# Proceedings of the
# European Society for Aesthetics

Volume 9,  2017

Edited by Dan-Eugen Ratiu and Connell Vaughan

esa

# Proceedings of the European Society for Aesthetics

Volume 9, 2017

Edited by Dan-Eugen Ratiu and Connell Vaughan

## Table of Contents

iv

# Contours, Attention and Illusion

Alberto Voltolini[1]

*Department of Philosophy and Education Sciences, University of Turin, Italy*

ABSTRACT. In this paper, I want to hold two theses. First, in seeing-in, the emergence of the picture's subject in the recognitional fold is basically due to how in the configurational fold attention holistically operates on the pictorial vehicle's elements. This holistic work occurs by means of the 3D figure/ground segmentation attention applies to such elements in surrounding them with appropriate contours, either objective or subjective. Second, this attentional operation produces an illusory perception of the picture's vehicle as a 3D item, whose illusory character is both recognized as such and contributes to determine the overall perceptual phenomenal character of seeing-in. As such, that operation indeed induces, in the recognitional fold, a knowingly illusory perception of the picture's subject as well.

## Preliminaries

As is well known, the *sui generis* perception of *seeing-in* is for Wollheim (1980[2], 1987, 1998) the necessary and sufficient condition for something to have a figurative value, so as to (possibly) also be a *depiction*, i.e., a representation endowed with that value. Seeing-in has for Wollheim a proprietary character because it is a *twofold* experience. In its folds, the *configurational* and the *recognitional* fold, one is simultaneously aware, respectively, of the picture's *vehicle*, the picture's physical basis, and of the picture's *subject*, what the picture presents, i.e., a certain 3D scene. Such folds are inseparable, for neither of them coincides with the perception of its object (the vehicle and the subject respectively) taken in isolation. Besides, the second fold depends on the first one: one would not grasp the picture's subject if one did not grasp the picture's vehicle (Hopkins 2008).

---

[1] Email: alberto.voltolini@unito.it

_____

Wollheim's theory has been often criticized, basically because i) it seems unable to explain how seeing-in can properly have a *perceptual* character and ii) it is not clear how it can be a *twofold* experience, in that those folds content mobilizes incompatible determinations respectively ascribed to the picture's vehicle and to the picture's subject: ultimately, how can it simultaneously be the perception of something flat and of something threedimensional? (Hopkins 2010, 2012, Chasid 2014, Nanay 2016, Briscoe 2017)

In order to find an answer to both worries, one must explain how the recognitional fold arises out of the configurational fold, so that, as Wollheim says, the two folds are inseparable. In order to do so, one must also show how it is that in seeing-in, the perception of the picture's vehicle is no longer the same as the perception of that item taken in isolation.

With this purpose in mind, I want to hold two theses. First, in seeing-in, the emergence of the picture's subject in the recognitional fold is basically due to how in the configurational fold attention holistically operates on the pictorial vehicle's elements. This holistic work occurs by means of the 3D figure/ground segmentation attention applies to such elements in surrounding them with appropriate contours, either objective or subjective. This answers the second worry. Second, this attentional operation produces an illusory perception of the picture's vehicle as a 3D item, whose illusory character is both recognized as such and contributes to determine the overall perceptual phenomenal character of seeing-in. As such, that operation indeed induces, in the recognitional fold, a knowingly illusory perception of the picture's subject as well. This answers the first worry.

## 1. Contours and Attention

In order for a 2D item to count as a *pictorial* vehicle, i.e., something that is endowed with a figurative value, while perceiving it its elements *must* undergo a certain grouping operation, in particular a figure/ground segmentation in the *third* dimension. In other words, not a mere *ground* – *pace* Hyman (2006) – but a *back*ground for some of its elements, is

perceptually needed in order to let the 2D item count as a pictorial vehicle, so as to be endowed with a figurative value.

