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Seeing in Mirrors, Without Seeing-in

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Abstract
Voltolini (J Aesthetics Art Criticisim, 79(3):315–327, 2021) has recently claimed that mirrors are *bona fide* pictures, for they are grasped via what he identifies as the defining characteristic of a picture: a certain seeing-in experience. Voltolini refines the somewhat elusive concept of seeing-in, originally described by Wollheim, and then demonstrates its applicability to mirror experience. However, in this paper, I contend that Voltolini's improved version of seeing-in does not aptly describe the experience of viewing mirrors. In fact, according to the first aspect of Voltolini's *reconceived seeing-in*, the configurational fold of a seeing-in experience must be an enriched perception of the picture's vehicle that grasps how the vehicle's elements are perceptually arranged. But, *contra* Voltolini, I argue that this does not hold true for the experience of looking at mirrors. Indeed, when looking at mirrors, we don't perceive the configuration as an organizational structure; our visual system does not represent, even unconsciously, the properties of the mirror's configuration as such. Mirror experience does not include an enriched perception of the picture's vehicle; it does not grasp how the vehicle's elements are perceptually arranged. My argument proceeds in two directions: firstly, through a phenomenological analysis of mirror experience and secondly, by corroborating these phenomenological observations with evidence from perceptual psychology. Thus, I conclude that if mirrors are to be considered *bona fide* pictures, it is not because they elicit a (reconceived) seeing-in experience.

Keywords Mirror experience · Seeing-in · Pictorial experience · Visual perception

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1 Introduction

Voltolini (2021) has recently claimed that mirrors are *bona fide* pictures, for they are grasped via what he identifies as the defining characteristic of a picture: a certain seeing-in experience. Voltolini refines the somewhat elusive concept of seeing-in, originally described by Wollheim, and then demonstrates its applicability to mirror experiences.[1] However, in this paper, I contend that Voltolini's improved version of seeing-in does not aptly describe the experience of viewing mirrors. In fact, according to the first aspect of Voltolini's *reconceived seeing-in*, the configurational fold of a seeing-in experience must be an enriched perception of the picture's vehicle that grasps how the vehicle's elements are perceptually arranged. But, *contra* Voltolini, I argue that this does not hold true for the experience of looking at mirrors. Indeed, when looking at mirrors, we don't perceive the configuration as an organizational structure; our visual system does not represent, even unconsciously, the properties of the mirror's configuration as such. Mirror experience does not include an enriched perception of the picture's vehicle; it does not grasp how the vehicle's elements are perceptually arranged. My argument proceeds in two directions: firstly, through a phenomenological analysis of mirror experience and secondly, by corroborating these phenomenological observations with evidence from perceptual psychology. Thus, I conclude that if mirrors are to be considered *bona fide* pictures, it is not because they elicit a (reconceived) seeing-in experience.

This discussion piece is divided into two parts. In Section I, I provide an overview of Voltolini's reconceived seeing-in and its application to mirror experiences. In Section II, I criticize its application to mirror experiences on both phenomenological and empirical grounds.

1.1 I. Voltolini on Seeing in Mirrors

As is well known, pictorial experience is defined by Wollheim (1980) as a "seeing-in" experience– when we face a picture, we see the picture's subject *in* a marked surface. And seeing-in experiences are experiences with a *sui generis* phenomenology, which he calls "twofoldness". A viewer looking at a picture, Wollheim maintains, undergoes a 'twofold' perceptual experience, a unique experience made out of two

