Perception and Belief

In thinking about knowledge, one of the key concepts is belief. The word ‘belief’ often is used with a religious connotation, but for philosophers a belief is simply something a person takes to be the case, something that is true from that person’s point of view. For example, my beliefs include: *Langara College is in Vancouver, the atmosphere is mostly nitrogen, whales are mammals, Shakespeare wrote many plays,* and so on.

The concept of belief is often contrasted to that of knowledge. A person may say, for example, “I don’t believe that whales are mammals, I know they are.” However, if you know that whales are mammals, then obviously you take it as true that whales are mammals, so you do believe this in the philosophical sense. Knowledge is a special kind of belief, roughly a good belief, or one that has nothing wrong with it.

One kind of knowledge comes from sense perception, i.e. from seeing, hearing, touching, smelling and tasting. When you think about it, it’s clear that the vast majority of our knowledge ultimately comes from this source. We know things because we or others have observed them to be so. Some philosophers (called empiricists) even claim that all our knowledge comes from observation and introspection. Hence, when studying knowledge, sense perception is a good place to begin. Most of our discussion will concern vision, since it is our most important sense.

When we look at a situation, we gain some knowledge about it. Thus, since knowledge is a special case of belief (see above) the process of seeing results in our brain forming a belief, or a set of beliefs. When you look at a coffee mug, for example, you see that it is a coffee mug, that it is blue, that it is almost empty, that it is resting on the desk, next to the lamp, and so on. Furthermore, many of these beliefs appear spontaneously in our minds, without any reasoning or inference, even though other beliefs may be inferred later. For example, suppose that when you walk into the kitchen you see that a chair has been moved, so that it now stands next to the counter. Then you notice that the cookie jar, which is kept on that counter, has its lid off. Then you see cookie crumbs next to the open jar. Each of these beliefs forms immediately and effortlessly, during the observation, so that you say, “I directly saw that the lid was off”. Based on this direct knowledge, you may infer that someone has been eating cookies. You reason that the lid was removed to allow access to the cookies, and that the crumbs dropped when this person bit into the cookies. You also infer that your toddler was the culprit, since only such a small person would need the chair to stand on. Thus some beliefs form by a process of logical
inference, based on visual beliefs, but this doesn’t change the fact that vision itself is a
belief-forming process – in other words, “seeing is believing”.

Some more terminology. Two people can sometimes ‘have the same belief’, as we say,
when for example you and I both believe that whales are mammals, not fish. But
philosophers note that your belief and mine are technically two different things, since
they have different properties. For example, your belief is something that exists in your
head, while my belief exists in my head. Your belief started to exist on Tuesday last
week, whereas mine didn’t form until this morning, and so on. So in what sense are our
beliefs the same? The sameness lies in their content; we both believe the same thing, and
this ‘thing’ is called a proposition. You and I both believe the proposition that whales are
mammals.

Propositions can of course be expressed with declarative sentences, as I’m doing right
now, but a person can have a belief without forming any sentence in their mind that
expresses it. When you look at a scene in front of you, for example, the visual experience
that occurs in your mind is called the visual field. (The visual field is like a 3D movie
playing in your mind. As you turn your head left, the visual field pans to the right. As
you walk forward, objects at the centre of the visual field appear larger. When you close
your eyes, the visual field goes dark, and so on.) The visual field is propositional, we
say, since the objects in it are presented as being a certain way. Generally each object is
presented as having a certain size, shape and colour, and as having certain spatial
relations to other objects in the field. Many objects in the visual field are presented as
being a certain kind of object, such as a tree, a person, a dog, etc. though ambiguous
objects also exist. Some objects in the visual field, especially people, even have
particular identities. You might, for example, see your Aunt Edna walking toward you.

So let’s review. When you look at something, your mind forms a visual field, which
includes a collection of beliefs. These beliefs will generally count as knowledge as well,
unless something is wrong with your eyes or brain. (In older literature, beliefs are also
called ‘judgements’, by the way.) Each belief you have is an event in your mind, and
thus belongs to you alone, but the thing that you believe, the proposition, is an abstract
entity that others might also believe, doubt, wish to be true, reject as false, and so on.
(Propositions that arise from sense experience are often called sensory propositions.) A
proposition is a representation of reality, a kind of map or picture of reality that you can
carry inside your mind. Of course such representations are very useful, if true, as they
enable us to find our way around the world. A map that shows that actual location of
buried treasure, for example, will enable us to dig in just the right place and get rich.

