TRANSPARENCY AND SENSORIMOTOR CONTINGENCIES: DO WE SEE THROUGH PHOTOGRAPHS?

BY

BENCE NANAY

Abstract: It has been claimed that photographs are transparent: we see through them; we literally see the photographed object through the photograph. Whether this claim is true depends on the way we conceive of seeing. There has been a controversy about whether localizing the perceived object in one's egocentric space is a necessary feature of seeing, as if it is, then photographs are unlikely to be transparent. I would like to propose and defend another, much weaker, necessary condition for seeing: I argue that it is necessary for seeing that there is at least one way for me to move such that if I were to move this way, my view of the perceived object would change continuously as I move. Since this condition is not satisfied in the case of seeing objects in photographs, photographs are not transparent.

I. Seeing in versus seeing through

It has been argued that photographs are transparent: we see through them.[1] Thus, we literally see the photographed object when we are looking at photographs. We do not see through drawings and paintings: we do not literally see the depicted object when looking at these.

Why is this view tempting? Photographs have what Grice called 'natural meaning':[2] the weird feature that if a photograph is of Oscar Wilde, this implies that Oscar Wilde existed (and looked thus and so). Photographs carry information about what they are the photographs of: they could not exist or they could not be the way they are if what they are of did not exist.[3] Seeing a photograph of my partner's cheating on me counts as evidence

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that she did cheat on me in a way that seeing a sketch of my partner's cheating on me would not.[4] Further, if the photographed object had been different (in some relevant ways), the photograph would also have been different (in the same ways).[5] These are very important claims about the *ontology* and about the *epistemology* of photographs.[6] But the claim I am about to examine is not about the ontology or the epistemology of photographs, but about our *experience* of photographs. It has been argued that a straightforward way of explaining why photographs have this special epistemic status compared to other pictures has to do with the way in which we experience them: we see through photographs, but not paintings and drawings.[7]

This contrast is becoming somewhat blurry in the light of the following considerations. Photographs are pictures. Thus, a general account of depiction must also apply in the case of photographs. But according to the general account of depiction that most proponents of photographic transparency endorse, what makes pictures pictures is the experience we are supposed to go through when looking at them and this experience is that of seeing-in: we see the depicted object in the picture.[8] But seeing the depicted object in the picture is a way of seeing it. Thus, when I see a drawing or painting of x, I see x in a certain way (in the drawing or painting). But then why are these cases different from that of looking at photographs, where I also see x upon looking at the photograph of x?[9]

The answer is that while we do not *literally* see x in a picture, we do *literally* see x when we are looking at a photograph of x. Thus, the question becomes the following: what is the difference between literally seeing and just seeing (non-literally). The proponents of photographical transparency say that seeing the photographed object in (or, rather, through) the photograph is very much like seeing an object through a mirror or binoculars and not at all like seeing a depicted object in a painting. As Lopes says, 'to say that photographs are transparent is to say that we see through them. [. . .] seeing a lily through a photograph of a lily is like [. . .] seeing a lily in a mirror, through binoculars, or on a closed-circuit television system'.[10]

This, in itself, will not do. There are clear differences between seeing an object through a photograph and seeing an object through a mirror or through binoculars. Most advocates of the thesis of photographic transparency admit that the former involves something like what Richard Wollheim called the twofoldness of our experience: we are simultaneously aware of both the depicted object and the depiction itself.[11] Walton claims that twofoldness is a necessary feature of our experience of all depictions, including photographs:

> Seeing-in is an experience characterized by what [Wollheim] calls 'twofoldness': one sees the marked picture surface, and one sees the subject of the picture. [. . .] I propose that my theory goes some way towards showing how two different intentional contents can be combined.

> The experience is a perception of the pictorial surface imagined to be a perception of [. . .] whatever is depicted.[12]

Lopes, although he has reservations about the concept of twofoldness as a necessary condition for depiction,[13] does appeal to something very much like twofoldness when cashing out what photographic transparency means. He writes:

> In normal circumstances, seeing through a photograph happens simultaneously with seeing the photographic surface itself [. . .]. Photographic transparency is not photographic invisibility.[14]

Seeing through photographs is a twofold experience, whereas seeing through a mirror is not: we are not simultaneously aware of the mirror surface and the object we see through the mirror. The same goes for seeing through binoculars. Thus, seeing through photographs is quite different from seeing through binoculars.

But the proponents of the transparency thesis do not need to be committed to saying the seeing through photograph and seeing something face to face or through binoculars are of the same kind of perceptual processes. They only need to argue that they are importantly similar. More precisely, they argue that seeing through photographs is more similar to seeing through binoculars than it is to seeing something in a painting. Their main claim is that seeing something in a photograph and seeing something through binoculars are both instances of literally seeing, while seeing something in a painting is not.[15] This is the claim I will argue against.

II. Localization in egocentric space

How could one argue against this claim? One obvious way to do so is to question whether seeing an object through a photograph would count as literally seeing the object – under our everyday conception of what seeing is. Gregory Currie and Noël Carroll both argued along these lines: they claim that the ability to localize the perceived object in one's egocentric space is a necessary condition for seeing the object.[16] In the light of the considerations in the last section about seeing objects in paintings, this claim could be rephrased as a necessary condition for *literally* seeing – and not for seeing in general, as this necessary condition does not apply in the case of seeing things in pictures, which is, as we have seen, also a way of seeing things. We usually cannot localize objects we see in photographs in our egocentric space; therefore, we do not literally see objects through photographs.