[1] Voltolini's paper is situated within the debate about mirror experience and whether mirrors should be considered pictures. It can be regarded as the latest and arguably most developed account of what Mizrahi (2019, p. 4) defines as "the pictorialist view"– the view that specular perception involves some kind of seeing-in. In the first part of the paper, Voltolini (pp. 316–321) addresses the three main objections raised in the debate against the idea that mirrors are *bona fide* pictures (some scholars argue that mirrors are not pictures, while others suggest they qualify as *transparent pictures* in Walton's (1984) sense): (i) mirrors are not *opaque* pictures of their objects (Walton 1984); (ii) mirror are not pictures because mirror experience, unlike pictorial experience, lacks perceptual constancy (Casati 2012; Nanay 2011; Wollheim, 1980); and (iii) mirrors are merely transparent yet invisible media that allow one to see only a further object (which, in this case, does not lie behind the medium as is standardly the case with transparent media, but is instead in front of it– the causal source of the reflection) (Mizrahi, 2018, 2019). My discussion piece, while criticising Voltolini's view, can be seen as another arrow in the quiver of those objecting to the pictorialist view. However, I will not develop a full-fledged positive account of mirror experience here, as this would fall outside the scope of this discussion note and will be addressed in a future paper.

different folds, the configurational fold, in which one perceptually grasps the picture's vehicle, the physical basis of a picture, and the recognitional fold, in which one perceptually grasps the scene that a picture presents. Wollheim (1987, 2003) claims that these are two distinguishable but "inseparable" aspects of a single visual experience, and not two experiences somehow combined: for, says Wollheim (1987, 46), neither fold coincides with the corresponding perceptual experience, either of the picture's vehicle or of the picture's scene, taken in isolation; entertaining this experience amounts to entertaining a proper *fusion* experience, in which the two folds are interpenetrated. For the purposes of his article, Voltolini assumes that Wollheim's idea that the pictorial character of a picture lies in its peculiar twofold phenomenology is basically correct, provided that what the seeing-in experience amounts to is suitably reconceived. In fact, Voltolini (id., 322) claims that "Wollheim's characterization of seeing-in […] is admittedly elusive. […] One may certainly add that the recognitional fold depends on the configurational fold: if the latter did not exist, the former would not exist either (Hopkins 2008). But one may even go further in order to justify that dependence, by trying to understand what the above interpenetrability amounts to". And that's exactly what Voltolini aims to do in reconceiving seeing-in.

Voltolini's account basically involves two refinements of Wollheim's characterization. First, "the configurational fold of a seeing-in experience must be an *enriched* perception of the picture's vehicle that grasps *how* the vehicle's elements are perceptually arranged" (ibid.).[2] Second, by so doing, the configurational fold enables the recognitional fold of that very experience to emerge as a knowingly illusory perception of the scene it presents; namely, a perception of the vehicle *as* that very scene, yet known not to be that scene.[3]

Voltolini then argues that this experience is not only the experience that we entertain in front of traditional pictures, but also when we see in mirrors. He enlists four characteristics of mirror experience to support his claim. (1) First, an experience of seeing in a mirror involves a proper configurational fold like any other such experience. Yet, as regards mirrors, the picture's vehicle is not a material object per se, but is just the mirror surface as affected by a particular phenomenon of light reflection. (2) Second, just like any naturalistic picture (whether transparent or opaque), a mirror's vehicle is perceived but not noticed; it is affected by phenomenal but not by report awareness. Mirror experiences are twofold, even if only *weakly* twolfold (more on this in section II). (3) Third, what is (knowingly illusorily) perceived in the recognitional fold of a seeing-in experience with a mirror is a generic item (constituting its figurative content) just like any other picture. (4) Fourth, the mirror's vehicle is not the only item that is seen in the (configurational fold of the) seeing-in experience with a mirror. For, like any other picture, what is grasped in (the recognitional fold of) that seeing-in's experience, that is, what the picture presents, is seen as well, though knowingly illusorily.

[2] By enriched perception, Voltolini means that it is not merely the perception of a surface, but a perception enriched by the grasping of how the vehicle's elements are perceptually arranged.

[3] Voltolini (2021) justifies these two points at pp. 322–323. For his full-fledged theory and a detailed defence of it see also Voltolini, 2015.