To show that this is the case, one may note that, in order to so perceive a 2D item it is not enough to group its elements in a certain 2D way; one must group them in terms of a figure-ground 3D segmentation. For instance, in the case of the Kanizsa triangle, in order for this item to count as a pictorial vehicle so as to be endowed with a figurative value, one must not merely see a 2D triangle to be nested within three other 2D triangles and three black 2D pacman-like figures. Rather, one must see a white triangular body as partially *occluding* both another such body and three pacman-like bodies that stand *behind* it. 'Aspect dawning' pictures vividly show this point as well. In order for a series of black and white spots to count as the vehicle of the picture of a Dalmatian, in one's perception of it one must group such spots in a certain 3D way: in that perception, some of such spots are seen to lie in front of some others that are instead seen to recede in the background. Thus, 'aspect dawning' pictures *diachronically* show what wrt other pictures *synchronically* occurs in their perception; namely, this pictorially necessary sort of figure-ground 3D segmentation. Hyman's purported main counterexample, so called stick figures, are actually no exception. In order for such a figure to count as a picture, its character must be seen as standing in front of a background that recedes from it.[2]

Thus, *contours* delimiting what in a picture's vehicle is seen to lie in front and what is seen to stand behind are the elements that such a 3D figure-ground grouping operation makes perceptually salient in a *picture* perception. Yet for such purposes it is neither necessary nor sufficient that such contours materially belong to the vehicle, i.e., are actually traced marks on the picture's surface. Such *objective* contours are indeed not sufficient, for sometimes marked 2D lines just divide a certain 2D figure from the remaining elements of the 2D item one faces, without that any pictorial organization emerges out of it. Consider e.g. the Mach figure. Even if the figure is *perceptually* ambiguous, for (depending on the way one groups its elements) by looking at it one sees either a diamond or a tilted square, it is

---

[2] Cf. Hyman (2012:116). The same can be said as to the other counterexamples Hyman proposes: Mesolithic paintings, ancient Greek decorations (2006:133–6).

not *pictorially* perceptually ambiguous, as e.g. is the case with the Rubin's vase. For unlike the latter, its objective contours lead to no 3D figure-ground segmentation. Yet objective contours are also not necessary, for sometimes such contours are *subjective* (Lopes 1996:3): they are not actually traced and yet a pictorial organization arises. This typically occurs in the case of the Kanizsa triangle. In its vehicle, a white triangular silhouette perceptually arises as lying *in front of* both another such silhouette and certain black pacman-like silhouettes, even though no contour is actually traced, in particular to distinguish between white parts of the vehicle going along with the original triangular silhouette and white parts of the vehicle going along with the *background* to which the pacman-like silhouettes belong; just a subjective contour arises. The same also occurs in the case of the picture of a Dalmatian, in whose vehicle the contours separating a canine silhouette from the background are, unlike those of its black and white spots, subjective.

As a result, something other from objective contours must enact the grouping 3D segmentation operation. This factor is *attention*, in particular when it works, as Jagnow (2011) says, in a *holistic* way, by operating on the relevant 2D item as a whole and producing a certain global 3D-based reorganization of it. To stick to the example Jagnow himself provides, consider the ways in which, in the very same pictorially perceptually ambiguous figure made of a square divided into nine cells, one sees either a X-shaped body *in front of* the remaining cells or a diamond-shaped body *in front of* the other remaining cells. If attention here worked locally, as a mere spotlight illuminating just certain adjacent parts of the figure, no such pictorially relevant Gestalt switch would arise. Rather, attention must be addressed to the picture's vehicle *as a whole*, so as to determine in this case the Gestalt switch that in its different pictorial readings captures the different properties of what turn out to respectively be that whole's different parts. Seeing *all* the figure's nine cells as oriented under a *certain* 3D figure-ground segmentation provides a *certain* pictorial reading of the figure, where certain cells count as a X-shaped body while other cells count as its background; seeing all such cells as oriented under *another* 3D figure-ground segmentation provides *another* pictorial reading of the figure, where

the latter cells count as a diamond-shaped body while the former cells count as its background. As such, holistic attention is a particular form of what Nanay (2016:24) considers to be the maximal form of *distributed* attention: an attention that is distributed both wrt objects and wrt properties.[3]