Walton counters this argument in the following way.[17] Suppose that I am in the middle of a complex mirror-labyrinth, like the one in the film *The*

Lady from Shanghai: everything I see is a reflection of a reflection of a reflection. Suppose that I set eyes on an apple. Given that I have no idea how many mirrors are involved in bringing about this impression, I do not know where this apple is: I cannot localize it in my egocentric space. If I had to reach for it, I would have no idea how to do that. Thus, Walton points out, it follows from Currie and Carroll's necessary conditions for literally seeing that I do not literally see this apple. But this is clearly wrong: there is no doubt that we literally see objects through a single mirror and what happens in this example is just the multiplication of this case of literal seeing. Even more worryingly, unbeknownst to me, there may be no mirror between the apple and me. In this case, it would be difficult to argue that I do not see the apple. Yet, I am unable to localize it in my egocentric space.

More generally, localizing objects in one's egocentric space may have been what object-perception was evolved for, but it does not follow from this that it is a necessary condition for object-perception. The human appendix, for example, evolved for decomposing celluloid, but this does not imply that the ability to decompose celluloid is a necessary feature of human appendices; in fact at present no human appendices are capable of decomposing celluloid.

Do these considerations show that localizing an object in one's egocentric space is not a necessary condition for literally seeing? It is not at all clear. Gregory Currie, for example, bites the bullet and says that in the example of the mirror-labyrinth, we do not literally see the apple.[18] As the intuitions about whether localizing the perceived object in one's egocentric space is necessary for literally seeing seems to vary, it is unlikely that this debate could be resolved.

A different, weaker and arguably more plausible way of using egocentric localization for opposing the transparency claim needs to be mentioned briefly. Aaron Meskin and Jonathan Cohen argued that the necessary condition Currie and Carroll set for seeing is too strong because they interpret egocentric localization to be a doxastic attitude: a matter of beliefs and knowledge. Meskin and Cohen read Currie and Carroll to set what they call 'egocentric spatial beliefs' as a necessary condition for seeing.[19] Whether or not this interpretation of Carroll and especially of Currie is correct,[20] they propose a weaker necessary condition, according to which our visual experiences are 'produced by a process that carries egocentric spatial information about the [perceived] object'.[21] Photographs do not carry egocentric spatial information: they are 'spatially agnostic informants': hence, we do not see literally see photographed objects. As Meskin and Cohen say, 'it is not the case that if the spatial relationship between the photograph and the [photographed object] were to change that the image of the [photographed object] would change'.[22] And if we accept this weakened necessary condition for seeing, the mirror labyrinth

counterexample can be easily explained (the viewer may not have 'egocentric spatial beliefs', but her visual experiences are produced by a process that carries egocentric spatial information about the perceived object.

Meskin and Cohen's account seems more viable than Carroll's or Currie's, but it is not at all unproblematic.[23] My problem with it is that it is still too strong: it is not satisfied in cases that would be odd not to consider *bona fide* instances of seeing. Meskin and Cohen consider the potential counterexample of optic ataxia patients who are famously bad at localizing objects in their egocentric space.[24] Their response is that although these patients cannot report the egocentric localization of the objects they see and they cannot interact with these objects in such a way that would be based on egocentric information, according to them, this does not show that the perceptual system of these patients does not carry egocentric information. This response could be considered to be highly problematic: if the verbal reports and the bodily movements of these patients do not justify the claim that their perceptual system carries egocentric information, it is difficult to see what could. Meskin and Cohen allude to some empirical literature on the interaction of the dorsal and the ventral visual subsystems,[25] but it is difficult to see how these experiments are relevant as they are about a quite special subset of optic ataxia patients (Balint syndrome patients) and they do not (or hardly) control for eye movements (this is not a shortcoming of the experiments, but the way they are used by Meskin and Cohen). Most optic ataxia patients have problems localizing, and interacting with, objects that are not in their fovea. It has been known that they can be fairly good at localizing objects that are in their fovea.[26] The worrying version of the optic ataxia objection would concern patients who can see an object in their fovea but are unable to localize it in their egocentric space. The Robertson experiments do not have any implications for this scenario.

But there are even more immediate empirical problems for Meskin and Cohen's account. They could dismiss the optic ataxia counterexample as irrelevant or as something that only concerns a malfunctioning perceptual system.[27] But the problem is that the necessary condition they propose is not even satisfied by some perceptual episodes of healthy adult humans. We are very bad at distance perception if the perceived object is a single point of light. If we have to estimate the distance (or perform some action that would require the representation of the distance) between a single point of light and ourselves in a dark room, we invariably represent this distance as about 60 cm.[28] In other words, our perceptual state does not carry egocentric information about the perceived object: the counterfactual that Meskin and Cohen take to be a necessary condition for seeing is not satisfied: if the perceived object were to be closer, our perceptual state would not be different. Yet, presumably, we do not want to say that we do not see the point of light in these scenarios.

I need to emphasize that I do not intend these to be knock-down objections to Meskin and Cohen's (or Carroll's and Currie's) attempt to argue against the transparency of photographs with the help of focusing on egocentric localization. But these objections do highlight that neither version of the egocentric localization account is unproblematic. Instead of pushing the egocentric localization line further, I would like to consider another, even weaker, necessary condition for literally seeing, one that may be less controversial.

III. Sensorimotor contingencies

I will borrow some important observations from the works of C. I. Lewis and Alva Noë, without taking sides with them on their theory of perception in general.[29] Their proposal is that sensory stimulation is not sufficient for being in a perceptual state. In order to be able to be in a perceptual state (and not just sense the proximal stimulus), we must be able to have the appropriate 'sensorimotor contingencies': the way we move around the perceived object must influence the way the perceived object appears to us.

