The Role For Imagination in Perception
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pp. 16-26
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1 Introduction

What, if any, is the role for imagination in perception? The role, as it will be argued in this essay, is a very important one: imagination (or mental imagery) is, at the very least, necessary for almost all perception.

Bence Nanay (2009) advances the imagery account of amodal perception (see subsection 2.1). Amodally perceived things include parts of objects that present no sensory stimulation: hidden or obscured parts. By the imagery account, to amodally perceive such a thing is to represent it by means of mental imagery. Since perception almost always presupposes amodal perception, the imagery account implies that mental imagery is almost always necessary for perception. A number of objections to the imagery account will be answered (in subsection 2.2), with the hope of establishing that the imagination is at least necessary for almost all perception.

Peter Strawson (1979) argues for a stronger claim: imagination is a necessary ingredient of perception itself. It will be shown (in section 3) that Nanay’s imagery account can be ‘strengthened’ such as to bring it in line with Strawson’s thesis. Certain considerations reveal that the claim that not all perception presupposes amodal perception might be ill-founded. Furthermore, the imagery account will be shown to accommodate and complement the way in which concepts (or knowledge) feature in Strawson’s thesis.

2 Amodal perception as mental imagery

2.1 The imagery account

Central to any theory of perception is amodal perception: the representation of parts of a perceived object that present no sensory stimulation. Consider perceiving a cat sat behind a picket fence such that its tail is occluded by one of the pickets. The tail presents no sensory stimulus, yet it is represented: it is amodally perceived. Nanay (2009) considers the following question: How are such parts represented? Nanay argues that to this question, (what he calls) the perception, belief and access accounts of amodal perception cannot provide a coherent answer, but the imagery account can. Here is the imagery account of amodal perception: parts of a perceived object that present no sensory stimulus (an occluded part, like the cat’s tail, for example) are represented by means of mental imagery. That is, the exercise of mental imagery is necessary for amodal perception. This exercise, however, is a specific one: it is a projection that locates the object of imagination in egocentric space.

Nanay proceeds to explain the roles that knowledge and attention play in amodal perception. Suppose I am looking at the aforementioned cat. I cannot represent the tail, a part of the cat that represents no sensory stimulation, unless I have at least some knowledge about cats and the way their tails are supposed to look. Amodal perception, that is, relies on knowledge. By the imagery account, something amodally perceived is represented by mental
imagery, which accommodates the requirement that amodal perception relies on knowledge. After all, I cannot form an image of the cat’s tail without at least some knowledge of cats and their tails. This is the extent to which Nanay explains the relation between amodal perception and knowledge: the former relies on the latter. (We will return to this point in section 4.)

Nanay explains the role of attention by considering the following objection: the imagery account implies that perception almost always requires attention, which is surely too much to ask. This objection needs further explanation. The idea is that if (1) perception almost always involves amodal perception, (2) amodal perception always involves mental imagery, and (3) mental imagery requires attention, it seems to follow that almost all perception requires attention. This is an undesirable consequence because it seems natural to think that attention plays a much lesser role in perception; surely, I perceive far more than just that to which I attend. To deflect this objection Nanay attacks (3): he argues that only visualisation requires attention, and that mental imagery does not necessarily entail visualisation. Visualisation is always active and intended, so it always requires attention. Mental imagery, on the other hand, can be passive and unintended, so it does not always require attention. Since the imagery account holds only that amodal perception involves mental imagery, not visualisation, the objection is defeated.

Nanay further explains the role of attention in amodal perception. Suppose that I am once again looking at the cat. I represent its tail by locating the object of imagination, which is the cat’s tail, in egocentric space. Specifically, I locate the (imagined) tail behind the occluding picket. This process, in the absence of attention, is passive and unintended. If, however, I attend to the cat’s occluded tail, the process becomes active and intended: the cat’s tail becomes visualised. To illustrate the same point, Nanay uses a different example. He claims to have an image of his childhood home, as seen from the front. The upper left window of his home, Nanay claims, is unattended. Thus he is unlikely to notice whether there is a light in that window. If, however, he attends to that part of the image, Nanay will notice that there is a light in the window. Details of a visualised image, in other words, cannot go unnoticed. Nanay claims that this is also true of the mental imagery by means of which we amodally perceive: something amodally perceived need not be attended.

