgment. This sort of knowledge is of the kind called 'knowing that', by contrast with 'knowing how'. Knowing that involves a judgment, an assent to a proposition, to something capable of being either true or false. In sense awareness, something is, we think, present to us; it is, we may say, given to us. In sense awareness, we are receptive to the objects and events in our surroundings. But knowledge in the form of knowing that is more than mere receptivity; it involves acts of mind in which the material provided by sense awareness is interpreted. In the case at hand, the things I see are classified as gloves, and their color is classified as an instance of brown. In the

judgment that these are brown gloves, they are also identified as being in a certain place ("Here they are") and as positioned at a certain time (through the tense of the verb, "are").

Thus the judgment involves the use of certain concepts such as 'glove' and 'brown'. Since the term 'gloves' is in the plural, the concept 'more than one' also comes into play, and implicit in this concept is the concept of number. In addition, our understanding of the spatial and temporal frameworks in which material objects and events are located is utilized. Thus the capacity to acquire knowledge by means of the senses depends upon possessing the relevant concepts and frameworks. ...

Thus far we have discussed sense awareness rather uncritically, as if there were no problem in understanding its true nature and the way in which it works. We certainly think we acquire much of what we know about the world through the senses; yet skeptical philosophers, from the ancient world to the present time, have pointed out that our senses frequently deceive us. They have argued that the way things are made to appear by means of our senses does not always match the way things really are. Something can look to be of one color, yet really be of another. Something can look smaller than it really is. A straight stick placed in water looks bent. Parallel lines such as railroad tracks seem to converge. These and countless other cases represent a frequent lack of correspondence between appearance and reality. But if sense awareness is unreliable, how can it provide the certainty which we associate with knowledge? Let us turn now to consider the ways our senses actually operate in generating our judgments about the surrounding world.

2. Sense Awareness and Direct Realism

At the very moment that I am writing these words, I am able to see the telephone that is sitting on my desk out of the corner of my eye. It has a certain familiar shape; its color is white; it has a red

hold button, and the remaining buttons are gray. When I think about this and similar states of affairs from the standpoint of our original commonsense pre-philosophical, pre-scientific understanding, these are some of the things I am inclined to believe. When I use my eyes to see something, a certain scene is presented visually; this scene includes various objects (such as the telephone, its receiver, and the connecting line) and their relationships and properties. The objects are viewed in a larger setting (for example, the telephone is on the desk, which is situated in front of a bookcase), and this larger setting is itself situated in a fragment of the world that is not itself fully presented at the moment of sense awareness.

Moreover, the knowledge about the scene that I acquire through sense awareness is not a product of hard thinking or complex calculations. I do not need to use much effort to obtain it. I simply report the facts that are presented to me. That the telephone is white and the hold button red are things I know not because I have **inferred** them from other facts, but because sense awareness has allowed me to inspect the very facts themselves. When I think of the things I know by inference or by calculation or by means of the testimony of others, I am convinced that sense awareness is a basis for knowledge that is direct and immediate; it makes it possible for me to inspect the very facts themselves. I think I know that Columbus sailed to America for the first time in 1492. But that is not a fact that I have observed. My access to it is very indirect. The author of the history book in which I first read about it himself learned about it by reading other books and documents. Ultimately the basis for this knowledge is the firsthand observations of others a long time ago; my current belief is the product of a sequence of events which began over 500 years ago. I am in no position to inspect the facts themselves. Instead, I inspect sentences in a book that assert these facts, and I assume that these assertions are reliable. Our original understanding affirms that the knowledge of objects given in sense awareness is direct, because sense awareness is an inspection of the very facts which that knowledge represents.