The basic motivation behind this way of thinking about perception is that perception is an active process: when we perceive, we are actively exploring the world: we move our eyes, our head, lean forward, squint, cup our ears, etc. And as we move, our view of the object changes according to familiar patterns: if I move closer to my computer, the computer will take up a larger portion of my visual field. If I move away, it will take up a smaller portion thereof, etc.

There are various versions of this general suggestion.[30] I will mention four, limiting my attention to the visual sense modality that is the most relevant in the present context.[31] According to one, (i), it is our expectations about the way our view of the object would change if we moved that is necessary for seeing it. According to another, (ii), what is necessary for seeing is that our view of the object would in fact change if we moved, *in the way we anticipated it*. A third version, (iii), is that it is just the counterfactual dependence that counts, our expectations or anticipations are irrelevant: the necessary condition is that our view of the object would change if we moved. Finally, (iv), maybe it is not a counterfactual, but a tensed indicative conditional that constitutes a necessary condition for seeing: if I *do* move, the way the object appears to me *will* change.

I certainly do not want to adjudicate between these versions here, nor do I want to endorse any of them. I will argue for a much weaker claim than any of these: what is necessary for seeing is that there is at least one way for me to move such that if I were to move this way, my view of the perceived object would change continuously as I move.

It is important to contrast this counterfactual claim with (iii), which also posits a counterfactual as a necessary condition for seeing: if I see an object, then it must be true that my view of the perceived object would change if I moved. According to (iii), *any* movement of mine would result in a change in my view of the perceived object. This claim sounds convincing as a necessary condition for many objects that are in our vicinity: if I moved a step closer to the armchair in my room, my view of it would change: it would take up a larger part of my visual field. When it comes to objects that are far away from us, like stars, this condition sounds somewhat less convincing: my view of the Morning Star is pretty much the same regardless of how wildly I jump about. Similarly, if I moved around a monochromatic perfect sphere, my view of it would not change either.

But note that if I were to move much closer to the Morning Star, my view of the latter would indeed change (in pretty much the same way as my view of the armchair would change). The same is true of the monochromatic perfect sphere. Thus, we can give a necessary condition for seeing that is more plausible than (iii) if we use an existential and not a universal quantification: if I moved *in a certain way*, my view of the perceived object would change (continuously as I move).

In other words, the necessary condition I propose is much weaker than (iii). My claim is that if I see an object, then it must be true that there is *at least one way* for me to move such that if I were to move that way, my view of the perceived object would change continuously as I move. Thus, it is not required that *for every possible movement* I can perform, it is true that if I were to move that way, my view of the perceived object would change continuously as I move. All that is required is that *there is at least one possible movement* for which this is true.[32]

Importantly, the necessary condition I propose is that if I were to move in a certain way, my view of the perceived object would change *continuously as I move*. Why do we need this last phrase? We need it because without it, the condition would be vacuous, as pretty much anything would satisfy it. Suppose that I have a hallucination of my mother's face. If I were to travel thousands of miles, my view of my mother's face would change: I would see her face to face. But of course having a hallucination of my mother's face is the paradigmatic example of a process that does not count as seeing.[33]

What makes genuine perception special, and different from hallucination, is that if I were to move (in a certain specific way), my view of the perceived object would change continuously. But what does it mean for my view of an object to change continuously? What it means is that my view of it changes while I keep my eyes on it. Small changes in my vantage point would bring about small changes in my view of the perceived object. This (almost trivial) restriction on the counterfactual rules out cases like the hallucination of my mother's face. And those cases that motivated the

sensorimotor accounts would still satisfy this necessary condition for seeing.

I used two concepts in my definition that could be thought to be slightly ambiguous: those of 'one's view of something' and of 'perceived object'. First, I do not want to and I do not need to take sides in the Byzantine debate around what the object of our perception is.[34] My argument is consistent with any notion of the object of perception as long as it is taken to be a distal mind-independent entity. Second, by 'one's view of the perceived object', I mean the way the perceived object appears to the perceiver: Again, depending on one's theory of perception, there are many ways of cashing out what 'the way x appears to A' means, but I do not want to take sides in this question either.

Why should we accept my proposed necessary condition for seeing? Suppose that this condition is not satisfied. Suppose, in other words, that no matter how wildly I move about around an object, the way it appears to me would just remain the same. My claim is that it is difficult to see how this can be an instance of seeing a distal mind-independent object. There are some objects that look the same from a number of spatial positions. A monochromatic perfect sphere, for example, would look the same if I were to look at it from the opposite side. But if I were to move closer to the perceived object, my view of it would indeed change, even if the perceived object is very far or it is very small. If I were to move closer to any distal, extended, mind-independent object, it would look bigger. If it would not look bigger, no matter how close I am looking at it, it is difficult to see how it could be a distal, extended, mind-independent object.

It does happen that our sensory stimulation remains the same regardless of how we move. This is exactly what happens when we see afterimages: no matter how we moved, the way they appear to us would not change. But seeing afterimages is one of the stereotypical examples for having sensory stimulation without perceiving anything. Afterimages are not distal mind-independent object: we do not perceive them. When we do perceive distal mind-independent objects it is true that there are ways for us to move such that if we were to move that way, these distal mind-independent objects would look different.