Before proceeding to the next subsection in which certain aspects of the imagery account will be developed, it is important to note the following. Nanay claims that the parts of a perceived object that present no sensory stimulation, precisely because they present no stimulation, are not perceived. To amodally perceive is not to perceive at all; rather, it is to represent. There are different ways in which a part that presents no sensory stimulation could be represented, but Nanay argues that the most suitable way is by means of mental imagery. When used to this end, mental imagery is located in space, in place of parts that present no sensory stimulation. This exercise of mental imagery relies on knowledge of the perceived objects (and thus their ‘missing’ parts). Furthermore, attention need not necessarily be paid to the object of an amodal perception.

2.2 Objections

Recall the objection that the imagery account seems to imply that perception almost always requires attention. Nanay responded by claiming that attention need not be paid to every
feature of a mental image, but this contradicts the plausible idea that mental imagery is **attention dependent**. McGinn (2004, 26–29) argues that to have an image, attention must be paid to its object. Thus a feature of an image, because the image itself is given to the attentive faculties, cannot go unnoticed. What then of the upper left window in Nanay’s image of his childhood home? The light therein, being part of the image, should not be unattended.

Nanay claims that attention plays a similar role in amodal perception and perception per se.¹ McGinn, on the other hand, claims that the role of attention distinguishes images from percepts: an image cannot take an unattended object, but a percept can. Further, he claims that because they are attention dependent, images are subject to the will. If McGinn is right, then Nanay’s claim is wrong (i.e. attention must be paid to every feature of a mental image), in which case the aforementioned objection poses a serious threat to the imagery account. Thus a dilemma: images are either attention dependent at the cost of the imagery account; or they are attention independent at the cost of their subjection to the will.

A bifurcation of images seems in order: into images that can and images that cannot be attention independent. The former can be used in amodal perception, rescuing the imagery account; while images of the latter sort are subject to the will. But can such a bifurcation be permitted? In Nanay’s distinction between visualisation and mental imagery, there is ample room to accommodate the latter sort of image: visualised images are active and intended and thus they require attention. So, images of the visualised sort are most certainly subject to the will. Meanwhile, in McGinn’s account of imaginative seeing (2004, 48–55), there is room, or at least just enough ambiguity, to accommodate the former sort of image. McGinn writes that imaginative seeing is an image-percept hybrid: it is, with respect to the will, a fusion of contraries.² Now, if attention dependence implies subjection to the will, then not subjection to the will implies not attention dependence (i.e. attention independence). Thus, given that imaginative seeing is not wholly subject to the will, it follows that it is not wholly attention dependent. It might be protested that, in fact, it follows that only the perception component of imaginative seeing is not attention dependent, which was never in dispute. McGinn, however, does posit imaginative seeing as a hybrid state – a fusion – suggesting that it is something other than the sum of its components. At the level of perceptual experience, in other words, the component parts of imaginative seeing cannot be separated. Thus we have an experiential state that is as required: it includes mental imagery and it is not attention dependent.

To the imagery account, Robert Briscoe (2011) poses the greatest threat: he argues that there are different sorts of amodal perception, and that mental imagery is only sometimes involved in only one of those sorts. So, let alone being necessary for amodal perception in general, mental imagery is not even necessary for one sort of amodal perception.

Briscoe argues that amodal perception includes cases of NA- and C-completion (see Fig. 1 and Fig.2, below). The former is stimulus-driven (or ‘non-cognitive’) and perceptual, while the

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¹ By ‘perception per se’, Nanay means all perception; that is, all perception that presupposes amodal perception plus all perception that does not presuppose amodal perception.

² Imaginative seeing includes seeing as, an example of which would be seeing a cloud as a rabbit.
latter is top-down (or ‘cognitive’) and engenders both mental imagery and belief. Thus mental imagery features in only C-completion, and only unnecessarily so.