Once things are put this way, the second worry Wollheim's theory of pictorial perception faces is solved. Once, in virtue of the 3D grouping operation performed by holistic attention, the perception of the picture's vehicle in the configurational fold of seeing-in is taken as a perception also of 3D silhouettes in their spatial relationships, the content of that fold *matches* that of the recognitional fold of seeing-in, which includes a 3D scene as well. In other terms, when the perception of the picture's vehicle amounts to the configurational fold of seeing-in, it is no longer a perception of a mere flat item, as the perception of that vehicle in isolation, *qua* mere physical object among others, actually is, but a perception of an apparent 3D item, just as the apprehension of the picture's subject in the recognitional fold is the apprehension of something threedimensional. Let us now see how also the first worry Wollheim's theory of seeing-in must address can be solved.

## 2. Knowingly Illusory Perception

At this point, one might object that the apprehension of the picture's vehicle so reconfigured in the configurational fold of the seeing-in experience has no proper perceptual, but just an imaginative, character. In other terms, one may hold that the ascription of a 3D value to the 2D vehicle's elements is just a matter of mental imagery.

Yet to begin with, it is hard to understand that apprehension in merely imaginative terms. 2D figures may be structurally reconfigured by means of subjective contours both in terms of a mere 2D restructuring and

---

[3] To be sure, for Nanay a paradigmatic case of this kind of attention is *wandering* attention: «our attention is all over the place: it is not fixated either on an object or on any given property: it wanders aimlessly» (2016:24). Yet holistic attention is not wandering, for it rather reshapes the scene it enables one to see both wrt its objects and wrt its properties, as Gestalt switches of the above kind clearly show.

in terms of a 3D restructuring, as in the above case of the Kanizsa triangle. In that case, as we saw above, by mobilizing such contours one can both see a 2D white triangle as nested within other 2D elements and a 3D triangular body as standing in front of other such bodies that it partially occludes. Now, there definitely is a phenomenal change between the mere 2D and the 3D restructuring. If both restructurings were a matter of mental imagery, it would be unclear how such a change can be accounted for; a shift in imagery seems too weak in this respect.

Moreover, the apprehension of the picture's vehicle so reconfigured definitely has a *perceptual* import, for two reasons at least. First, consider that the Gestalt switches occurring in the case of perceptually ambiguous pictures in virtue of different 3D figure-ground segmentations (e.g. the Rubin vase, or the Jagnow grid) are characterized by features that qualify any perceptual state (Block 2014): *exclusivity* (the multistable percepts in a Gestalt switch are not given simultaneously); *inevitability* (one interpretation in that switch will eventually replace another); *randomness* (the duration of one alternation in that switch is not a function of previous durations). Since the same kind of 3D figure/ground segmentation occurs also wrt the experience of ordinary pictures where just *one* such grouping operation occurs, as 'aspect dawning' pictures such as the Dalmatian paradigmatically show, the experience of such a segmentation definitely has a perceptual character in *any* pictorial perception.

Second, unlike spatial attention and focused attention in general, the *holistic* form of attention that, as we saw in the previous section, is involved in such groupings is *perceptually* relevant as wrll. Unlike those forms of attention, pace Pylyshyn (2003) holistic attention indeed works not under the first, but under the second of the following two models, which ascribes to attention a perceptual role (Stokes 2017):

a) Cognitive state → Attention-shift → Perceptual experience;
b) Cognitive state → Non-agential selective attention → Perceptual experience.

