

Extreme Imagination

inside the mind's eye

III What Is It Like to Have Visual Imagery?

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How does visual imagination differ from visual perceptual experience? And how should we describe experiences of visual imagery? Moreover how can people who have visual imagery convey what it is like to have it to those who have never had it – congenital aphantasics? These are difficult questions. The latter is particularly difficult if we believe the claim, frequently made by philosophers, that if you have never had an experience of something, then you cannot know what it is like to experience it. For example, if you have never experienced colour, then you cannot know what it is like to experience colour.

What differences have been proposed between visual perceptual experience and visual imagination? Philosophers have proposed a few. It has been noted that visual imagination is typically voluntary in a way that perception is typically not. It has been suggested that visual experience conveys to one the existence of certain objects and properties, while visual imagination does not. Imagination only conveys to one what could be the case. However, even if these are true, they fail to convey what it is like to have an experience like that. David Hume, the famous Scottish Philosopher, said that visual imagery is less ‘vivid’ and ‘lively’ than visual experience. While to many people these words strike a chord, it is not obvious exactly what they mean, and what qualities they identify, for perceptual experience itself can be more or less vivid or lively – compare a visual experience of a bright carnival scene and one of a London fog – as can visual imaginative experience. So use of these terms seems rather

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metaphorical. Moreover, it is not clear that knowing these facts about the difference between visual perceptual experience and visual imagination – if indeed they are facts – helps one to know exactly what it is like to have visual imagination if one has not had that experience.

However, fortunately, David Hume pointed out a counter example to the thesis that if you have never had an experience, then you cannot know what it is like to experience it. The case is one in which you have not experienced something, but you have experienced other things that are very similar, which allows you to know what it would be like to experience that something in question. For example, suppose that you have not seen a particular shade of blue. You might come to know what it would be like to experience the ‘missing shade of blue’ if you had seen very similar shades more or less bright, more or less saturated, and more or less bluish. Can we use this methodology – identifying similar experiences to those of visual imagery – to convey to congenital aphantasics what it is like to have visual imagery? In this essay I attempt to do so.

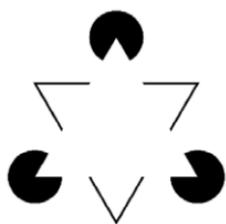
Some aphantasics have visual dreams. Is that what it is like to have visual imagery? In my own experience, some dreams are like imagery to the extent that on reflection when one has woken, they seemed to be somewhat indeterminate. However, certainly at the time I was having I took them to be perceptual experience. In any case, some aphantasics do not dream. Can we identify experiences that they can have that are quite like having visual imagery?

Four examples spring to mind: modal completion, neon colour spreading, amodal completion, and afterimages. What is common to them all is that while you experience them you can also appreciate that what you seem to experience isn’t really there, as is the case with experiences of visual imagery.

In modal completion you have a visual experience as of an object in virtue of experiencing edges that appear to be created by a luminance, colour or texture boundary. On reflection, you can tell that there is no such boundary and there is not a difference in luminance, colour or texture where there appears to be one; but, nonetheless, that is what you experience. For example, in the **Kanizsa triangle figure**¹ there appears to be a triangle that is lighter in colour than the background pointing upwards. If you pay close attention to the figure you can recognise that in fact there is no difference in lightness between that triangle and the background. The luminance contour is an illusion. A similar effect can be seen in the black disks in the **inverted lightness Ehrenstein figure**², and **Tse's Spikey Sphere**³ provides a nice 3-D example. Another comparable effect occurs in the two examples of **neon colour**^{4,5} spreading in which you experience different coloured disks that you can also appreciate are illusory disks – the colour only really forms the lines of the figures, and the disks are not really there (see p. 24 for all figures).

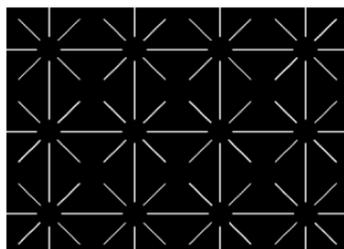
In all of these examples, when you realise that the shape that you experiences is not really there, you have an experience that is somewhat like having visual imagery – an experience in which in some sense you visually experience something but, in another, you realise that something it isn't in the world before you. Nonetheless, despite sharing this one feature with imagistic experiences, these examples are far more like perceptual experience than imagery in all other respects.

A better example of a perceptual experience that is somewhat like visual imagery comes in the form of amodal completion. Amodal completion occurs when part of an object is experienced as occluded and is reported as having a particular shape. It contrasts with modal completion as the occluded portion of the



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Kanizsa Triangle



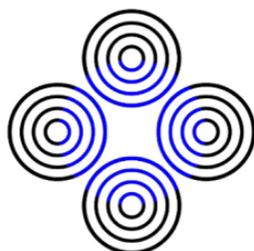
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Inverted Lightness Ehrenstein figure



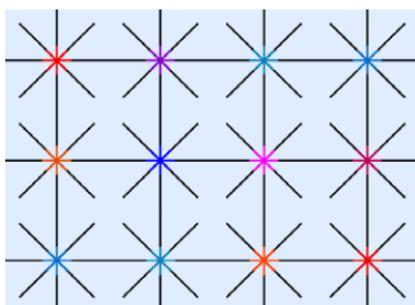
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Tse's Spikey Sphere



4

Varin's Blue Neon Spreading



5

Neon colour spreading in an Ehrenstein diagram

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object is not experienced as being defined by a colour, lightness or texture boundary. One example is the downward pointing triangle in the Kanizsa Triangle figure. (see p.24) There appears to be a whole downward pointing triangle occluded by the upward pointing triangle that is defined by the illusory lightness contours. Yet, in the figure, strictly speaking, there is no downward-facing triangle. There are simply three black angles that, if connected, would form a triangle. Unlike the upward pointing modally completed triangle, the downward pointing triangle's sides do not appear within our experience in virtue of a colour or lightness boundary. Yet, still, in some sense they seem present in our experience. In other words, the downward pointing triangle is amodally completed. The horizontal and vertical white lines in the Inverted Lightness Ehrenstein figure are also usually perceived as amodally completed – they appear to continue behind the discs – but they are not experienced in virtue of an experience of an apparent luminance or colour boundary. Likewise, the apparently occluded footballer's long arm provides an amusing example of amodal completion.