While points (3) and (4) relate to the second refinement of Voltolini's reconceived seeing-in, (1) and (2) aim to prove that his first refinement also applies to mirror– that is, they aim to prove that mirror experience must be an enriched perception of the picture's vehicle that grasps how the vehicle's elements are perceptually arranged. However, I challenge this point. In the following section, I will examine (1) and (2) more closely and question their effectiveness in supporting Voltolini's first refinement of seeing-in for mirrors. Against Voltolini, I argue that the configurational fold of the experience of seeing in mirrors is not an enriched perception of the mirror's vehicle that grasps how the vehicle's elements are perceptually arranged. Instead, I suggest that seeing in mirrors is more akin to looking through a window than seeing-in a picture. In the case of a picture, our visual system indeed represents the configuration as an organizational configuration, but in the case of windows and mirrors such an enriched perception does not occur.

1.2 II. Seeing in Mirrors Without Seeing-in

In (1) Voltolini claims that

> an experience of seeing in a mirror involves a proper configurational fold like any other such experience. Yet, as regards mirrors, the picture's vehicle is not a material object per se, but is just the mirror surface as affected by a particular phenomenon of light reflection. This is not a specificity of mirror pictures. Other transparent pictures, such as movie screens, laptops, smartphones and TV monitors, work in this way. Even opaque pictures present similar cases of nonmaterial yet physical vehicles. Consider pointillist paintings or stereoscopic pictures. In both, the vehicle's material substrate counts less than the different phenomenon of light reflection working as the relevant picture's physical basis (id. 324).

And in (2) he reinforces this idea, claiming that mirrors like any other transparent picture– as the ones mentioned in (1)– "are grasped by seeing-in experiences that are *weakly* twofold (Lopes 1996): in their configurational fold, one perceives the pictures' vehicles but does not attend to the properties they instantiate" (ibid). Just as while watching a soccer match in TV, one may not notice the trapezoidal shape on the TV monitor presenting the rectangular shape of the penalty area in a soccer field, in facing a convex mirror one may not notice the particular smaller shape presenting a larger face. But that mirror experiences are weakly twofold, Voltolini claims, "does not mean that the perception of a mirror *qua* pictorial vehicle in that configurational fold is not an enriched perception of that vehicle, just as with any other picture. For again, in that configurational fold one must arrange the mirror's elements so as to allow a scene to be perceived in the recognitional fold of that experience" (ibid). And he justifies his claim saying that even mirrors display aspect-dawning pictures, i.e. Dalmatian-like cases. "In a water reflection just as in an old mirror, for a long while one can only see confused patches of color until one is able, in what amounts to be the configurational fold of a seeing-experience, to arrange them in a figure-ground way

that enables one to see, in what amounts to be the recognitional fold of that experience, a body in front of a background" (ibid).

In what follows, I do not challenge the idea that mirrors involve a configurational fold *tout court*. Instead, I dispute the claim that the configurational fold of mirror experience must be an *enriched* perception of the mirror's vehicle that grasps *how* the vehicle's elements are perceptually arranged.[4] Before I present my main argument against Voltolini, I will first make some general remarks about points (1) and (2) and the similarities Voltolini identifies between the phenomenology of mirrors and that of other pictures.

My first remark concerns the category of transparent pictures. Voltolini compares mirrors and digital screens, but this comparison is flawed. As I will show below, these two types of surfaces offer different visual information and are processed differently by our visual system, likely leading to different visual experiences. My second remark concerns the case of pointillist paintings and stereoscopic pictures as examples of nonmaterial yet physical vehicles similar to mirrors. On one hand, it's debatable whether the surface of pointillist paintings is non-material– after all, we can clearly see color dots as marks on canvas, understanding how these dots combine to depict a specific object or scene. On the other hand, in stereoscopic pictures the material substrate really seems to count less than the phenomenon of light reflection as a physical basis. This is due to the nature and processing of optical information they provide, making the experience of viewing stereoscopic images more similar to that of mirrors than pictures (in Voltolini's sense).