It is important to emphasize that the necessary condition I am proposing is a counterfactual: there is at least one possible movement such that if I were to move that way, my view of the perceived object would change. Sometimes we do not or even cannot move that way in the actual world – maybe the perceived object is just too far away, as in the case of seeing the Morning Star. But what is supposed to be the necessary condition for seeing is not a claim about the actual world, but about possible worlds. Thus, if I *were to* move that way, my view of the perceived object *would* change. According to a widespread account of counterfactuals,[35] if the closest possible world where I move this way and where my view of the

perceived object changes is closer to the actual world than the closest possible world where I move this way and where my view of the perceived object is still the same, then the counterfactual is true.

An important note on the scope of my necessary condition for visual perception. Of course it is metaphysically possible that it is true of some perceiver that regardless of how she moves, her view of the perceived object would be the same. But the question I am concerned with here is not about some metaphysically possible perceiver, but perceivers like us. The question about photographic transparency is not a question about metaphysically possible perceivers in general, but about human (and maybe non-human animal) perceivers. And in the case of perceivers of this kind, if they were to look at the perceived object from a closer vantage point, their view of the object would change.

Finally, it is worth comparing my proposed necessary condition with the one Meskin and Cohen champion, especially as both accounts make use of counterfactuals. The first thing to note is that the necessary condition Meskin and Cohen propose is much stronger than mine: it is in fact somewhat similar to (iii). As a result, my account is not susceptible to the two objections I raised against their proposed necessary condition. The optic ataxia patients see the object in front of them because there is a way for them to move such that if they were to move that way, their view of the object would change. In fact, there are many such movements. And when we are looking at the point of light in the dark room, there are ways for us to move such that if we were to move that way, our view of the object would change: we could, for example, move real close to it. As my necessary condition is much weaker than Meskin and Cohen's, it is less problematic. I will argue in Section V that nonetheless it is strong enough to rule out seeing through photographs.

IV. Objections

I need to consider possible objections that might jeopardize my proposal. First, suppose that there is a lamp screen fixed to my head. No matter how wildly I moved, my view of this object would still be the same as the lamp screen would still be on my head. Do we need to conclude that I do not see this object? No, we don't. Again, the necessary condition I have proposed is a counterfactual. If I were to look at the lamp screen from above, my view of it would change significantly.

Second, what if I can't move? Would I not see anything? Note, again, that the suggested necessary condition is a counterfactual; hence, we have to consider how my view of the object would change if I *did* move. And even if I am paralyzed and looking at an apple, it can be true that if I were to move, my view of it would change.[36]

It is worth mentioning a couple of cases that could be thought of as obvious *prima facie* counter-examples against the suggestion that we do not see an object if regardless of how we were to move, our view of the object would still be the same.

Do we see stars? Their appearance does not seem to change as we move around. Note, however, that if it were the case that we looked at the star from a spaceship that is about to land on it, our view of it would be significantly different. It is unlikely that this will happen to any of us, but if it were to happen, our view of the star would be different. The same argument applies in the case of distant objects in general.[37]

An interesting special case of seeing stars is seeing a star that has ceased to exist millions of years ago, as in this scenario the perceived object does not seem to exist. The necessary condition I am proposing does not rule out that we can see stars that have ceased to exist. There is a vantage point (somewhat closer to the star), from where right now we would see the star as it collapses and becomes a black hole. If I were to look at the star from this vantage point, my view of it would indeed be different.

Thus, if an agent sees an object, then besides having a certain sensory stimulation, it also needs to be true that there is at least one way for her to move such that if she were to move that way, her view of the perceived object would change continuously. Note that this necessary condition does not rule out that we do genuinely see the apple in the complex mirror labyrinth: there are many ways for us to move in the mirror labyrinth such that if we were to move that way, our view of the apple would change continuously. There may be some other necessary conditions on genuine seeing that would militate against the claim that we do genuinely see the apple in this scenario, but nothing I argued for here would commit us to take sides either way.

Finally, it is important that I proposed a necessary and not a sufficient condition for seeing. Stating a sufficient condition for seeing is a notoriously difficult task[38] and I am not certain that the appeal to sensorimotor contingencies will help. All I argued for was a necessary condition for seeing an object. As there are other necessary conditions for seeing, failing to satisfy the necessary condition I proposed is only one possible reason why a process can fail to count as seeing. If I see a hologram of an object, I may not literally see this depicted object, in spite of the fact that the necessary condition this paper is about may be satisfied.

V. Sensorimotor contingencies and photographs

If it is indeed a necessary condition for seeing that there must be a way for the perceiver to move such that if she were to move that way, her view of it would be change continuously as she moves, then we do not see objects

through photographs. When I am looking at a photograph of an apple, it is not true that if I were to move around, my view of the apple would be different. If I were to move around, my view of the *photograph itself* would indeed be different, but not that of the photographed object. The same point is true of pictures in general: if I were to look at a picture from elsewhere, my view of the depicted object would not change (although my view of the picture itself would and does change.[39]

Regardless of how wildly I move around in front of the photograph, it is not possible to see the photographed object from a different angle. I can of course see the photograph from a different angle, even from an angle from which I cannot see anything in it, but as long as I see the photographed object in the picture, I will see it from the very same angle. If one looked at the photograph from a different vantage point, the objects in the photograph would still look the same.

One may raise the following objection. As all that is required for the necessary condition to be satisfied is that we find *one possible way for the perceiver to move* such that if she moved that way, her view of the photographed object would change continuously as she moves. But then one may wonder whether this weak condition could still be satisfied by seeing things in photographs. Suppose that I am looking at a photograph of the Eiffel Tower. One may admit that if I were to move around in front of the photograph, my view of the Eiffel Tower would still be the same. But if I were to fly to Paris and looked at the Eiffel Tower from Palais de Chaillot, my view of it would indeed be different. So maybe seeing things in photographs does satisfy the necessary condition I have been proposing.