There is something else of great importance that our original understanding also affirms. It says that the facts that are inspected in sense awareness are *objective and independent*. What this means is that these facts do not depend upon anything about the person doing the inspecting. These facts would still exist even if no one was inspecting them. That there is a telephone on the desk, that it is white, that it has this particular shape, and so forth are facts that exist whether or not anyone is apprehending them via sense awareness. Suppose, for example, that I experience a momentary blurring of vision. The telephone then looks blurred to me. Yet I do not ascribe that blurry look to the telephone, but to me, the observer. The blurry effect is due to me; it is not a feature of the telephone. It is subjective and dependent. But the white color of the phone and its shape are not effects due to the observer, but objective, independent features of the object. That is what I think prior to adopting a critical philosophical perspective, anyhow.

The ontological assumption that lies behind the thesis of objectivity and independence is that we exist in a world that for the most part we have not made. The world is already there, and sense awareness is a means of apprehending fragments of what is already there. We do not think of sense awareness as having a creative function. It does not bring into existence the facts apprehended and inspected by its means. It is not an activity like painting or sculpture whereby objects are produced which never existed before. Instead, it seems as if we are purely passive in sense awareness; we merely record information that is directly accessible.

The term **direct realism** will be used to represent these theses implicit in our original understanding. According to direct realism, sense awareness is a way of apprehending objects and their features and relationships that are objective and independent and that belong to a wider world, parts of which are also capable of becoming objects of sense awareness, and this mode of apprehension is direct and immediate, the independent facts apprehended being inspected rather than inferred.

There is an interesting implication of direct realism that has yet to be mentioned. What I know about the past before I was born and what I know about the future must be learned by inference and interpretation, because such facts are not available for inspection. But something that I can inspect must exist *now*, at the time at which I am inspecting it. I cannot inspect something that does not exist simultaneously with the inspection of it. ... [N.B. This view of perception is challenged by astronomers, who say that when we look at the moon, for example, we are seeing it as it was 1.3 seconds ago. This time delay increases for more distant objects. If we observe a comet hitting Jupiter, for example, we see it more than half an hour after it actually happened.]

Our original understanding consists of our commonsense view of the objects of knowledge in relation to the knowledge of them. We have found that reflection upon examples of visual sense awareness confirms that a certain set of theses which have been labeled 'direct realism' formulates some of the thoughts implicit in our original understanding. However, in the previous section, I mentioned one fact that has been used by skeptical philosophers to challenge direct realism: namely, the fact that sense awareness frequently leads us into error. Something can appear, for example, to have a size or shape or color other than the size or shape or color it really has. How does our original understanding cope with error?

We must first take note of a distinction which has not been made explicit as yet between sense awareness and the beliefs and judgments that are founded upon it. In sense awareness, certain items are presented or given—for example, the telephone, its color and shape, and its various parts. In sense awareness, such items are made available for inspection. However, we may or may not decide to *record* what is presented to it. It may not be of interest to us, or we may not pay any attention to it. In fact, most of the items within the scenes that visual perception presents are not attended to and not recorded. The records we make of what we see are highly selective; we do not have "world enough and time," to quote Marvell, to notice everything amidst the passing show. These

records are the judgments we make about the scenes that are presented. When the judgments are retained in our memory, we call them *beliefs*. Thus, the visual presentation of the telephone and its color is one thing, and, the belief that this is a telephone and that it is white is another thing. The belief is, indeed, founded upon the presentation, so there is an important connection between them. But they are not the same.

With this distinction before us, we are in a position to recognize that [there are two kinds of errors in sense awareness:

1. The *appearance* deviates from the thing that appears. This type of error is illustrated by the straight stick that appears bent when placed in water.
2. A *false belief* is based upon sense awareness, as when one judges that that stick is bent.]

A deviation between appearance and reality does not necessarily produce an error in judgment. Thus, although the stick looks bent to me, I am not misled, because I am familiar with the phenomenon of refraction.

Suppose that I am misled, however, and think that the stick is really bent. How is this possible? One explanation that many philosophers have found to be plausible is this. When I look at the stick in water, what is presented to me is not a straight stick, but rather an image of a bent stick. I then inspect this image, realize that it is bent, and, being unfamiliar with the phenomenon of refraction, judge that the stick is actually bent. This explanation introduces into our ontology a new item that we have not previously mentioned: namely, a **visual image** [also called a **visual idea**, or a **visual percept**]. If the explanation is to do its job, the image must be an item that is distinct from the object of which it is the image. In the case before us, the image presents us with something bent, whereas the object we are trying to apprehend is straight. The image is one thing, the object another. We inspect the

image in order to figure out the nature of the object.