The third remark criticizes Voltolini's defence of the "enriched perception view" of mirrors using examples of convex mirrors and reflections in water or old mirrors. These examples, in fact, fall outside the typical, paradigmatic, definition of a mirror. Convex mirrors and water reflections present unique visual effects distinct

[4] In fact, I believe it is undeniable that mirror perception exhibits a constructive aspect involving both its 2D object– the mirror itself– and the 3D object seen through it. This becomes apparent from the diverse reactions animals have when facing mirrors. Some animals, like chimps and elephants, interact with mirrors as humans do, as shown by their success in the well-known self-recognition test (Gallup, 1970: they correctly identify a red cross marked on their heads by observing their mirror reflections). Other animals, such as cats, are deceived by their mirror image, mistaking it for a real trompe-l'oeil of another animal (they try to move behind the mirror to find the animal they think they see). Some other animals react to mirrors as they do to TV screens, seeing them as simple displays of irrelevant light reflections (thanks to Alberto Voltolini for raising this issue). However, the fact that mirrors have a visible surface differs from presenting a surface perceived as an organizational structure, that is, as a two-dimensional arrangement of color blobs and shapes, as Voltolini's reconceived seeing-in maintains. Instead, as I will discuss below, the surface is perceived, but it is seen as transparent, that is, as something we look through. This transparency, along with the fact that mirrors provide all visual cues– both monocular and binocular– related to the reflected scene, thus activating all mechanisms of depth perception (see below pp. 7–8), precisely explains why visuo-centric animals are initially fooled by mirrors (perceiving them only as three-dimensional scenes) and must learn how to interact with them, either ignoring them as irrelevant or using them as tools (see Parron 2018). Parron (2018) also notes a correlation between competence with mirrors and competence with pictures in primates, but it appears that animals more readily engage visually with mirrors than with pictures (de Waal, 2016). While the development of competence with mirrors has been studied more extensively on its own compared to competence with pictures or videos– though exceptions exist (see Parron 2018 for an overview)– it seems likely that animals are more easily fooled by and more inclined to engage with mirrors precisely because mirrors provide richer visual cues and, additionally, respond dynamically to changes in perspective.

from standard mirror experiences. Moreover, Voltolini includes "old mirrors" without describing their visual characteristics. For my purpose, it's enough to show that Voltolini's enriched-perception-view fails for standard mirror experiences, i.e. experiences of looking at the planar mirror everyone has in its bathroom. If his theory, at best, applies to a few atypical examples and not to the majority of mirrors we use, then it likely does not offer a valid explanation of mirror experiences. Let's examine then why the enriched-perception-view doesn't apply to standard planar mirrors. I will outline two main phenomenological claims, both supported by empirical data from vision science.

The first phenomenological consideration comes from the earlier third remark. In paradigmatic mirrors, it's impossible to encounter aspect dawning situations like the famous Dalmatian picture: we never experience the gradual emergence of aspects in planar mirrors. In paradigmatic mirror experiences one never perceives confused patches of color on the surface. Instead, one directly sees the virtual objects the mirror reflects within the mirror itself, not, and never, as patches of colors on a reflective surface.[5] To accurately capture the essence of mirror experiences, the most fitting description seems to be 'an experience of the (virtual) objects reflected by the mirror seen through (what seems to be) a transparent surface, even though we know is not a transparent surface'. If this description is accurate, and I believe it is, seeing in a mirror closely resembles looking through a window rather than seeing-in a picture. The surface of the mirror seems to serve only two perceptual roles: (i) framing, in the sense that the virtual space seen in the mirror is defined by the edges of a surface of certain dimensions and shape, and (ii) interfering, in the sense that if the surface is dirty or flawed, it disrupts our normal visual perception of the virtual scene. This interference is no different from how a dirty or flawed piece of glass or window affects the view they encompass (perhaps this is what Voltolini refers to when discussing old mirrors?).[6]

The second phenomenological consideration is a phenomenal contrast case: while in traditional pictures we can see the bidimensional surface as the 2D physical plane whose organizational structure allows for the construction of a three-dimensional

[5] I use the term "virtual object" in a philosophically neutral way here, similar to psychologists like Bertamini. It simply means "what we see in the mirror".

