

Experience and Knowledge

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A resource for A-level and AS-level Philosophy

Written by philosophers at Cardiff University

Designed as a primer for the Epistemology unit of the AQA Syllabus

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These articles summarise aspects of their authors' own research.

They are intended to stimulate A-level and AS-level students to develop their own philosophical analyses and arguments on issues in the Epistemology unit of the AQA A-level and AS-level Philosophy syllabus through careful analysis of these ideas.

Publication details for the academic papers that these articles are based on:

Alessandra Tanesini, 'Spatial Attention and Perception: Seeing without Paint'. *Phenomenology and the Cognitive Sciences* 2015.

Richard Gray, 'What Do Our Experiences of Heat and Cold Represent?' *Philosophical Studies* 2013.

Elizabeth Irvine, 'Method and Evidence: Gesture and Iconicity in the Evolution of Language'. *Mind and Language* 2016.

What Are You Looking At?

Alessandra Tanesini

Have a look around. What do you see? A mug full of coffee or a red pencil on your desk, perhaps. Why does the pencil look red? An odd question, you may think. At the cost of stating the obvious, you might say that the pencil looks red because it is red.

Generalising from this answer, you might add that the ways things are explains the way they look. Thus you may conclude by stating what philosophers call '**the phenomenal principle**':

If something looks to be some way (red, elliptical, big), then there must be something which is that way (red, elliptical, big), and whose being that way explains why something looks that way.

Is this principle true?

We all know things are not always as they seem. A tower may look circular from a distance, but octagonal when you are closer. A dress may look black in the shop, but dark blue in daylight. A plate looks different when seen from above, from side-on, or from an angle between the two.

One might think that these examples (and plenty more like them) show that the phenomenal principle is false.

But the principle does not say that when something looks some way, that thing must be that way.

The principle says that something must be a certain way in order for something to look that way, but these could be two different things rather than one.

When the dress looks black in the shop and dark blue in daylight, according to the phenomenal principle, there must be a black thing and a blue thing.

The dress can't be both black and blue all over. So if the phenomenal principle is correct, then what are the black and blue things?

It seems that they must be what some philosophers, including most notably A.J. Ayer, call 'sense data'. These are not objects in the world. Instead, they are in the mind, like mental images.

On this theory, when you look at the dress in the shop, what you are immediately aware of is a black sense datum, which explains why the dress looks black. But when you look at the dress in daylight, you have a different sense datum, which is dark blue, so the dress looks dark blue.

According to sense-data theory, the way things in the world look is explained by the way some other things in the mind are.

Thus, the phenomenal principle seems to lead to the theory that we are only ever immediately aware of items in our own minds, rather than in the world around us.

We seem to be left with **a dilemma**:

Either we accept the sense data theory, in which case experience can tell us only about our own minds and never about what the world itself is like.

Or we abandon the phenomenal principle, in which case it seems entirely mysterious what explains why things look the way they do.

Comprehension questions

1. Briefly state the phenomenal principle in your own words.
2. Briefly state sense data theory in your own words.
3. What is a dilemma? Briefly explain why the phenomenal principle seems to lead to one.

Vision Is For Action

Alessandra Tanesini

I think there is not really a dilemma of the phenomenal principle and sense data.

If we think about vision in terms of **affordances**, we can retain the phenomenal principle and reject the sense data theory.

Affordances are **opportunities for action**.

When the expert cricketer says that she sees the cricket ball as though it were as big as a football, she is not using a metaphor. The size that we see an object is set by how difficult it is for us to act on it. The ball looks bigger to a good cricketer, who can hit it easily, than it does to a beginner.

Philosophers often say that when you look at a round plate from an angle, it looks elliptical.

They then use the phenomenal principle to infer that something must be elliptical. Since the plate is round, they conclude, the elliptical thing must be a sense datum.

But according to the theory of affordances, the plate seen from an angle does not look elliptical. It looks *tilted*. Looking tilted is what plates that can be grasped in a certain way look like.

In order to grasp the plate from this angle, you have to move your hands and arms in one way. If you were looking at it side-on, you would need to move your hands and arms in a different way.

According to **the phenomenal principle**, if something looks tilted then there must be something that is tilted.

But this does not lead to sense data theory. The plate looks tilted because the plate itself is tilted.

How does this apply to the dress that looks black in the shop but dark blue in the daylight?

The lighting conditions and surroundings make it easier **to gaze at** the dress in the shop than in the daylight outside. There are fewer distractions in the shop attracting your visual attention. There are fewer brightly lit objects and the scene is not changing.

It therefore takes less effort to gaze at the dress, to keep visual attention focused on the dress, in the shop than it does outside in daylight.

Research into colour vision shows that the easier it is to gaze at an object, the more saturated its colour looks.

A blue dress whose colour is highly saturated will look dark blue outside in daylight, but even darker in the shop, where it is easier to gaze at.