My response is that the necessary condition is not satisfied. Remember that the necessary condition I proposed was that there is a way for the perceiver to move such that if she were to move that way, her view of it would be change *continuously as she moves*. This last phrase was added in order to prevent this necessary condition to be vacuously true. What it means is that the perceiver's view changes while she keeps her eyes on the perceived object. Small changes in the perceiver's vantage point would bring about small changes in her view of the perceived object. And this is clearly not true in the case of travelling to Paris to look at the Eiffel Tower from a different angle: my view of the Eiffel Tower would not change continuously. Even if I were to bring the photograph with me and look at it on the plane and in the cab to Palais de Chaillot, when I look up from the photograph, my view of it would not change continuously at all. In fact, in order to look up from the photograph and see the Eiffel Tower from Palais de Chaillot, I would need to take my eyes off the Eiffel Tower as depicted in the photograph. This transition is not continuous at all.

Take the following, somewhat similar case that could be thought to be problematic for my account for similar reasons. Suppose that I am at an exhibition where dozens of photographs of the Eiffel Tower are exhibited

in a large room. They are all taken from different angles. Isn't the necessary condition I am proposing satisfied in this scenario? One could be tempted to say that it is: if I were to move my head to look at another photograph, I would see the Eiffel Tower from a different angle: my view of it would change. In fact, the right answer is that it isn't. No matter how I moved my head in that room, my view of the Eiffel Tower would not change continuously as I moved. It would change all right, but it would not change continuously; thus, my necessary condition is not satisfied. It is not the case that I keep my eyes on the Eiffel Tower as my view of it changes. I have to take my eyes off the Eiffel Tower as depicted in the first photograph in order to look at the Eiffel Tower as depicted (from a different angle) in the second photograph. The way my view changes is not at all continuous.

One may worry that the only purpose this addition of continuous change to my necessary condition serves is to rule out counterexamples of this kind. I disagree. We have seen that without this addition of continuous change, the necessary condition for seeing would be satisfied by hallucination. And in those cases that motivated the main idea of sensorimotor contingencies, the general idea that the way we move around the perceived object must influence the way the perceived object appears to us, this necessary condition is satisfied: as we move around an object, our view of it changes *continuously*.

Another important objection to my argument is the following.[40] The necessary condition I argued for above does rule out that we see through photographs. But suppose that at some point we can make three-dimensional photographs: we can make a three-dimensional replica of, say, Barack Obama giving his acceptance speech – a photographic equivalent of the wax figures at Madame Tussauds. Would we see through these three-dimensional photographs?

The necessary condition I discuss above does not rule out these cases: when we are looking at this three-dimensional photograph, there is a way for us to move such that if we were to move that way, our view of the photographed scene would change: if I were to look at the three-dimensional photograph from the opposite side, I would see the other profile of the photographed person. Further, my view of it would even change continuously: if I were to move just a bit to the left, my view would change just a bit, while I would keep my eyes on the photographed object. Of course my proposed condition is supposed to be a necessary and not a sufficient condition – there may be some other necessary condition that is not satisfied in the case of seeing three-dimensional photographs. But the fact that my necessary condition is satisfied by three-dimensional photographs while not satisfied by two dimensional ones may suggest that this necessary condition is slightly *ad hoc* in the sense that it does not say anything important about the perception of

photographs in general (as it is designed to rule out seeing through two dimensional photographs).

This is an important observation and it highlights that there are many perceptual episodes that satisfy this necessary condition and that we may nonetheless not want to take to be instances of genuine perception. Take the perception of figurative sculptures, for example. When I am looking at the Venus of Milo, do I see the Goddess represented by the sculpture? Probably not (at least if we accept that we cannot see fictional characters), but the necessary condition I have been arguing for is still satisfied: there is a way for me to move such that if I were to move that way, my view of the Venus of Milo would change continuously. The necessary condition for seeing does not rule out that we literally see what is represented by sculptures.

This highlights how weak my necessary condition really is. My strategy was to find a very weak necessary condition for seeing that is nevertheless not satisfied by seeing the photographed object. There are, of course, lots of necessary conditions for seeing an object, some more interesting than others. I do not take the one I have proposed above to be particularly interesting – it is only interesting in as much as while all examples of seeing satisfies it, seeing photographed objects does not.

We may be able to give a stronger necessary condition that would not be satisfied by seeing objects represented by sculptures and three-dimensional photographs.[41] This may be a more interesting necessary condition than the one I have proposed above, as it may be closer to a necessary and sufficient condition. But the aim of this paper is not to give a necessary and sufficient condition for seeing. It is not even to give a particularly interesting necessary condition for seeing. The aim of the paper was to give a very weak necessary condition that is nonetheless not satisfied by seeing through photographs.

VI. Conclusion

In Jean-Luc Godard's film *Les Carabiniers* there is a scene that could serve as an example for demonstrating the gist of my argument. A soldier enters the cinema for the first time in his life. We see an almost naked woman preparing to take a bath on the screen. She walks out of the frame to the left. The soldier does not want to lose sight of her, so he walks through the seats towards the right side of the cinema – as if the screen were a window. The woman comes back and sinks into the bathtub; the soldier climbs on his seat to peep into the bathtub, and so on.