Fig. 1 NM-completion

Fig. 2 C-completion

Briscoe presents a perception account for NA-completion, one constructed from the idea that the presence of visual information, rather than sensory stimulation, is necessary for perception. Contra Nanay, a thing that presents no sensory stimulation can be perceived. Briscoe gives four reasons to favour his perception account (for NA-completion) over the imagery account. First, visual images have a conscious, visual or quasi-visual phenomenology; but NA-completion does not. Second, in the absence of sustained effort, mental images are not stable and fade rapidly; but NA-completion persists so long as inducers are perceived and are not subject to the will. Third, mental image formation is not stimulus driven; but NA-completion is. And fourth, mental images are not obligatory; but NA-completion is not similarly subject to volition or top-down influence. NA-completion is not usefully characterised as mental imagery if these reasons are correct – but are they?

3 Sensory stimulation is just one source of visual information. Other sources, according to Briscoe, include the ‘wiping’ of surface texture under perspective transformation, binocular disparities and ‘T-junctions’.

4 Whereas an occluder hides some part of an object, an inducer is hidden by some part of an object.
The first reason hinges on consciousness: mental imagery is conscious, but NA-completion is not; therefore NA-completion cannot be mental imagery. But is Nanay actually committed to the claim that mental imagery is conscious? Recall that mental imagery can be passive and unattended. It seems sensible to assume that a passive, unattended thing can also be unconscious. Breathing, for example, is passive, unattended and seemingly unconscious. In fact, it even seems sensible to assume that if a thing is passive and unattended, then it is unconscious. How consciousness relates to attention and passivity is beyond the scope of this essay. What matters is that, having afforded imagery passivity and unattended-ness, Nanay is not obviously committed to the claim that imagery is always conscious. Thus Briscoe’s first reason to abandon the imagery account is unconvincing.

Similarly for the second reason: a passive and unattended image surely does not require sustained effort. If such effort was required, the image would seem to lose its passivity and unattended-ness. Briscoe also mentions that NA-completion is not subject to the will, implying that mental imagery is subject to it. Here, care needs to be taken. It was shown earlier that not being subject to the will implies attention independence, but the converse is not necessarily true: attention independence does not necessarily imply not being subject to the will. Once again, however, the fact that mental images can be passive and unattended seems to afford Nanay just enough wriggle room: it seems sensible to assume that a passive, unattended thing can also be not subject to the will. Metabolic processes, for example, are passive, unattended and not subject to the will. So mental images need not fade in the absence of sustained effort, nor are they necessarily subject to the will.

Similarly again for the third reason. For Nanay, in amodal perception, passive and unattended mental imagery bears the brunt of the workload. This imagery is not the result of internal efforts, so it must be the result of something external, but what? The obvious answer is that the sensory stimulus presented by visible parts drives the formation of images of occluded parts. Thus mental imagery can be stimulus driven.

As for the fourth reason, little remains to be said. Briscoe seems to be arguing that, because it is subject to neither the will nor top-down influence, NA-completion is obligatory. But, as has been shown, mental imagery is not necessarily subject to the will and can be stimulus driven. Thus by Briscoe’s own reasoning, mental imagery can be obligatory.

Where Briscoe succeeds in presenting a paradox-free perception account, he fails in providing adequate reasons to favour it over the imagery account. Although, that is not to say such reasons do not exist. What of Briscoe’s claim that C-completion gives rise to beliefs? He argues that there are situations in which beliefs are formed on the basis of visible features without first projecting mental imagery. If this is right, the belief account provides a partial explanation of C-completion, and therefore (contra Nanay) a partial explanation of amodal perception. To

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5 To claim otherwise is to commit the fallacy of denying the antecedent.
6 That is, Briscoe’s perception account of NA-completion is compatible with, but not preferable to the imagery account.
support his claim, Briscoe must present plausible examples of such situations. First, he claims that on the basis of the rust on the visible side of a car, and the assumption that the effects of weathering are unlikely to be confined to just that side, he might believe that there is rust on its hidden side too. Second, he claims that on the basis of a signature not being on the visible side of a painting, and the belief that the painting was signed by the artist, he might believe that there is a signature on its hidden side. In neither situation does Briscoe provide any reason to suggest that belief precedes imagery. It seems quite plausible to assume that in both situations, an image (of the hidden side of the car and of the hidden side of the painting, respectively) precedes belief. Briscoe gives no argument to the contrary.