For this dress, looking darker is what **being easier to gaze at** looks like. When it looks darker, it looks easier to gaze at. When it looks easier to gaze at, this is because it is easier to gaze at.

The phenomenal principle therefore does not lead to sense data theory. The dress itself is how it looks: easier to look at in the shop than outside in daylight.

Exercises

1. What are affordances? Give your own example.
2. What is Tanesini's reason for claiming that affordances explain why the plate looks different from different angles?
3. What is Tanesini's reason for claiming that affordances explain how the dress looks black in the shop but dark blue in daylight?
4. Do these arguments succeed in showing that we do not need sense data to explain the appearances of shape and colour?

Primary and Secondary Qualities: Locke's Distinction

Richard Gray

John Locke's discussion of secondary qualities in his *Essay Concerning Human Understanding (EHU)* has been highly influential in understanding perception.

Locke starts out by drawing the key distinction between **ideas** and **qualities**:

Whatever the mind perceives in itself—whatever is the immediate object of perception, thought, or understanding – I call an idea; and the power to produce an idea in our mind I call a quality of the thing that has that power. Thus a snow-ball having the power to produce in us the ideas of white, cold, and round, the powers to produce those ideas in us, as they are in the snow-ball, I call qualities; and as they are sensations or perceptions in our understandings, I call them ideas. (EHU, Bk 2, Chap.8, Sect.8)

He goes on to distinguish **two kinds of qualities**: primary and secondary.

He describes **primary qualities** as “utterly inseparable from the body, whatever state it is in” (EHU, Bk 2, Chap.8, Sect.9).

Taking the example of a grain of wheat, he claims that however much it is divided each part still has a size, a shape, solidity, and mobility.

But **secondary qualities** are not like this. Colours are secondary qualities, according to Locke. So are hotness and coldness. He says that these:

are qualities that are, in the objects themselves, really nothing but powers to produce various sensations in us by their primary qualities, i.e. by the size, shape, texture, and motion of their imperceptible parts (EHU, Bk 2, Chap.8, Sect.10).

This means that a grain of wheat *does* possess the primary qualities of size, shape, solidity, and mobility.

And it means that the grain of wheat *does* possess the secondary qualities of colour and of hotness or coldness. These are powers that its primary qualities have to bring about certain kinds of experiences in perceivers.

It follows that there are **two kinds of ideas** corresponding to the two kinds of qualities:

- Ideas of primary qualities resemble the primary qualities that they represent. Our experiences of size, shape, solidity, and mobility resemble those primary qualities in the world that cause them.
- Ideas of secondary qualities do not resemble the secondary qualities that they represent. Our experiences of colour, hotness, or coldness do not resemble the secondary qualities that cause them.

Comprehension questions

1. Briefly define Locke's distinction between ideas and qualities in your own words.
2. Briefly define the difference between primary and secondary qualities (as Locke understands them) in your own words.
3. Briefly explain why Locke's distinction between *ideas and qualities* and his distinction between *primary and secondary qualities* entails a distinction between *ideas of primary qualities*

The Variety of Secondary Qualities

Richard Gray

Locke argues that **all secondary qualities** are powers to cause the relevant experiences in us.

Consider this argument for his theory of primary and secondary qualities:

a fire at one distance produces in us the sensation of warmth, and when we come closer it produces in us the very different sensation of pain; what reason can you give for saying that the idea of warmth that was produced in you by the fire is actually in the fire, without also saying that the idea of pain that the same fire produced in you in the same way is in the fire? (*EHU*, Bk 2, Chap.8, Sect.16)

Locke thinks of the world as composed of ‘corpuscles’, basically what we call atoms. Locke thinks they have primary qualities: size, shape, solidity, and mobility.

So, it is because of the primary qualities of the corpuscles that make up the fire that the fire has the power to produce warmth and pain in us.

Locke’s argument is that we should think of warmth in the same way we think of pain: our feeling does not resemble anything in the fire. He soon says the same about colour.

The most popular view of **colour** today does fit his theory. It holds colour to be the primary qualities of an object’s surface that reflect light in a particular way.

But it is not clear that his theory can work for pain or for heat

Locke is right that we don’t usually think that fire has **pain** in it. Yet we do think that heat and colour are qualities of the fire.

If heat, colour, and pain are all powers in the fire to cause ideas in us, then why do we naturally think of the pain as in us but the heat and colour as in the fire? Locke doesn’t seem to answer this question.

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What would be the relevant primary qualities that cause our experience of **hotness and coldness**? The obvious answer would be temperature: the mobility of the particles that compose the object.

But our experiences of the hotness and coldness of objects do not correlate with the temperatures of those objects.

You can test this for yourself. Just put your hand in a basin of cold water and turn on the hot tap.

If your experience were about the gradually increasing temperature of the water, you would feel an increase in a single kind of idea, as when a light gets brighter.

What you actually feel is a decrease in the feeling of coldness followed by an increase in the feeling of hotness.