What is funny about the sketch is that the soldier seems to think that the way he moves influences how the woman would look: he assumes that the same 'sensorimotor contingencies' are in place with regards to seeing

objects on the screen as with regards to everyday seeing. He seems to have expectations that if his spatial position were different, the woman on the screen would look different to him. What makes Godard's scene funny is that we all know that the soldier is wrong. The 'sensorimotor contingencies' that are necessary for our everyday seeing are missing from seeing things on film.

I argued that it is a necessary condition for literally seeing that there is at least one way for the perceiver to move such that if she were to move that way, her view of the perceived object would change continuously. In the case of seeing through photographs, this necessary condition is not satisfied: the way the perceived object looks would be the same no matter where one looked at it from. Therefore, seeing through photographs is not literally seeing: photographs are not transparent.

We have seen that photographs have a special ontological (and epistemic) status among pictures. Photographs carry information about what they are the photographs of: they could not exist or they could not be the way they are if what they are of did not exist. As we have seen, seeing a photograph of my partner's cheating on me counts as evidence that she did cheat on me in a way that seeing a sketch of my partner's cheating on me would not. Note, however, that nothing follows from these claims with regards to the nature of our *experience* of photographs. Ontology and phenomenology are two very different things and the former does not (necessarily) determine the latter.

Thus, the ontological (and epistemic) considerations about photographs do not imply that we see through photographs in the same sense as we see through binoculars. I intended to point out that there is a very important difference between seeing through photographs and seeing through binoculars: the latter requires that there is a way for the perceiver to move such that if she were to move that way, her view of the perceived object would change continuously, whereas the former does not. Seeing through photographs is in this sense more similar to seeing something in a painting: in neither case is the necessary condition I proposed satisfied. Thus, although there may be very important differences between the ontology (and epistemology) of photographs and paintings, our experiences of them are very similar: both are 'seeing in'.[42]

Department of Philosophy
University of Antwerp
University of Cambridge

NOTES

[1] Walton, Kendall (1984). 'Transparent Pictures. On the Nature of Photographic Realism', *Critical Inquiry* 11, pp. 246–77; Walton, Kendall (1997). 'On Pictures and

Photographs. Objections Answered', in R. Allen and M. Smith (eds.) *Film Theory and Philosophy*. Oxford: Oxford University Press, pp. 60–75; Lopes, Dominic McIver (2003). 'The Aesthetics of Photographic Transparency', *Mind* 112, pp. 433–48.

[2] Grice, H. P. (1957). 'Meaning', *Philosophical Review* 66, pp. 377–88; see also Walton, 1984.

[3] Dretske, Fred (1981). *Knowledge and the Flow of Information*. Cambridge, MA: MIT Press.

[4] See Meskin, Aaron and Cohen, Jonathan (2008). 'Photographs as Evidence', in S. Walden (ed.) *Photography and Philosophy: Essays on the Pencil of Nature*. New York: Blackwell, pp. 70–90, on the way in which photographs furnish evidence.

[5] See Walton, 1997, Section 2.

[6] It is taken for granted in this literature that the photographs are not manipulated.

[7] Walton, 1984; Walton, 1997; Lopes, 2003.

[8] See, e.g. Walton, Kendall (1990). *Mimesis and Make-Believe. On the Foundations of the Representational Arts*. Cambridge, MA: Harvard University Press; Walton, Kendall (2002). 'Depiction, Perception, and Imagination: Responses to Richard Wollheim', *Journal of Aesthetics and Art Criticism* 60, pp. 27–35; Lopes, Dominic McIver (1996). *Understanding Pictures*. Oxford: Oxford University Press.

[9] What I mean by the concept of 'photographed object' is what the photograph is a photograph of. Patrick Maynard made an interesting distinction between what a photograph is a photograph of and what a photograph is a photographic *picture* of, where the latter may include properties or even entities the former does not; see Maynard, Patrick (1983). 'The Secular Icon: Photography and the Function of Images', *Journal of Aesthetics and Art Criticism* 42, pp. 155–69, at p. 162. As the proponents of photographic transparency seem to use the former notion, I will do the same.

[10] Lopes, 2003, p. 438, see also Walton, 1984, p. 251.

[11] Wollheim, Richard (1980). 'Seeing-as, Seeing-in, and Pictorial Representation', in *Art and its Object*, 2nd edn. Cambridge: Cambridge University Press, pp. 205–26; Wollheim, Richard (1998). 'On Pictorial Representation', *The Journal of Aesthetics and Art Criticism* 56, pp. 217–26; Nanay, Bence (2005). 'Is Twofoldness Necessary for Representational Seeing?', *British Journal of Aesthetics* 45, pp. 263–72; Nanay, Bence (2010). 'Inflected and Uninflected Perception of Pictures', in C. Abell and K. Bantilaki (eds) *Philosophical Perspectives on Depiction*. Oxford: Oxford University Press, pp. 181–207.

[12] Walton, 2002, p. 33; see also Walton, Kendall (1991). 'Reply to Reviewers', *Philosophy and Phenomenological Research* 51, pp. 423–7, at p. 423; Walton, 1990, pp. 300–1. On the similarities and differences between Wollheim's and Walton's notion of twofoldness, see Nanay, Bence (2004). 'Taking Twofoldness Seriously. Walton on Imagination and Depiction', *Journal of Aesthetics and Art Criticism* 62, pp. 285–9.

[13] Lopes, 1996; Lopes, Dominic McIver. *Sight and Sensibility. Evaluating Pictures.* Oxford: Oxford University Press, 2005, chapter 1.

[14] Lopes, 2003, p. 440. Wollheim's definition of twofoldness is surprisingly similar: 'The seeing appropriate to representations permits simultaneous attention to what is represented and to the representation, to the object and to the medium' (Wollheim, 1980, p. 213).