[6] It may seem unlikely that, if mirror perception involved a perception of transparency, it would include a virtual object rather than the object directly facing the mirror, as proponents of this idea typically claim (Mizrahi, 2018, 2019; Yetter-Chappell, 2018). Normally, first, one appeals to virtual objects when one wants to defend a sophisticated version of the seeing-in theory, the one appealing to threefoldness (according to which in a pictorial perception one experiences i) the picture's vehicle, ii) the image-object vs. its virtual object, and iii) what the picture is about (Husserl 2006, Nanay, 2018). Second, the virtual object I appeal to seems to be precisely the kind of object that according to Voltolini the mirror *qua* picture presents as its Wollheimian picture's subject; namely, the object that (knowingly illusorily) looks to be behind the mirror. Yet, my concept of transparency here is less demanding: I am arguing that, phenomenologically, seeing in mirrors creates a transparency effect (Metelli, 1974), similar to looking through a window. We see something behind something else. This is how we should describe our experience. The visual experience of seeing in a mirror is like seeing something behind a glassy surface. This is all I am asserting, and this assertion is enough to criticize Voltolini's view that the surface of a mirror is perceived as an organizational structure. Investigating the connection between the concepts of transparency and virtual object, which I believe would be fruitful, will be addressed in another paper. Thanks to Alberto Voltolini for pointing this out and helping me clarify my view.

scene, this seems unattainable with mirrors. No matter the effort, it's impossible to view the mirror's surface as a two-dimensional layout that the visual system arranges in specific ways to project a three-dimensional scene beyond it. In simpler terms, objects seen in the mirror do not seem to have any significant link to the surface hosting them– our visual experience places them in a virtual space behind what appears to be a glassy barrier, without suggesting that this virtual space is shaped by the glassy surface enabling its perception. Essentially, the mirror's surface cannot be seen, at the perceptual level, as the plane that originates the virtual scene. This observation aligns with Gombrich's insight in *Art and Illusion* about the perception of our own head in mirrors. Gombrich (1960, 5) points out that we see ourselves in mirrors without any conscious awareness of the size of the image on the mirror surface. He suggests a little demonstration on the fogged-up mirror of our bathroom. If we circle the outline of our own head we will be amazed to discover that it is much smaller than our head. Indeed, it is exactly half, independently of distance. To Gombrich, this is an example of an illusion in the sense that we are only aware of seeing ourselves face to face and we stubbornly refuse to see the size on the mirror surface. But it could also be taken to support the claim that people cannot see the mirror surface as the flat plane that originates the virtual scene. And, indeed, this point is exactly further backed by psychological research initiated by Bertamini and colleagues, inspired by Gombrich's observations.[7] As Jones and Bertamini put it "mirrors present us with a visual world as rich as what we see through a window, while at the same time we are aware that they are two-dimensional surfaces. Since they are flat they must also have flat images on them, like a painting, although *there is evidence that these flat projections cannot be perceived*" (Jones & Bertamini, 2007). In Lawson et al. (2007), for example, four experiments investigated judgments of the size of projections of objects on the glass surface of mirrors and windows. The errors produced for these conceptual questions were similar to those found in the perceptual estimation tasks.[8] The authors conclude that "[t]ogether, these results suggest that projections of objects on mirrors and windows are treated in the same way and that observers cannot perceive such projections as distal objects" (id. 1027). In other words, these experiments tested whether people could see the mirror surface as the plane originating the reflection, and people could not: "there is no percept for the 2-D projection on the surface of a mirror" (Lawson et al., 2007, 1028). This is clearly in contrast with Voltolini's claim that mirror experience must be an enriched perception of the surface *qua* organizational structure.

[7] See, in particular, Bertamini & Parks, 2005; Jones & Bertamini, 2007; Lawson et al., 2007.