The notion of truth has been mentioned now and again. Truth seems to be a property of
beliefs and other representations, but what is it? When is a belief, model or map true?
The standard answer is that a true belief (or map or model) is one that exactly matches or
corresponds to the reality that it aims to represent.
Look at the two maps below, for example. Both aim to represent the same reality, namely part of Europe in the 16th century. The map on the left was drawn in 1522, while the one on the right was made just a few years ago. You will see that the maps approximately agree in some aspects, while diverging in others. For example they both show Scotland (Scotia) to the north of England (Anglia). But one map shows England and Scotland fused together as a single island, whereas the other represents them as separate islands.

You will likely judge the newer map to be true or correct in this regard, but what does that mean exactly? We can compare maps with each other, finding agreement and difference, and apparently we can make a similar comparison between a map and ‘reality’. Truth, as understood by common sense, means agreement with reality. England and Scotland in fact are joined, not separated by ocean. The shapes of these countries are also not round blobs as the left-hand map shows, but are much more similar to how they’re depicted in the right-hand map.

Another useful notion, when speaking about truth, is a state of affairs. It’s rather obvious that two very different maps can both be true. For example, one might be a map of Japan, and the other a map of Australia. How can they both agree with reality if they’re not similar to each other? The obvious answer is that they each correspond to different parts of reality, or different aspects of reality. A single part or aspect of reality, that may or may not agree with a given proposition, is called a fact or state of affairs. In other words, no proposition ever aims to represent the whole of reality, and the little chunk that is represented is called a fact or state of affairs. More precisely, a fact is an actual state of affairs, one that actually exists. Philosophers sometimes talk about possible states of affairs that aren’t actual, such as Hilary Clinton being the US president in 2009. A false belief can correspond to a non-actual possible state of affairs, or (in rare cases) to no possible state of affairs at all.
Concepts, Percepts and Ideas

Let’s look more closely at propositions, to see the structure within them. Propositions contain simpler elements, some of which are concepts. For example, the proposition *the mug is on the desk* contains the concepts of mug and desk, as well as the spatial relation *on top of*, which is another concept. Other concepts that are commonly involved in sensory propositions (whether visual or otherwise) are geometrical concepts such as shapes, sizes and locations (e.g. *square, circle, touching*, etc.), colours (*red, blue, brown*), tastes (*sweet, lemony, salty*), smells, temperatures, textures, biological categories, types of artifact, etc. etc. Note that early modern philosophers such as Descartes, Locke and Berkeley used the term ‘idea’ instead of concept here.

In addition to general concepts, propositions also have components that are particular objects. A proposition might be about cats in general, such as *Cats think the world exists to serve them*, or about a particular (individual) cat, as in *Fluffy is overweight*. Such particular individuals, that exist at least in the subjective world of the believer if not in reality, can be called mental objects or sometimes ‘internal objects’. In the case of the visual field, the particular objects within them are called *percepts*. A mental object, such as a percept, is different from concept, in that it is a single, particular individual (e.g. Aunt Edna), whereas a concept is a general kind or category of things (e.g. aunts).

Direct vs. Representative Realism

Suppose you’re sitting in your back yard, looking at your apple tree. In that case your visual field has a particular object, namely your apple tree, filling most of it. In the previous section I called such a particular object in your visual field a ‘percept’. But what really is a percept? And how is it related to the actual tree?

According to a philosophical theory called ‘direct realism’, the tree-percept and the tree itself are one and the same thing. In other words, when you look at the tree you are directly conscious of the tree itself.

A more complex alternative to direct realism is ‘indirect realism’, or ‘representative realism’. On this view, the tree-percept is not the same as the tree itself. The tree-percept is an ‘internal’ object, which means that it only exists in your mind, whereas the real apple tree is ‘external’, i.e. it exists independently of your mind. The tree-percept on this view is a mental *representation* of the real tree.

Representative realism is obviously more complex than direct realism, in that it claims there are (in a way) two trees rather than just one. Now Ockham’s Razor tells us that entities are not to be multiplied beyond necessity, so there had better be a good reason for having an extra tree.
Representative realism’s two (or even three) trees

One argument for the existence of the tree percept (idea) comes from the theory that conscious awareness is some kind of brain state. In that case, since we’re obviously conscious of the tree, the tree must somehow exist in the brain. But the real tree, the wooden one, obviously doesn’t exist in your brain, because it’s out there in the yard, not inside your skull. So any tree in your conscious awareness must be a different tree altogether.

This argument is reinforced by our present scientific understanding of vision. On this theory, seeing a tree depends on light rays being emitted from various parts of the tree and entering our eyes. These rays are ‘focused’ by each eye lens onto the retina, which means that light rays emanating from a single point of the tree all end up at a single point on the retina. Thus some point on the retina (near the top, actually) will receive light only from the base of the trunk, whereas a different region of the retina will receive light only from a particular red apple on the tree. In this way, we say that the lens produces an image of the tree on the retina.