[15] Walton's terminology is slightly different. He groups together seeing face to face and seeing through photographs under the label of *perceiving* (and not *seeing*): 'We could say that I *perceive* my great-grandfather, but do not *see* him, recognizing a mode of perception (seeing-through-photographs) distinct from vision' (Walton, 1984, p. 252). I will keep the more widespread terminology of seeing (see also Currie, Gregory (1991). 'Photography, Painting and Perception', *Journal of Aesthetics and Art Criticism* 49, pp. 23–9, at p. 23 on this

terminological ambiguity), but the argument I will give can be rephrased in the Waltonian terminology if we substitute the concept of 'literally perceiving' for 'literally seeing'.

[16] Currie, Gregory (1995). *Image and Mind: Film, Philosophy and Cognitive Science*. Cambridge: Cambridge University Press, chapter 2, esp. p. 70; Currie, 1991; Carroll, Noël (1995). 'Towards an Ontology of the Moving Image', in C. A. Freeland and T. E. Wartenberg (eds) *Philosophy and Film*. New York: Routledge, p. 71; Carroll, Noël (1996). *Theorizing the Moving Image*. Cambridge: Cambridge University Press, p. 62; see also Warburton, Nigel (1988).'Seeing Through "Seeing Through Photographs" ', *Ratio* (new series) 1, pp. 64–74. Another author who connects the idea of the ability to localize objects in one's egocentric space and the perception of depicted objects is Mohan Matthen, in the last chapter of Matthen, Mohan (2005). *Seeing, Doing and Knowing: A Philosophical Theory of Sense Perception.* Oxford: Oxford University Press.

[17] Walton, 1997, Section 2, esp. p. 70.

[18] Currie, 1995, p. 70; see also the suggestions in Cohen, Jonathan and Meskin, Aaron (2004). 'On the Epistemic Value of Photographs', *Journal of Aesthetics and Art Criticism* 62, pp. 197–210 for how Currie could respond to Walton's argument.

[19] Cohen and Meskin, 2004, section 2.

[20] Meskin and Cohen quote p. 66 of Currie's *Image and Mind* as their evidence for Currie's supposed doxastic commitments (Cohen and Meskin, 2004, p. 201). Note, however, that immediately after the sentence Meskin and Cohen quote, Currie goes on to introduce the concept of 'egocentric information' and the necessary condition he talks about from that point is that 'seeing provides us with egocentric information' (Currie, 1995, p. 66). This sounds very similar to Meskin and Cohen's own account.

[21] Cohen and Meskin, 2004, p. 205, see also Meskin and Cohen, 2008, section 2 and 3 for clarifications.

[22] Meskin and Cohen, 2008, 73.

[23] See Meskin and Cohen, 2008 for the discussion of a number of objections.

[24] Meskin and Cohen, 2008.

[25] For example, Robertson, L. C., Treisman, A. M., Friedman-Hill, S. R. and Grabowecky, M. (1997). 'The Interaction of Spatial and Object Pathways: Evidence from Balint's Syndrome', *Journal of Cognitive Neuroscience* 9, pp. 691–700.

[26] See, for example, Jeannerod, Marc (1997). *The Cognitive Neuroscience of Action.* Oxford: Blackwell; Jacob, Pierre and Jeannerod, Marc (2003). *Ways of Seeing. The Scope and Limits of Visual Cognition.* Oxford: Oxford University Press; Goodale, M. A. and A. D. Milner (2004). *Sights Unseen.* Oxford: Oxford University Press.

[27] See esp. footnote 10 of Meskin and Cohen, 2008.

[28] Morrison, J. D. and Whiteside, T. C. D. (1984). 'Binocular Cues in the Perception of Distance of a Point Source of Light', *Perception* 13, pp. 555–66; Viguier, Alain, Clément, Gilles and Trotter, Yves (2001). 'Distance Perception Within Near Visual Space', *Perception* 30, pp. 115–24.

[29] Lewis, C. I. (1929). *Mind and the World-Order: Outline of a Theory of Knowledge.* New York: Charles Scribner's Sons; Lewis, C. I. (1946). *An Analysis of Knowledge and Valuation.* La Salle, IL: Open Court; Noë, Alva (2002). 'On What We See', *Pacific Philosophical Quarterly* 83, pp. 57–80; Noë, Alva (2003). 'Causation and Perception: The Puzzle Unravelled', *Analysis* 63, pp. 93–100; Noë, Alva (2004). *Action in Perception.* Cambridge, MA: MIT Press.

[30] See esp. Noë, 2003; Noë, 2004; Noë, Alva (2006). 'Experience of the world in Time', *Analysis* 66, pp. 26–32; see also Clark, Andy (2006). 'Cognitive Complexity and the Sensorimotor Frontier', *Proceedings of the Aristotelian Society Supplementary Volume* 80, pp. 43–65; Clark, Andy (2006). 'That Lonesome Whistle: A Puzzle for the Sensorimotor Model of Perceptual Experience', *Analysis* 66, pp. 22–25.

[31] This also applies to the rest of the paper: when I write 'perception', it is to be read as 'visual perception'.

[32] The way the object I am looking at appears can of course change even if I don't move at all. If I stay where I am but the object I am staring at moves towards me, the way it appears to me changes significantly. This phenomenon is fully consistent with the necessary condition I am proposing.