Now as is well known (e.g. Raftopoulos 2011), attention in general, hence

_____

holistic attention as well, may work either *exogenously*, i.e., as prompted by external environmental factors, or *endogenously*, i.e., as prompted by cognitive internal factors. This holds also in cases of pictorial perception. Many times, both with objective and with subjective contours, holistic attention is driven by so-called *depth cues*, which have to do not only with the locations but also with the forms of the marks that are actually traced (typically but not exclusively X- and Y-crossings) on the relevant 2D item that thereby counts as a pictorial vehicle (Zeimbekis 2015). Yet other times, typically when subjective contours are at stake, holistic attention is driven by cognitive conceptual contents. They prompt the quest for perceptually salient 3D silhouettes in the relevant 2D item that thereby comes to count as a *pictorial* vehicle, i.e., as something endowed with a figurative value. Since this endogenous form of attention plays only a *causal*, but not a *constitutive*, role wrt the picture's vehicle so grouped, it amounts to a mere *weak* form of cognitive penetration (Macpherson 2012). As many people hold (Jagnow 2011, Orlandi 2011, Raftopoulos 2011), the experience at stake (the configurational fold of seeing-in, in Wollheim's terms) indeed has just a nonconceptual concept articulated in terms of the silhouettes that result out of the relevant 3D-based grouping operation. In this respect, one may see the difference between the Kanizsa triangle and the picture of a Dalmatian. Although in both cases subjective contours are at stake, in the former case they become salient along with a certain pictorial organization because attention can exploit certain depth cues located in the picture's vehicle itself (the forms and the locations of black areas in the 2D item that constitutes such a vehicle), while in the latter case the pictorial organization becomes salient after the quest for a *Dalmatian* has started.

Yet the fact that holistic attention may be prompted either exogenously or endogenously does not undermine its perceptual way of working. However it is prompted, the fact that it entirely reshapes the item one faces, i.e., the picture's vehicle, has a perceptual value. The fact that holistic attention can be prompted either exogenously or endogenously prompted simply shows why the influence that is relevant for the perceptual apprehension of the relevant can come both from *within* the visual system and *outside* of it (Teufel-Nanay 2017). Indeed, it may be lost both because

_____

of exogenous and nonexogenous noises. An example of the first case is provided by Kanizsa (1979): once a picture of a parallepiped is nested within a jungle of other lines, one can no longer see the parallelepipedal silhoulette that was perceptually salient in that picture to arise out of the jungle. As to an example of the second case, consider a case of a reversal perceptually pictorially ambiguous picture. Once one reverses a perceptually pictorially ambiguous picture in which one can see either a Leninian character (in a top-down reading) or a Che Guevarean character (in a bottom-up reading), one tends to see just the 'Che' character (in a top-down reading) in it, although the spots constituting the picture's vehicle remain the same in terms of colours, shapes, and sizes.

True enough, however, the perception of 3D groupings that occurs in picture perception is a form of *high-level* perception, as all the above Gestalt switches show. In all such cases, the low-level perceptual properties that are involved – colours, shapes, sizes – remain the same, yet the perception of the different 3-D groupings changes (Wittgenstein 2009[4], Teufel-Nanay 2017).

At this point, let me take that the perceptual character of the configurational fold of the seeing-in experience is well established. Yet clearly enough, the perception of a certain 3D-based organization that arises once the relevant grouping operation has occurred is *illusory*: the perceiver actually faces a mere 2D, not a 3D item. This has prompted some people to talk of a merely *apparent* or relative depth as being involved in the relevant perception (Spinicci 2012, Briscoe 2016).

Yet to begin with, I hold that such a perception is more than that: it is a *knowingly* illusory perception. Clearly enough, the perception in the picture's vehicle of 3D silhouettes that results out of the 3D figure-ground segmentation is illusory: no 3D silhouette is really in the vehicle, so even the spatial relations that hold in the third dimension between such silhouettes in the vehicle are illusory as well. Yet the perception's bearer is definitely not deluded by her perceptual experience: she well knows that the physical item she faces is merely twodimensional. Moreover, I also want to say that unlike the cases of other perceptual illusions known as such, such as e.g. the cases of optical illusions (e.g. the Müller-Lyer illusion), that