But this explanation is not consistent with direct realism. Direct realism says that we inspect the object itself to determine its properties, that our knowledge of the object is direct and is not founded upon any inference; it is simply a report of the facts directly presented. But the explanation denies that, in this case at least, there is any inspection of the stick in the water. The object of inspection is the image that intervenes between the stick and our judgment. Our awareness of the stick is indirect; it is founded upon our direct awareness of the image.

Moreover, we do not think that the image which we inspect is something that is objective and independent, as is the stick. If no one were observing the stick, there would be no image of a bent stick. The image arises because of the peculiar way in which the rays of light are bent by the water and by the ways in which these rays affect our eyes. But these effects upon our eyes and the images that are produced would never have occurred if we had not been looking at the stick. So the object of direct inspection lacks the objectivity that direct realism ascribes to it.

The direct realist may reply by rejecting this explanation. Or instead, he or she may say that this explanation applies only in the exceptional case when there is a deviation between appearance and reality, but it does not apply in the more usual case when there is no deviation. In the usual case, we inspect the object itself; only when there is a deviation do images come into the picture.

Whatever we are inclined to think about this debate, one thing has become clear: our original understanding is not immune to criticism. In fact, its critics believe that our original understanding and the theses implicit in it are logically incoherent. The direct realism it affirms is not consistent with the possibility of error that it also affirms. So let us take a closer look at sense awareness to determine whether our original understanding can be successfully defended. ...

Thomas Reid's direct realism

In discussing the bent stick illusion, Landesman introduces the concept of a 'visual image', which early modern philosophers like John Locke called an 'idea', and which today is usually called a 'visual percept'. A percept is something in the conscious mind of the perceiver that *represents* the object in the world that one is perceiving at the time. A percept is therefore analogous to a symbol, printed on a map, used to represent something (e.g. a hospital, school or church) that exists in the real territory.

According to direct realism, percepts do not exist. When I see something, say the moon, I am directly conscious of the moon itself; there is no need to form a representation of it in my mind. Of course there is an *experience* of my seeing the moon, but this does not involve forming a representation. Thomas Reid (1710-1796) was a direct realist, so let's see what he says about percepts. (*Essays on the Intellectual Powers of Man*, Chapter 14, translated by Jonathan Bennett)

Please bear in mind: If by 'ideas' [i.e. percepts] are meant only the acts or operations of our minds in perceiving, remembering, or imagining objects, I am far from questioning their existence; we are conscious of those acts every day and every hour of our lives, and I don't think any sane man ever doubted the real existence of the mental operations of which he is conscious. ... The 'ideas' of whose existence I require proof are not the operations of any mind but the supposed objects of those operations.

I think Reid's point can be put like this. When you pick up a pen, this is an *operation* that involves the actual pen, and doesn't need any representation of the pen. Similarly, when you see the moon, this is a conscious "mental operation" involving the actual moon, and doesn't need any representation of the moon.

The phenomenon of perceptual illusions led most early modern philosophers (e.g. Descartes, Locke, Hume) to believe in percepts ('sensory ideas') and thus to reject direct realism. The standard alternative to direct realism is **representative realism**, which we discuss in the next section.

Representative Realism

Representative realists believe in percepts. Actually they believe in more than that: they believe that each percept is just a small part of the **visual field**, which neuroscientist Anil Seth describes as a "panoramic, 3D, fully immersive inner movie". When you see a dog, for example, it's just one part of a complete scene. You see a green field, with trees beyond, a dog in the field chasing a butterfly, etc.

In this section we'll just focus on the percepts, answering the basic questions of a percept is, what it's for, and why some people believe in them.