There is, however, one more case to consider. Briscoe claims that not only does amodal perception include NA- and C-completion, but also motoric completion. The occluded parts of an object are motorically completed if they figure in the contents of an action representation (where an object is action represented if movements are adapted to both its visible and invisible features). Although Briscoe merely describes this sort of amodal perception; he gives no reasons to suggest that in it, mental imagery cannot play an integral role. It seems quite sensible to suppose that movements are adapted via imagining the invisible features of objects.

In sum, Briscoe succeeds in showing that there are different sorts of amodal perception, but not in showing that the imagery account cannot accommodate them all. Granted, the imagery account posits an unfamiliar sort of imagery, those of a passive and unattended variety, but given the strengths of the account, perhaps the notion of familiarity needs revising.

To close this section, the imagery account claims that something is amodally perceived by representing it with mental imagery. The account has been shown in this subsection to stand up to considerable scrutiny. Since almost all perception involves amodal perception, it is safe to assume that mental imagery, or the imagination, has an important role to play in perception. But perhaps that role is even more important than the imagery account suggests.

3 From Nanay to Strawson

Nanay claims that the imagery account can be interpreted as a weaker version of Strawson’s (1979) thesis. But, how precisely is it weaker? Or, how precisely is Strawson’s thesis stronger? First, we need an idea of how the imagination bears on perception for Strawson, so that it can be contrasted with what we already know about the imagery account.

Strawson argues that the imagination is the power by which perceptions of different objects of the same kind are connected. Consider, for example, noticing a strange dog in the garden. By the imagination, this (occurrent) perception is connected with other (non-occurrent) perceptions of dogs – we will return to this below. The imagination is also the power by which different perceptions of the same object of a given kind are connected. Consider, for example, noticing the dog again a while later. This perception, via the imagination, is connected with the earlier (different) perception of the same dog. These two (not

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7 Kelly’s (2005) example: the handle, because it is on the hidden side of the coffee mug, is invisible, but an awareness of its spatial properties is revealed in acting with respect to the mug.
independent) powers make the imagination, for Strawson, a necessary ingredient of perception itself.

Thus we have the first, and most obvious, point of difference. Whereas Nanay claims that mental imagery is necessary in just amodal perception (i.e. not necessary in perception per se), Strawson claims it is a necessary ingredient in perception itself. On this point, how might the imagery account be brought in line with Strawson? The imagery account does not stretch to include all perception because it seems that not all perception presupposes amodal perception. There are recalcitrant cases: perceptions that consist solely in objects all the parts of which present sensory stimulation. In such a perception, by the imagery account, there is no work for mental imagery to do, for there are no hidden parts to represent. The claim that not all perception presupposes amodal perception rests on two assumptions: that there are objects all of whose parts present sensory stimulation, and that a perception could be filled with such objects. If either assumption is mistaken, the domain of the imagery account could extend to include all perception, in which case the exercise of mental imagery would be necessary in perception per se.

Consider the first assumption. Can there be an object all of whose parts present sensory stimulation? Nanay suggests transparent objects: a soap bubble or a glass cube, for example (Nanay's). But is it true that every part of the bubble can be seen? It seems to be true that its nearest and furthest sides can be seen almost at once, but what of the bit where those sides meet? As it is looked at, in other words, what of the bubble’s circular boundary? If I am required to look at any point that falls on the boundary, it seems natural to suppose that I would move. If I am asked to look at the bubble’s right or left hand side, I will move to the right or the left, or at its uppermost or lowermost side, I will stretch upward or crouch downward. Maybe the movements are not strictly required, but I move nonetheless. While the bubble has no obviously hidden parts, it does seem to have parts that can be seen better with a change of perspective. So, given a momentary perception of the bubble, it seems like there might be work for mental imagery to do: to represent, or at least to enrich, the parts that lie along the boundary.