[8] In the perceptual estimation tasks conducted by Lawson et al. (2007), participants were asked to judge both the physical size of objects and the size of their projections on mirrors or windows. Despite extensive clarifications– such as explaining that projection size referred to the apparent outline of the object on the surface of the mirror or window– participants consistently overestimated projection sizes. This confusion arose partly because projections were often perceived as equivalent to the physical size of the objects, highlighting the difficulty of treating projections as distinct visual entities. These findings demonstrate the challenges inherent in distinguishing between an object's physical dimensions and its two-dimensional projection. For the authors, these findings suggest that when people see a stick through a mirror (or a window), they never perceive a small image of the object on the 2-D glass surface. Hence although people can accurately estimate the physical size of either the glass or the object, they cannot accurately extract the size of the projection of the object on the surface of the mirror.

I conclude with additional data from perceptual psychology that I think further support my main argument against Voltolini's enriched-perception-view– and, parallelly, evidencing the fundamental difference between how we perceive pictures and how we perceive reflections in mirrors. This difference in visual phenomenology, I claim, stems from how our visual system processes information from these two distinct types of surfaces differently. Mirrors, obeying the optical laws of light reflection, offer all visual cues– both monocular and binocular– related to the reflected scene, thereby activating all mechanisms devoted to depth perception. In contrast, the spatial depth in pictures relies solely on monocular cues. As Jones and Bertamini (2007, 1572) put it, "the virtual world in a mirror provides all the depth cues of the real world, including binocular disparity, and is fundamentally unlike pictorial representations". In pictures, binocular cues merely inform us about the two-dimensional surface, while monocular cues are tasked with constructing the three-dimensional scene depicted (Briscoe, 2016). This results in a conflict between cues representing the surface and the scene, which is likely at the heart of the unique phenomenology of seeing-in images, characterized by its dual nature (see Niederee and Heyer 2003; Kulvicki 2014; Briscoe, 2016).[9] In the experience of looking into a mirror, as when seeing through windows, no conflict exists between the visual cues of the reflected (for mirrors) or actual (for windows) scene; both monocular and binocular cues converge on the same object, the virtual scene within the mirror or the actual scene seen through the window. The similarity between seeing in mirrors and seeing through windows is also grounded in another perceptual fact related to depth cues: while monocular cues alone do not provide absolute information about depth but only relative depth with respect to other objects in the environment, binocular cues– i.e. binocular disparity, convergence and accommodation– provide absolute depth cues, that is absolute distance information. In essence, seeing in mirrors aligns more with seeing through a window because the visual system encodes the virtual scene seen in the mirror in the same way to how it perceives scenes directly.[10] Ordinary pictures, on the contrary, only approximate direct vision.[11]

These final considerations, along with the arguments challenging the notion of treating the perception of a mirror's surface as an enriched perception of an organizational structure, firmly oppose the idea that seeing in mirrors constitutes a form of seeing-in– at least, if the concept of seeing-in is carefully redefined according to Voltolini's perspective. *Pace* Voltolini, if mirrors are pictures, this is not because they elicit a (reconceived) seeing-in experience. We see in mirror, sure, but without seeing-in.

[9] This conflict could have neurological underpinnings too: Matthen (2005) and Nanay (2011) have independently suggested that while the surface of an ordinary picture is represented also by the dorsal stream, the 3D scene is represented only by the ventral stream.

[10] This is also why the phenomenology of stereoscopic images, today vastly exploited in VR headsets, seems to be closer to that of mirrors or direct natural vision, rather than twofold picture perception. Cf. Marchetti (forthcoming).

[11] If this is not enough, note that some psychological studies also confirm that size and distance are not altered in a mirror, contrary to what happens in ordinary pictures (Higashiyama & Shimono, 2004).

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Declarations

Conflict of Interest The authors declare that they have no conflict of interest.

References

Bertamini, M., & Parks, T. E. (2005). On what people know about images on mirrors. *Cognition*, *98*(1), 85–104.