So far we've said that a percept *represents* the object to the perceiver, and compared it to a symbol on a map that stands for some real thing on the landscape. The map analogy isn't perfect, however. (Analogies never are!) One key difference between map symbols and percepts concerns our awareness. Let's say you look at a map, see the symbol '→' printed somewhere, and say to yourself, "there's the airport". In this case, you are aware that these are *two different* things, the airport and the '→' symbol. You're not even tempted to think that the printed symbol really *is* the airport, as it's obviously just a representation. When you see the moon, on the other hand, you're (usually) only aware of *one* thing: the moon.

Representative realists sometimes explain what's going on here

using an analogy, of watching a game on TV. (Remember: analogies are not perfect, but they're often useful.) When you watch a game on the TV, you're obviously not looking directly at the actual players on the field. You're looking at representations of the players, formed by coloured pixels on the screen. But someone who's 'immersed in the game', as we say, isn't consciously aware of the pixels. They're only conscious of what's happening on the field, e.g. that a goal has just been scored. The TV screen is then a kind of *vehicle* that allows them to be aware of what is happening on the field. It's possible to 'snap out of' that immersive state, and be aware of the TV itself, but it's also possible to forget about the TV and just (as we say) watch *the game*.

According to representative realists, each of us is always (or almost always) in such an immersive state with respect to our visual percepts. We're not aware of the percept itself; instead the percept is a vehicle for us to be aware of the world in front of us. Representative realists sometimes make another analogy, comparing a percept to a window. You don't (usually) look *at* a window, you look *through* it, to the world that lies beyond. In a similar way, they say, you can look 'through' the TV to watch the game, and look 'through' your moon-percept to see the moon.

I said that we are *almost* always in an immersive state with respect to our percepts, as there are times when we are aware of them. One case mentioned by Landesman is when our percept is blurry, or out of focus. Of course we don't think the world itself is blurry, so this forces us to become aware of the percept as something distinct from the **external** object¹. There are also many cases of perceptual illusions that cause us to snap out of the immersive state. But generally it's very difficult to do that, as we

¹In philosophy an *external* object is one that exists 'outside of' i.e. independently of, the mind. By contrast, an 'internal' object is 'inside' the mind, i.e. one that is generated by the mind in some way.

seem to be designed to focus on the world itself, and not be concerned with the processes that allow us to be aware of it.

Ok, so representative realists say that seeing something involves forming a representation of it, a percept, in the conscious mind, and that the percept is somehow a 'vehicle' for becoming aware of the external object. They usually add that, even though you are aware of the external object (e.g. the moon), you're only *indirectly* aware of it. That's because you're only aware of the moon *through* forming the percept that represents it. For this reason, representative realism is sometimes called **indirect realism**.

That's enough for now about what a percept *is*. Now: what are percepts *for*? I won't say much about this, but representative realists will often say that, since consciousness is a feature of the brain (and/or soul, if there is one), being conscious of (say) an approaching dog requires having a representation of the dog within your mind. The dog itself will not fit in your head. It's too big! Actually, scientists can tell us a big part of how vision works. Light rays from the sun bounce off the dog, and enter your eyes, forming two flat images, one on each retina. Signals from the retinas travel to the brain, which then has to construct (using fancy math, apparently) a 3D model of the dog, which we call the percept. If the contents of your conscious experience are determined by the state of your brain/soul, then how else could it work?

Finally, why do people believe in percepts? The argument of the previous paragraph is one reason, but probably the main one is the **argument from illusion** (and hallucination). This will be presented in class, focusing on the case of illusion (as I don't want to pass out any illegal substances!) The rough idea of the argument is that illusions and hallucinations prove that the mind is capable of 'seeing' things that are perfectly clear and

convincing, yet which aren't really there, or are quite different from how we 'see' them. This seems to show that, in cases of illusion, what we 'see' (i.e. the content of our visual experience) is a construct of our own mind. But why would the mind have a bizarre ability to create such constructs? The best explanation is that this construction process is a *normal brain function*, that occurs all the time during visual perception. As Anil Seth puts it, "we're all hallucinating all the time, including right now. It's just that when we agree about our hallucinations, we call that reality."²