So, it seems that we have two feelings here, not one. The feeling of hotness and the feeling of coldness are distinct. There is not just one feeling of temperature.

Exercises

1. Does the Lockean theory of colour fit with Tanesini’s theory that vision is for action?
2. Could you use Tanesini’s theory to explain why the pain of being too close to the fire feels like it is happening in your body but the colour and warmth seem like properties of the fire?
3. Is Gray right that hotness and coldness are two different feelings? If so, can you defend Locke’s theory by identifying secondary qualities that they are ideas of?

Empiricists versus Rationalists on Innate Knowledge

Elizabeth Irvine

How do you know things? There seem to be two sources of knowledge: sensory experience and reasoning.

Empiricists claim sensory experience is the more trustworthy source of knowledge. They often also argue that it is most prevalent source of knowledge.

Rationalists claim reasoning is the more trustworthy source of knowledge. They often argue that it is instrumental in producing most, maybe all, of our knowledge.

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Is any of our knowledge **innate**? Is there any knowledge already in the mind at the start of life?

Empiricists classically argue that there is no innate knowledge, though many empiricists these days allow that there is some very minimal innate knowledge.

Rationalists have always argued for substantial innate knowledge, even if experience plays a role in 'revealing' or 'triggering' that knowledge.

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Recent rationalist philosophy is well illustrated by Noam Chomsky's theory that we have innate knowledge of linguistic structure and basic grammatical rules.

If you try to teach a rock or a kitten language, Chomsky helpfully points out, you won't succeed. But a small child learns language very quickly.

This is best explained, he argues, by small children already having something that rocks and kittens lack – knowledge of basic linguistic structure and rules.

The child has not been taught these. So, the knowledge must be innate.

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Empiricists might respond that there must be something wrong with this argument, because otherwise we could say the same about anything systematic that a child can learn quickly.

We could just as well argue that there must be innate knowledge of the rules of chess or of how smartphones work, since a child can learn to play chess or use a smartphone very quickly, but a rock or a kitten cannot.

It seems absurd to suggest that we innately know the basic structures of chess or smartphones. Chomsky's 'rocks and kittens' argument for innate knowledge of basic linguistic structures must therefore be mistaken.

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Even if this response succeeds, Chomsky's 'rocks and kittens' argument still sets empiricists an important challenge:

if innate knowledge does not explain how human infants can learn language (and chess and smartphone use) so quickly, then what does explain it?

Comprehension questions

1. Why do rationalists and empiricists disagree on whether any knowledge is innate?
2. What is the role of experience in Chomsky's account of how a child learns language?
3. Briefly explain, in your own words, the 'chess and smartphones' response to the 'rocks and kittens' argument?

Empiricism and Rationalism as a False Dichotomy

Elizabeth Irvine

For example, one common feature of languages, known as compositionality, allows us to pack a wide expressive range efficiently into memory: words and sentences are composed of smaller meaningful parts according to a small set of rules.

Languages that flourish must suit our brains and lives. This is why we can learn languages quickly, and why compositionality is a common feature of language.

Similar points can be made about chess and smartphones.

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These two approaches fit together well. It may simply be that our brains have general abilities that our languages (and other things) have evolved to fit. It may also be that those general capacities evolved to fit our forms of communication, among other aspects of our lives.

This overall view is **neither empiricism nor rationalism**. It emphasises neither experience nor reason in the generation of knowledge. It does not deny or rely on substantial innate knowledge.

It is rather an alternative to the debate between empiricists and rationalists. It recommends focusing on the different kinds of interaction between brain and environment that explain our abilities and ask how these generate knowledge.

Thinking about Chomsky's 'rocks and kittens' argument seems to leave us with a dilemma.

Empiricists seem unable to explain how human infants gain highly complex knowledge so quickly from experience.

Rationalists seem committed to the existence of a large amount of innate human knowledge, including knowledge of how recent inventions work.

Recent work in linguistics helps to resolve this dilemma: two theories of language learning suggest that we should simply stop thinking about knowledge in terms of empiricism and rationalism.

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One of these emphasises the role of **highly general abilities** linked to general intelligence. Human brains are sophisticated pattern recognition devices with large memory systems.

This explains why small children are so good at spotting and then being able to use patterns in the language they hear around them.

The same abilities explain how we can learn to play chess or use a smartphone so quickly. There is no specific innate knowledge of language, chess, or smartphones. Just a set of very general innate brain functions.

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A second approach focuses on the origins of the complex systems we are so good at learning. Languages, games, and technology **evolve to fit** human abilities and purposes.

Exercises

1. What is a dilemma? Explain in your own words how thinking about Chomsky's 'rocks and kittens' seems to leave us with one.
2. What is the fundamental difference between the two approaches to language learning that Irvine describes here?
3. Explain in your own words how compositionality helps make a language fit for use by humans.
4. What is a dichotomy? Why does Irvine think that empiricism and rationalism form a false dichotomy?