What, it might be objected, if the perception is not momentary? What if a single perception has duration? That way, a single perception can consist in the duration over which all parts of the bubble are seen. If every part is seen, the bubble is as required: it has no parts that do not present sensory stimulus. This, however, seems to open a set of floodgates. The Sydney Opera House, by the very same reasoning, is also an object as required: it just takes longer to see every part of the opera house than it does to see every part of the bubble. Clearly, this will not do: a single perception must consist in a snapshot (of sorts), not a duration. An object as required (to support the first assumption) must have parts that all present sensory stimulation at once.

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The second assumption is required because from the existence of an object all of whose parts present sensory stimulation, it does not necessarily follow that perception could consist entirely in that object or instances of that object.
The Role for Imagination in Perception

What, instead, if the bubble is very small, small enough so that I do not need to move to see its sides (a point along its boundary)? Surely of such a bubble, every part is seen at once; but what about eye movements? An eye movement is as much a movement, albeit a subtler one, as the earlier stretch or crouch. The object required is one all the parts of which present sensory stimulation at once, but a movement, subtle or otherwise, has duration. In seeing the whole, now smaller bubble, if but a flicker of the eye is required, it too must be ruled out as an object of the required sort.

Thus the search stumbles upon a dilemma: either perceptions have duration in which case the Sydney Opera House seems to be an object of the required sort; or perceptions are instantaneous in which case an object of the required sort is one that can be seen entirely in an instant. The search seems futile.

While it might be possible to fill a perception with a certain sort of object, an object of the required sort seems impossible. Thus the first assumption fails, or at least falters, and with it the claim that not all perception presupposes amodal perception. If all perception presupposes amodal perception, the exercise of mental imagery is necessary for perception per se. Although, this in itself does not make Nanay’s claim as strong as Strawson’s. There are there other points of difference.

One concerns the role of knowledge. Recall that for Nanay, representing an object by means of mental imagery relies on knowledge of that object. To represent the occluded part of the cat’s tail with a mental image relies on knowledge of cats and their tails. For Strawson, knowledge – or, more specifically, concepts – features far more intricately. An early mention of concepts comes via Kant, who declares that the imagination connects the particular object with the concept under which it falls. The imagination, for example, connects a particular dog with the concept ‘dog’. Later, Strawson discusses the way in which fleeting perceptions are given descriptions involving lasting, distinct objects, which, he argues, requires the possession and application of concepts of the objects in question. These concepts serve to combine different perceptions as perceptions of the same object. Further, to see an object as an object of that kind is to have the thought of other related possible perceptions. To see a silent and stationary dog, for example, is to have the thought of it as a possible mover and barker. Later still, Strawson refers to the imagination as the chief agent in the exercise of concept application, proceeding to explain that the thought of something as an x is alive in both the perception of it as an x (or a particular x) and the image of an x (or a particular x).

Is knowledge to the imagery account what the concept is to Strawson’s thesis? Or, simply, how does Nanay’s cat compare to Strawson’s dog? The cat’s tail presents no sensory stimulation, thus the imagination is exercised: the tail is represented by an image. In other words, with an image, the imagination plugs the gap in sensory stimulation. So, one way by which knowledge is brought to bear on the experience of the cat behind the fence is via the cat’s occluded tail. Perhaps the knowledge in question is just of cats’ tails; after all, the image represents just that part of the cat. But does the formation of an image of a cat’s tail rely on just knowledge of cats’ tails, or does it rely on a more general knowledge of cats? If the latter,

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9 See Kant (1933).
The Role for Imagination in Perception

a general 'cat knowledge' bears on the experience in question via just the representation of an occluded tail. It is as though the imagination is given an inch (the occluded part of the tail) and takes a mile: it delivers an abundance of cat knowledge. Via the occluded parts of an object enters knowledge of much more than just those parts enters. Nanay, however, is not committed to such a claim. He is more likely to endorse the claim that on just the occluded parts of an object, the imagination brings to bear just knowledge of those occluded parts.