knowledge has a *perceptual* import. In the case of an optical illusion, one's knowing that it is an illusory experience has no perceptual phenomenal import. For one still *visually* perceives the same nonveridical situation one so perceives if one is deluded by what one faces. In this case, one knows that one's perception is illusory because of testimony or because of one's experience of the relevant item in another sensory modality (e.g., a tactile perception). Yet in pictorial perception, one's knowledge that the perceptual apprehension in the picture's vehicle of 3D silhouettes in their spatial relationships is illusory depends on the fact that one is still able to perceive that vehicle as a 2D item: e.g., as a mere sheet of paper.[4] Some paintings in conceptual art such as e.g. Giulio Paolini's *Geometric Drawing* are precisely meant to stress this point: even if we seem to see a 3D composition, in seeing a painting we still face a sheet of paper.

Yet at this point, the fact that in perceiving the picture's 2D vehicle one knowingly illusorily groups its elements also in a 3D-based way induces one to also entertain a knowingly illusory perception of the picture's subject; namely, a knowingly illusory perception of the picture's vehicle *as* the picture's subject. In other and more Wollheimian terms, on the basis of the fact that, in the configurational fold of a seeing-in experience, some 3D silhouettes have become perceptually salient in the picture's vehicle in a knowingly illusory way, the recognitional fold of that seeing-in experience arises in such a way that in it the picture's subject perceptually emerges knowingly illusorily.

Once things are put this way, also the first worry Wollheim's theory must address is solved. Seeing-in is genuinely perceptual, for both its folds are genuinely perceptual as well. Indeed, the recognitional fold is a knowingly illusory perception of the picture's vehicle as the picture's subject that is induced by the illusory elements figuring in the configurational fold, i.e., the perception of the item one faces once it is taken as a *pictorial* vehicle by means of the relevant 3D segmentation.

This point can be easily grasped if one compares pictorial perception

---

[4] One might say that the enriched perception of that item as a *pictorial* vehicle has both veridical and illusory elements, as sometimes happens with ordinary perceptual experiences as well (Smith 2002).

_____

with the perception of a *genuine trompe-l'oeil*, i.e., an item that is really *mistaken* for a certain subject, or even with a perception of a picture whose 3D-based organization is partially delusorily perceived, at least from a certain perspective, as is the case e.g. with Nikola Čuljić's drawings (http://www.boredpanda.com/nikola-culjic-art/). (This latter case corresponds to the nonecological perception of a picture from a peephole, Ferretti 2016). In all such cases, even if one had a background knowledge that one's perception is illusory, that knowledge would not contribute to the overall perceptual phenomenal character of one's experience. For the physical item one faces is *unperceived* (either entirely, as in the case of a genuine *trompe l'oeil*, or partially, i.e., just from one perspective, as in the case of the above drawings). Indeed, the overall perceptual phenomenal character of one's experience changes when one either realizes that one is facing a *trompe-l'oeil* or changes the perspective from which one sees the relevant drawing. In both cases, one's overall perception changes, for one starts perceiving the physical item one faces as a 2D item that one also groups also in 3D-based terms. The fact that one so perceives what amounts to a *pictorial* vehicle *eo ipso* transforms what was a merely illusory perception of an object into a knowingly illusory perception of what now amounts to that picture's subject. In a nutshell, when one realizes that one is facing a *trompe-l'oeil*, one's overall perception changes, in that it becomes a proper pictorial perception: a twofold seeing-in experience *à la* Wollheim.[5]

## 3. Objections, Replies and Developments

As we saw before, the answer to the second worry for Wollheim's theory of seeing-in says that, once the physical item one faces is seen as a *pictorial* vehicle, by appropriately grouping its elements in a 3-D based way, there is a matching between the content of the configurational fold and the content of the recognitional fold of the relevant seeing-in experience. Yet one may

_____

[5] This is the real explanation as to why picture perception is not a stereoptical perception, or it is such when it is given in extraordinary conditions that alter its pictorial status, such as the aforementioned perception of a picture from a peephole (cf. Vishwanath 2014).

wonder whether this matching between two folds is necessary, insofar as one may dispense with the second fold altogether. Indeed, one may take pictorial experience as a mere *onefold* experience in which one merely sees the picture's 2D vehicle as being arranged in the 3D way that directly shapes the picture's subject (as stressed in the so called Aspect View, Dorsch 2016) by providing the vehicle with an apparent, or even relative, depth (Briscoe 2017).