[33] The condition I have proposed is supposed to be a necessary condition for seeing. So it is possible that while hallucination satisfies this necessary condition, it fails to satisfy some other necessary condition and that is why it does not count as seeing. Nonetheless, if hallucination automatically satisfies a necessary condition for seeing, we have good reasons to worry that this necessary condition is too weak to play any important explanatory role.

[34] Clarke, Thompson (1965). 'Seeing Surfaces and Physical Objects', in M. Black (ed.) *Philosophy in America*. Ithaca, NY: Cornell University Press, pp. 98–114; Strawson, P. F. (1979). 'Perception and its Objects', in G. F. MacDonald (ed.) *Perception and Identity: Essays Presented to A. J. Ayer with his Replies*. Ithaca, NY: Cornell University Press, pp. 41–60.

[35] Lewis, David (1973). *Counterfactuals.* London: Blackwell.

[36] Note that if I can't move my eyes either, then we may have to conclude that I don't see the object in front of me, but the reasons for that have nothing to do with the necessary condition for seeing I argued for here. It was discovered almost two hundred years ago that if the sensory stimulation on our retina does not change (if we have what is called a 'stabilized retinal image'), then we no longer see anything (see Heckenmueller, E. G. 'Stabilization of the Retinal Image: A Review of Method, Effects and Theory', *Psychological Bulletin* 63, pp. 157–69 for a classic overview). This phenomenon can be demonstrated easily, if we press a penlight gently against our closed eyelid. If we move the light source, the shadows of the blood vessel of the eyelid are clearly visible. Once the light source is stilled, the image of the blood vessel shadows disappears immediately. In general, it is an important feature of visual perception that if the retinal image remains the same even for a short time, we cease to have any visual experience. We can have visual experiences only if our retinal image changes continuously – normally as a result of saccades or micro-movements of the eye; see Findlay John M. and Gilchrist Iain D. (2003). *Active Vision: The Psychology of Looking and Seeing.* Oxford: Oxford University Press, for an excellent summary. If this is true, however, then one cannot be in a perceptual state if one's retinal image is stabilized. The change in our sensory stimulation is another necessary condition for seeing, and this is the necessary condition that is not satisfied if I can't move my eyes.

These considerations may also help us to address a possible objection to my account (I am grateful to an anonymous referee for raising this worry). Suppose one had ordinary visual perception of an object, but a malicious angel made it the case that no matter where one moved, one would retain the original visual impression. So it would not be the case that if the perceiver were to move in a certain specific way, her view would change. So the counterfactual condition would not hold. So it would follow from my account that this perceiver is not a perceiver at all. Depending on the way the details of this objection are cashed out, we may indeed be well advised to endorse the seemingly counterintuitive conclusion. If the malicious angel made me retain the original sensory stimulation, then, because of my stabilized retinal image, I would not experience anything at all. Thus, we would be justified in concluding that in this specific scenario, the subject would not perceive anything at all.

[37] The same point applies in the much-discussed case of seeing objects under a microscope. Note that the vast philosophy of science literature on seeing objects under a microscope is mainly not about the nature of perception but about the nature of scientific realism; see, for example, Hacking, Ian (1985). 'Do We See Through a Microscope?', in P. M. Churchland and C. A. Hooker (eds) *Images of Science. Essays on Realism and Empiricism*. Chicago:

University of Chicago Press, pp. 132–52; Van Fraassen, Bas (1985). 'Empiricism in the Philosophy of Science', in P. M. Churchland and C. A. Hooker (eds) *Images of Science. Essays on Realism and Empiricism*. Chicago: University of Chicago Press, pp. 245–308; and Pacherie, E. (1995). 'Do We *See* with Microscopes?', *The Monist* 78, pp. 171–88 for a good summary. It is worth noting, however, that the arguments Hacking uses for establishing that we do see through a microscope are quite similar to the ones Carroll and Curie propose.

[38] See, for example, Grice, H. P. (1961). 'The Causal Theory of Perception', *Proceedings of the Aristotelian Society Supplementary Volume* 35, pp. 121–53; Strawson, P. F. (1974). 'Causation in Perception', in *Freedom and Resentment and Other Essays*. London: Methuen, 1974, pp. 66–84; Lewis, David (1980). 'Veridical Hallucination and Prosthetic Vision', *Australasian Journal of Philosophy* 58, pp. 239–49.

[39] See, for example, Vishwanath, Dhanraj, Girshick, Ahna, R. and Banks, Martin, S. (2005). 'Why Pictures Look Right when Viewed from the Wrong Place', *Nature Neuroscience* 8, pp. 1401–10; Pirenne, Maurice Henri (1970). *Optics, Painting, and Photography.* Cambridge: Cambridge University Press; Wollheim, 1980, pp. 215–216; Matthen, 2005, pp. 315–317.

[40] I am grateful to an anonymous referee of this journal for raising this important objection.

[41] A possible, very rudimentary, attempt is this: If S sees x, then there is a way for S to move such that if S were to move that way, her view of x would change continuously *and this change is not due to the fact that her view of another object, y (where y is not identical to x), also changes*. This necessary condition is not satisfied by seeing objects represented by sculptures and three-dimensional photographs. When I am looking at the Venus of Milo, it may be true that if I were to look at it from a different spatial position, my view of the Goddess would be different, but it would be different only because my view of the piece of marble is also different. Similar considerations apply in the case of seeing through three-dimensional photographs.

[42] I am grateful to Dominic Lopes and Aaron Wolf for comments on earlier versions of this paper and to Aaron Meskin and Jonathan Cohen for discussion of their account. I am also grateful for the participants of my PhD seminar at Syracuse University. Finally, I'm very grateful for excellent comments by two referees of this journal.