Having a tree-image on each retina is not enough to see the tree. If your optic nerves are cut, then you’ll be totally blind, no matter how well your eyes are working. Some cells in the retina, called rods and cones, convert the light rays they’re receiving into electrical signals, and these signals pass along the optic nerves to the brain. Somehow the brain uses these electrical signals, coming from two eyes, to construct a 3D model of the yard, and the tree within it. Initially the retina signals are processed in two areas of the brain called the ‘visual cortex’, but the actual formation of the visual field is still a mystery as far as I know. We do know for example that the colours of a percept depends on the cone cells, of which there are three different kinds, each sensitive to a different wavelength of light. If the light from a object triggers mostly your ‘green’ cones, then the brain will colour that object green in your visual field.

Evidence for this scientific theory comes partly from the fact that hallucinations exist, and can be as vivid and ‘real’ as genuine perceptions. Suppose, for example, you eat the wrong kind of mushroom and consequently suffer a hallucination of an apple tree. The tree you experience, in your visual field, might seem utterly real and convincing, yet there is no external tree present. Thus, in the case of hallucination, there is a tree-percept but no tree, proving that they are not
identical in this case at least. It is also known that some hallucinations are caused by irritation of the visual cortex.

Further evidence comes from illusions, where an object appears to be rather different from how it really is. For example, 3D movies work by showing the left and right eyes of the viewer slightly different images. When looking at a real 3D object, that lies a few feet in front of us, our eyes form slightly different images of it, due to their different perspectives, being a few inches apart. The 3D movie supplies images that correspond to ones that the eyes would get if there were an object in the space between the viewer and the screen. This fools the brain’s visual system into constructing a 3D percept, in the visual field, apparently floating before the viewer. For example, we might see a white dove fly through the movie theatre, over the heads of the people seated in front of us. This shows pretty clearly that even during normal vision, when there really is an external object present, the thing we’re conscious of is not that external object.

After a person comes to accept representative realism, this view might come to seem obvious, even trivial, and so direct realism seems very foolish. For this reason, direct realism is often referred to by the (derogatory) term naïve realism. Direct realists are accused of the elementary mistake of confusing a representation with the thing represented, such as confusing the map and the territory. A person giving directions to a newcomer may, when pointing to a map, say “Here’s Langara College ... here’s 49th Avenue ...”, but no sensible person thinks they’re literally pointing at the college or the road in that case. They’re just pointing at representations.

Non-Literal Representation

A realist is someone who believes in external objects that (at least approximately) correspond to their beliefs, mental representations, percepts etc. However, a representative realist need not believe that a percept exactly corresponds to its external object in all respects. A map for example contains representations of various real objects such as schools, roads, rivers, parks, and so on, but the representations are not exactly similar to the real things. The representations are much smaller, for example, they’re paper-thin, and often a different colour. In other respects, such as shape, they may be identical to the real objects – at least approximately.

Temperatures in Canada
For example, the image above uses colours to represent the temperatures in various parts of Canada on a particular day. It conveys the information that south-west B.C. was fairly balmy at that time, while northern Ontario was bitterly cold. (Ha ha! Take that, Ontario!) Of course the map isn’t telling us that northern Ontario is purple, or that Vancouver Island is yellow. Those colours are merely representative, not literal. On the other hand, the shape of Ontario is very similar to the shape of “Ontario” on the map.

Thus, when it comes to our own percepts, in the visual field, we should be open to the notion that they may not resemble their corresponding external objects in all respects. Even if they are accurate, conveying correct information, they may do so in a non-literal way.

Such non-literal representation appears to be the case with many qualities of our percepts, including colours, smells, and tastes among others. Contemporary physics seems to have no place for anything remotely like the colours that exist in the visual field. Physics describes a world of particles in motion, and says that the perceived colour of an object depends only on the wavelength of the light that it emits. For example, longer wavelengths appear red to us, and shorter wavelengths appear blue. In other words, the purple colour of a grape is no more literal and exact than the purple colour of frigid Ontario in the weather map. It’s merely representative of some other quality altogether.

John Locke wasn’t the first philosopher to propose that some qualities of percepts represent non-literally, but he invented the standard terminology to describe it. Qualities of objects that are represented literally by our percepts (ideas) are called primary qualities. Qualities of objects that are represented by very different properties in the percept are called secondary qualities. Thus Locke writes,

‘... the ideas of the primary qualities of bodies resemble them, and their patterns really do exist in the bodies themselves; but the ideas produced in us by secondary qualities don’t resemble them at all. There is nothing like our ideas of secondary qualities existing in the bodies themselves. All they are in the bodies is a power to produce those sensations in us.’