Yet I do think that in order to account for pictorial perception one must appeal to different folds whose contents match, as is shown by the fact that this situation also occurs in *sculptorial* perception. In this case, what one faces is a really 3D physical item whose elements are still grouped in a particular way, so as to match the typologically *different* particular 3D scene one also sees in it. For example, in a 3D *marble statue* suitably grouped such as *The Laocoon* one sees the 3D scene consisting of *three human beings being attacked by a sea snake*. Undoubtedly, the relevant grouping operation occurring, as I claim, in the configurational fold of the seeing-in experience, also occurs in sculptorial cases, as the fact that we also have perceptually ambiguous sculptures shows. Consider Luca Patella's *Vasa physiognomica*, a 3D version of the Rubin's vase. Depending on how we group the 3D physical item that we face, we see in it either a certain typologically different 3D scene, consisting of two 3D white faces standing in front of a black background, or another typologically different 3D scene, consisting of a black vase standing in front of a white background. Now, this kind of objectual typological difference between the vehicle and the subject, which one clearly grasps in sculptorial perception, is also grasped in any case of pictorial perception, as applied to a 2D rather than a 3D item: the 3D subject one recognizes in the perception of a picture is typologically different from the bunch of 3D silhouettes one groups in that picture's vehicle. Thus, in order to account for the grasping of such a typological difference, a recognitional fold is needed over and above the configurational fold, where typologically distinct, though matching, objects are grasped in their respective contents. Thus, pictorial perception *in general* is a twofold rather than a onefold experience, as Wollheim claimed.

Clearly enough, however, in sculptorial seeing-in wrt its

configurational fold there is no known illusoriety. In this case, one overall veridically perceives a 3D item; one does not project depth on a 2D item. If this is the case, however, how can the known illusoriety of the recognitional fold of that seeing-in experience be explained, since it is not prompted by an illusoriety wrt its configurational fold, for there is no such illusoriety?

Here I am faced with a dilemma. Either *pace* Wollheim (1987), I deny that sculptorial seeing-in is an experience of the same kind as pictorial seeing-in (Hopkins 2004), so that I may stick just to the explanation of the known illusoriety of the recognitional fold I have provided in the previous section as holding for any genuine case of seeing-in. Or I accept that there is no principled difference between 2D pictorial and sculptorial seeing-in, but I am therefore forced to say that the known illusoriety of the configurational fold of a seeing-in experience is merely a sufficient, but not a necessary, condition for the known illusoriety of the recognitional fold. Since I just appealed to sculptorial seeing-in in order to justify the claim that pictorial perception is a twofold experience whose folds ultimately match in content, I opt for the second horn of the dilemma. This will prompt me elsewhere to provide another account of the known illusoriety of the recognitional fold, which primarily applies to sculptorial seeing-in.

# References

Block, N. (2014), 'Seeing-as in the Light of Vision Science'. *Philosophy and Phenomenological Research* vol. 89, pp. 560–572.

Briscoe, R. (2016), 'Depiction, Pictorial Experience, and Vision Science', *Philosophical Topics* vol. 44, pp. 43-81.

Briscoe, R. (2017), 'Gombrich and the Duck-Rabbit', in M. Beaney, B. Harrington & D. Shaw (eds.), *Aspect Perception after Wittgenstein: Seeing-As and Novelty*, London: Routledge (forthcoming).

Chasid A. (2014), 'Pictorial Experience: Not So Special After All', *Philosophical Studies* vol. 171, pp. 471–491.