Actually you might want to look at Anil Seth's Ted talk, "Your brain hallucinates your conscious reality", where he presents some evidence for representative realism. (If you're short of time, then just watch the first 9 minutes.) Here's a longer quote from the talk (at 4 min 19 sec):

Imagine being a brain. You're locked inside a bony skull, trying to figure what's out there in the world. There's no lights inside the skull. There's no sound either. All you've got to go on is streams of electrical impulses which are only indirectly related to things in the world, whatever they may be. So perception—figuring out what's there—has to be a process of informed guesswork in which the brain combines these sensory signals with its prior expectations or beliefs about the way the world is to form its best guess of what caused those signals. The brain doesn't hear sound or see light. What we perceive is its best guess of what's out there in the world.

Phenomenalism and Idealism

So far we've considered two theories about perception, direct realism (DR) and representative realism (RR). A perceptive

² Of course Seth is using the term 'hallucinating' incorrectly here, as the term refers only to cases where the brain is malfunctioning and constructing percepts that are false. His point however is that normal perception uses the same percept-constructing apparatus as hallucination.

student will notice that they're both forms of 'realism'. So, what is 'realism', and is there any alternative to it?

DR and DR are both kinds of 'realism' because they are both committed to a world that exists independently of anyone's perception. For example, they agree that the moon is up there orbiting the earth, has a certain size and mass, etc. even when no one is perceiving it. Realism is opposed to the claim, for example, that the moon only exists in our minds, or that we create the moon by perceiving it.

Phenomenalism and idealism are theories of perception that are both opposed to realism. We won't be studying them in this course, but you should have some idea of what they are, as they often come up in more advanced philosophy courses.

From a commonsense perspective, **phenomenalism** is a bizarre idea that is hard to take seriously. At the same time, it is supported by an argument that seems quite strong, and has very able proponents (most notably David Hume). Phenomenalism, like representative realism, believes in percepts. Unlike RR, however, phenomenalism doesn't say that our percepts are *caused* by external objects, since there *are* no external objects (e.g. trees, dogs, planets) according to phenomenalism. What we think of as external objects are in fact mental constructs of some sort, built up out of our percepts. A phenomenalist has to take account of the fact that what we take to be a single object (e.g. a particular dog) is associated with a large variety of percepts, as we can view it from different angles and distances, different lighting conditions, we can hear and touch and smell it as well as see it, etc. So the dog, according to phenomenalism, is some sort of construct out of these varied (actual and possible) percepts. It only exists in the mind.

Idealism, whose most famous proponent was Bishop George

Berkeley, is similar to phenomenalism but (I think) a lot less crazy, and actually is similar to realism in crucial respects. One of Berkeley's principles is *esse est percipi*, "to be is to be perceived", as he thinks that ordinary qualities (like square, soft, red, four-legged, etc.) are *ideas*, and like any idea can exist only in a perceiving mind. Also, so-called 'material objects' like trees and dogs are composed of such qualities, and so are ideas as well. So far it sounds a lot like phenomenalism, but the twist is that, for Berkeley, the so-called physical world is supported in existence by a supreme perceiver, namely God. So even if no human is currently looking at the moon, it remains in existence because God is always perceiving it.

The main argument for phenomenalism, given by Hume for example, is that we could never *know* that our percepts are caused by external objects, as representative realism maintains. We know about causal connections by seeing the cause, then seeing the effect. For example, to know that fire causes smoke you have to see both the fire and the smoke. So, to know that external objects are causing our percepts we'd have to experience the external object directly, as well as our percept of it. But, Hume points out, we can never do that. We can't get outside our own heads, so all we have direct access to are our own percepts. Hume (*Enquiry Concerning Human Understanding*, Section 12, Part 1) summarises the argument as follows:

... here experience is and must be entirely silent. The mind never has anything present to it except the perceptions, and can't possibly experience their connection with objects. The belief in such a connection, therefore, has no foundation in reasoning because the reasoning would have to start from something known through experience.