Briscoe, R. (2016). Depiction, pictorial experience, and vision science. *Philosophical Topics*, *2*, 43–81.

Carole, P. (2018). Pictorial competence in primates: A cognitive correlate of mirror self-recognition? In Vol. 10). In Mark Burke and Maurice Ptito (Eds.), *Primates*. IntechOpen: 85–116.

Casati, R. (2012). Mirrors, illusions and epistemic innocence. In C Calabi (Ed.), *In Perceptual Illusions*, (pp. 192–201). Basingstoke: Palgrave.

De Waal, F. (2016). *Are we smart enough to know how smart animals are?* WW Norton & Company.

Gallup, G., & Gordon (1970). Chimpanzees: Self-recognition. *Science*, *167*(3914), 86–87.

Gombrich, E. (1960). *Art and Illusion*, New York, Pantheon Books.

Higashiyama, A., & Shimono, K. (2004). Mirror vision: Perceived size and perceived distance of virtual images. *Perception & Psychophysics*, *66*, 679–691.

Hopkins R. (2008). What Do We See in Film? *The Journal of Aesthetics and Art Criticism*, *66*:149–159.

Husserl, E. (2006). *Phantasy, Image Consciousness, Memory*. Translated by John B. Brough. Dordrecht: Springer.

Jones, L. A., & Bertamini, M. (2007). Through the looking glass: How the relationship between an object and its reflection affects the perception of distance and size. *Perception*, *36*(11), 1572–1594.

Kulvicki, J. V. (2014). *Images*. Routledge.

Lawson, R., Bertamini, M., & Liu, D. (2007). Overestimation of the projected size of objects on the surface of mirrors and windows. *Journal of Experimental Psychology: Human Perception and Performance*, *33*(5), 1027–1044.

Lopes, D. (1996). *Understanding Pictures*. Oxford University Press.

Marchetti, L. (Forthcoming). *Seeing in VR*, Without Seeing-in. Estetika.

Matthen M. (2005). *Seeing, Doing, and Knowing*, Oxford-New York, Oxford University Press.

Metelli, F. (1974). The perception of transparency. *Scientific American*, *230*(4), 90–99.

Mizrahi, V. (2018). Perceptual media, glass and mirrors. In: C. Thomas & C. M., Cumhaill (Eds.), *In Perceptual Ephemera*, (pp. 238–59). Oxford University Press.

Mizrahi, V. (2019). Mirrors and misleading appearances. *Australasian Journal of Philosophy*, *97*, 354–367.
Nanay, B. (2011). Perceiving pictures. *Phenomenology and the Cognitive Sciences*, *10*:461–480.
Nanay, B. (2018). Threefoldness. *Philosophical Studies*, *175*, 163–182.
Niederée, R., & Heyer, D. (2003). The dual nature of picture perception. In R. Hecht, R. Schwartz, & M. Atherton (Eds.), *Looking into pictures* (pp. 77–98). MIT Press.
Voltolini, A. (2015). *A Syncretistic Theory of Depiction*. Palgrave Macmillan.
Voltolini, A. (2021). Seeing in mirrors. *Journal of Aesthetics and Art Criticisim*, *79*(3), 315–327.
Walton, Kendall L. (1984). Transparent pictures: on the nature of photographic realism. *Critical Inquiry*, *11*:246–277.
Wollheim, R. (1980). Sion. *Art and its objects* (2nd ed.). Cambridge University Press.
Wollheim, R. (1987). *Painting as an Art*. Princeton, NJ: Princeton University Press.
Wollheim, R. (2003). In Defense of Seeing-in. In H. Hecht, R. Schwartz, & M. Atherton (Eds.), *In Looking into Pictures* (pp. 3–15). The MIT Press.
Yetter-Chappell, H. (2018). Seeing through eyes, mirrors, shadows and pictures. *Philosophical Studies*, *175*(8), 2017–2042.