*Amodally completed
Footballer's arm. Source:
perfectlytimedphotos.com*

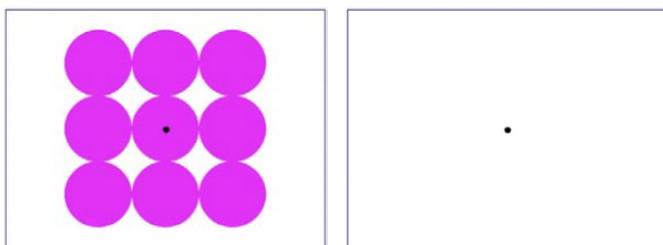


Like modal completion, amodal completion is also somewhat like experiences of visual imagery. In some sense you are clearly not seeing an object or part of object, yet in another one has a clear visual

sense of it's being there. I would say that modal completion and dreams overshoot the target of being like visual imagery by being too vivid and lively, while modal completion undershoots by being less vivid and lively than visual imagery – at least my visual imagery. But amodal completion is perhaps the most similar experience that I can identify to visual imagery.

One way in which visual imagery can – but needn't – differ from amodal completion is that whereas in amodal completion there is a sense of the amodally completed part of the object being in front of one now – that needn't be the case with imagery. For example, one can visually imagine something taking place yesterday and one can visually imagine something taking place on the other side of the world where one can't see it. Of course this needn't be the case. One can imagine something happening here and in the space visible to one, as I do now when I imagine a little green man sitting on the computer that I see in front of me.

A final case I'd like to consider is having an after-image. When one does so, one often realises that what one is experiencing isn't really present before one.



Stare at the picture of the **magenta circles** and keep your eyes focused on the **central black spot** for about one minute. Then stare at the **black dot** in the empty frame beside them. Blink your eyes a couple of times if required. You should see a **green afterimage**

of a group of circles. Afterimages usually seem to move as your eyes move (although the green circles tend not to as due to the fixation dot and the surrounding

Afterimage by Dimitri Parant, 2011
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black border) and you can often tell, even when not expecting to view an afterimage, that it is an afterimage by this feature of the apparent object. Likewise, one can have a photo-realistic afterimage by focusing your eyes on the dot on the bridge of the nose of the strangely coloured

face picture for around one minute and then looking at a white surface, like a wall or piece of paper – again perhaps blinking one’s eyes a few times. What it is like to see these afterimages is not exactly like what it is like to visually imagine green circles or **Amy Winehouse’s face** – like modal completion they seem more vivid and lively than visual imagination – but it is certainly more like imagery than a standard visual perceptual experience of those things.

Can we identify other experiences that are like imagery? Can we come up with better descriptions of how visual imagery and visual perceptual experience differ? These are questions that I will continue to consider. However, I hope that the experiences discussed in this essay help those who have never experienced visual imagery to better understand what it is like to have it.

In closing, I would like to discuss a feature of aphantasia that people who lack it often seem surprised by. People with aphantasia can do many tasks that people who have visual imagery seem to do in virtue of having that visual imagery. People who can

visualise can be surprised that aphantasics can do these tasks when they don't have the imagery that apparently allows those who have such imagery to do them. For example, people who can visually imagine might wonder how someone can know the number of windows in their house when they can't visually imagine walking round their house and counting them. How can they know what colour their partner's hair is if they can't form a visual image of their partner? (Indeed, switching modalities from vision to hearing, there is a long history in thinking that one cannot think unless one has auditory imagery of a voice in one's head.) However, the surprise of those who have visual imagery comes from, somewhat ironically I think, a lack of (non-perceptual) imagination, for there are many questions that those with visual imagery know the answer to without having to form visual images. If you have visual imagination, think to yourself how you know what the sum of two plus two is. It is likely that you do not need to visually imagine two objects, or imagine the numerals, in order to come up with the answer - you just know it. Or think how you know what your partner's name is. You don't need to visually imagine your partner or the letters that make up their name to know - you just know. The answer just pops into your head. This, according to the reports I have read and heard from aphantasics, is what it is like for them when they come up with answers to questions that those with visual imagery would answer by consulting their visual imagery. Thus it is perhaps not such a surprising phenomenon as some would make out. Importantly, it also raises the fascinating question of whether the visual imagery of those who have it actually plays the role of allowing them to come to know the answer to certain questions, which those people believe it does, or whether, counterintuitively, it is a mere accompaniment to their so doing.

What aphantasia and other examples show us is that there are a variety of fascinating mental differences between people, which confer different abilities to them. Studying these allows us to find about each other and ourselves, and to gain a better understand of our minds and the nature and role of different forms of consciousness.

References

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- 4 Varin, D. (1971). 'Fenomeni di contrasto e diffusione cromatica nell'organizzazione spaziale del campo percettivo', *Rivista di Psicologia* 65, pp. 101-128
- 5 Ehrenstein, W. (1941). 'Über Abwandlungen der L. Hermannschen Helligkeitserscheinung', *Zeitschrift für Psychologie* 150 pp. 85-91