Dorsch, F. (2016), 'Seeing-In as Aspect Perception', in G. Kamp & G. Mras (eds.), *Wollheim, Wittgenstein, and Pictorial Representation: Seeing-as and Seeing-in*, London: Routledge, pp. 205-238.

Ferretti, G. (2016), 'Visual Feeling of Presence', *Pacific Philosophical Quarterly*, doi: 10.1111/papq.12170.

Hopkins, R. (2004), 'Painting, Sculpture, Sight, and Touch', *British Journal of Aesthetics* vol. 24, pp. 149–166.

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

Hopkins, R. (2010), 'Inflected Pictorial Experience: Its Treatment and Significance', in C. Abell & K. Bantinaki (eds.), *Philosophical Perspectives on Depiction*, Oxford: Oxford University Press, pp. 151–180.

Hopkins, R. (2012), 'Seeing-in and Seeming to See', *Analysis* vol. 72, pp. 650–659.

Hyman, J. (2006), *The Objective Eye*, Chicago: Chicago University Press.

Hyman, J. (2012), 'Replies', in S. Chiodo (ed.), *Forum on J. Hyman, The Objective Eye*, *Lebenswelt* vol. 2, pp. 103–117.

Jagnow, R. (2011), 'Ambiguous Figures and the Spatial Contents of Perceptual Experience: A Defense of Representationalism', *Phenomenology and the Cognitive Sciences* vol. 10, pp. 325–346.

Kanizsa, G. (1979), *Grammatica del vedere*, Bologna: Il Mulino.

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

Macpherson, F. (2012), 'Cognitive Penetration of Color Experience: Rethinking the Issue in Light of an Indirect Mechanism', *Philosophy and Phenomenological Research* vol. 84, pp. 24–62.

Nanay, B. (2016), *Aesthetics as Philosophy of Perception*, Oxford: Oxford University Press.

Orlandi, N. (2011), 'Ambiguous Figures and Representationalism', *Phenomenology and the Cognitive Sciences* vol. 10, pp. 307-323.

Pylyshyn, Z. (2003), *Seeing and Visualizing*, Cambridge MA: The MIT Press.

Raftopoulos, A. (2011), 'Ambiguous Figures and Representationalism', *Synthese* vol. 181, pp. 489–514.

Smith, A.D. (2002), *The Problems of Perception*, Cambridge MA: Harvard University Press.

Spinicci, P. (2012), 'Some Remarks on Hyman's *The Objective Eye* ', in S. Chiodo (ed.), *Forum on J. Hyman, The Objective Eye*, *Lebenswelt* vol. 2, pp. 90–117.

Stokes, D. (2017), 'Attention and the Cognitive Penetrability of Perception', *Australasian Journal of Philosophy*, DOI: 10.1080/00048402.2017.1332080.

Teufel, C., & Nanay. B. (2017), 'How to (and How not to) Think about Top-Down Influences on Visual Perception', *Consciousness and Cognition* vol. 47, pp. 17–25.

Vishwanath, D. (2014), 'Toward a New Theory of Stereopsis', *Psychological Review* vol. 121, pp. 151-178.

Wittgenstein, L. (2009$^4$), *Philosophical Investigations*, Oxford: Blackwell.

Wollheim, R. (ed.) (1980$^2$), 'Seeing-as, Seeing-in, and Pictorial Representation', in *Art and its Objects*, Cambridge: Cambridge University Press, pp. 205–226.

Wollheim, R. (1987), *Painting as an Art*, Princeton: Princeton University Press.

Wollheim, R. (1998), 'On Pictorial Representation', *The Journal of Aesthetics and Art Criticism* vol. 56, pp. 217–226.

Zeimbekis, J. (2015), 'Seeing, Visualizing, and Believing: The Cognitive Penetrability of Picture Perception', in A. Raftopoulos & J. Zeimbekis (eds.), *The Cognitive Penetrability of Perception*, Oxford: Oxford University Press, pp. 298-327.