Strawson, on the other hand, explains that in concept application, the imagination is chief agent. To undergo the actual perception of a silent and stationary dog is, by means of the imagination, to have the thought, or concept, of nonactual perceptions of it as a mover and a barker. Concepts grip actual (occurrent) perceptions only because they are connected to nonactual perceptions; a connection that is maintained by the imagination. This is certainly a stronger claim than that which Nanay is likely to endorse. It seems, though, that even on this point, there is room to ‘strengthen’ the imagery account.

Strawson and Nanay agree that experience involves a combination of perceptions and representations. For Nanay, the cat-behind-the-fence experience involves a combination of perceived (non-occluded) parts and the represented (occluded) parts of the cat. For Strawson, the dog-in-the-garden experience involves a combination of the perceived dog and the representations of it as a possible mover and barker. The representation of the cat’s tail relies on cat knowledge, while the representations of movement and barking comprise, at least in part, an application of the ‘dog concept’. What if the potential to move and bark are as much parts of the dog as the tail is part of the cat? The cat is not sensorily presented as a cat with a tail, but under different circumstances (if it moved from behind the fence, say), it would be. By knowing this, the cat is experienced (via representation by mental imagery) as a cat with a tail. Similarly, however, the dog is not sensorily presented as a dog with moving or a dog with barking, but under different circumstances (if it saw the cat, say), it would be. And in having this thought, the dog is experienced (via representations facilitated by the imagination) as a dog with moving (a moving dog) and a dog with barking (a barking dog). The part of the cat that would have a perceivable tail, were it not for the fence, presents as little sensory stimulation in the visual mode as the part that would meow, were it not that the cat is not meowing, presents in the auditory mode: none whatsoever. Why then should the cat consist only in visual parts? If an object can be understood to consist in parts that span the sensory modalities, the cat has more parts that present no sensory stimulation than just those occluded by the fence. This way, knowledge seems to feature more heavily in the imagery account than Nanay suggests, perhaps as heavily as concepts feature in Strawson’s thesis.

Strawson claims not only that the mind looks further than the merely subjective side of a perceived object, but also that in looking further, the mind does not give itself actual images; rather, images enter in an ‘elusive’ way. Perhaps the imagery account offers an answer as to how imagery enters perception: perhaps images enter via the amodally perceived parts of perceived objects and with them, enters knowledge.

10 This would explain why it seems so difficult to find an object all the parts of which present sensory stimulation. Such an object has no occluded parts; so there are severe limitations on the ways in which knowledge of the object might bear on the experience of it.
In closing this section, two points of difference between the imagery account and Strawson’s stronger thesis have been explored. With respect to both these points, it seems as though the imagery account can be brought in line with Strawson. By the above, the claim that not all perception presupposes amodal perception seems suspect; therefore mental imagery might well be essential to perception per se. Also, it seems that the imagery account can accommodate a much more intricate interplay between images and knowledge, rather than merely the former ‘relies’ on the latter.

4 Conclusion

The imagery account maintains that to amodally perceive is to represent parts of a perceived object that present no sensory stimulation by means of mental imagery. The account survives an onslaught of objections, the foremost among which comes by way of Briscoe (2011). Most of the resistance to the imagery account seems to be fuelled by a suspicion of the unfamiliar variety of mental imagery it posits: imagery of a passive and unintended (and thus unattended) variety. Given the explanatory virtues of the imagery account, this new variety should be embraced.

Thus the imagination is necessary for amodal perception, but this claim can be made even stronger, for the claim that not all perception presupposes amodal perception is faulty. It rests on the assumption that a perceived object can exist such that all of its parts present sensory stimulation, but such an existence has been shown to be impossible (or at least inconceivable). It seems then that the imagination is necessary for all perception, since all perception presupposes amodal perception.

Further considerations reveal an affinity between the imagery account and Strawson’s thesis. Strawson’s thesis seems to suggest that a perceived object has more amodally perceived parts than just the obviously occluded (e.g. past and possible parts). While the imagery account illuminates a murky aspect of Strawson’s thesis: the elusive way by which images enter into perception is in fact by way of amodally perceived parts.

Ultimately, it has been shown that the imagination plays an ineliminable role in perception.

References


