

## Visuality, intentionality and architecture

Review of:

John Searle: *Seeing things as they are*. Oxford: Oxford University Press, 2015

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‘Reality is not dependent on experience, but conversely.’<sup>1</sup>

An architecture student (or an architect) who tried, in the 1980s, to acquire philosophical education in order to understand better the problems of architectural theory, would have found the perspectives that dominated contemporary philosophy departments both counter-intuitive and perplexing. Both analytic and continental philosophers insisted on the importance of language as a vehicle of thought, and not merely a vehicle of communication; the idea that all thinking is verbal and inseparable from language was widely shared among philosophers who otherwise disagreed about almost everything else.<sup>2</sup> Nothing could be more baffling for an architect whose work is predominantly visual and based on the operations of visual imagination than the idea that one can think only in words. Prominent analytic philosophers whose works dominated the 1980s, however, rejected the possibility of visual imagination (Daniel Dennett) or simply denied that it counted as thinking (Michael Dummett).<sup>3</sup> An architect who read in Willard van Orman Quine’s immensely influential essay ‘On What There Is’ that the idea of the Parthenon is invisible, would have thought that something must have gone very wrong.<sup>4</sup> For psychologists, visual imagination became a legitimate mental process during the 1970s as a result of Roger Shepard’s ground-breaking experiments with mental rotation, but many analytic philosophers held out much longer in their faith in the verbal nature of human thinking. I know of a case of a philosophy student who (as late as the 1990s) mentioned visual imagination to his professor and was asked, in response, whether he was also hearing voices.

In this context, it is hard to overemphasize the importance of John Searle’s highly influential book *Intentionality* that came out in 1983 and hugely contributed

<sup>1</sup> John Searle, *Seeing Things as They Are*, Oxford: Oxford University Press, 2015, 129.

<sup>2</sup> For a general history of the view that all thinking is verbal, see Michael Losonsky, *Linguistic Turns in Modern Philosophy*, Cambridge: Cambridge University Press, 2006.

<sup>3</sup> Daniel C. Dennett, ‘The Nature of Images and the Introspective Trap’ in Ned Block, ed., *Imagery*, Cambridge, Mass.: MIT Press, 1981, 51-60. Michael Dummett, ‘Language and Communication’, in Michael Dummett, *The Seas of Language*, Oxford: Oxford University Press, 1993, 166-187, 170.

<sup>4</sup> Willard van Orman Quine, ‘On What There Is’, in Willard van Orman Quine, *From a Logical Point of View*, New York: Harper and Row, 1961, 1-19, 2.

to the rejection of the faith in the verbal nature of human thinking.<sup>5</sup> Searle insisted that thinking does not necessarily depend on language—babies and animals also think—but nevertheless, his discussion of visuality was limited to one chapter. His latest book, *Seeing Things as They Are* presents Searle's theory of human perception and completes the discussion of human visual thinking that was announced in *Intentionality* more than thirty years ago. Searle's discussion covers a series of topics that have been widely debated among art historians even since Ernst Gombrich's *Art and Illusion*; he does not, however, discuss architecture or three-dimensional arts and my intention in this essay is to try to provide an architectural contextualization of his latest book.

### Direct realism

The most significant aspect of the book is its strong realist position: *direct realism* that Searle advocates implies that we perceive objects directly, not their representations or mental images.<sup>6</sup> Contrary to this, *representative realism* would be the view that we do not perceive things directly, but their images—for, instance, that we see mental images or sense data created by the neurobiological processes in the brain. Searle's response to this view is that '[t]he subjective visual experience cannot itself be seen, because it is itself the seeing of anything'.<sup>7</sup> The standard argument in favour of representative realism relies on the comparison of true perceptions and hallucinations. It starts with the observation that perception in a hallucination is not true, but all the same one is conscious of seeing something; the experience in the hallucinatory case is indistinguishable from the experience in true perception. In other words, whatever we say about the hallucinatory case, we have to say the same in the case of true perception: experience is the same and even though you do not see the object in the case of a hallucination, you do see something. In the twentieth century this 'something' was commonly called 'sense data'. The conclusion of the argument (Searle calls it 'the Bad Argument') is that you never see a material object directly, but you see 'sense data'. As a result, perceptual experience itself is treated as an object of experience. The argument crucially depends on the assumption that both in true perception and in the hallucination we are aware of something (are conscious of something, see something). This assumption, however, relies on terms with ambiguous meanings ('aware of', 'conscious of', 'see') and results in an invalid argument. The difference between perception and the hallucination is, at the same time, huge: in the case of true perception I am literally aware of the green table; in the case of a hallucination I am actually not aware of anything. In the hallucination, one sees no thing, one is not aware or conscious of anything. It is impossible to see, be aware or be conscious of things that do not exist. In such cases one has a conscious perceptual experience, while the ordinary use of language misleads us by allowing us to describe that experience as the direct object of the phrase 'aware of'.

<sup>5</sup> John Searle, *Intentionality*, Cambridge: Cambridge University Press, 1983.

<sup>6</sup> This is an elaboration of the thesis presented in Searle, *Intentionality*, 37-78, where he argued that '[t]he visual experience is not the object of visual perception ...'. (44).

<sup>7</sup> Searle, *Seeing*, 17.

The use of the phrase relies on a totally different sense from the sense in which I am aware of the real objects I perceive. Searle's another important thesis is that the object of perception, that what is being perceived, is its cause. (108) Conscious animals like ourselves, Searle points out, take the intentional object of perception to be the thing causing the perceptual experience. 'This is perhaps most obvious in cases where you know nothing else about the object of your perception, you at least know that it caused the perceptual experiences.' (108) It is part of one's biological disposition to presuppose that the object one is perceiving is whatever caused the perception. A token of colour red or a straight line consists (in part) in the ability to cause corresponding experiences. (123, 128)

Searle's endorsement of direct realism—the view that we perceive real objects and not our experiences of objects—goes directly against the views, dominant in the final decades of the twentieth century, that an individual's culture or language construct one's reality and organize his or her visual perception. Direct realism also needs to be understood in relation to Searle's book *Intentionality*. Intentionality is the directedness of thoughts to their objects—the fact that they are always about something. Its philosophical description is relatively unproblematic when it comes to the relationship between thoughts and the existing objects they are about, but it becomes more complicated in the case of non-existing objects, such as Pegasus or the President of Norway. Describing the relationship between a thought and something non-existing can be seen as a problem. Additionally, non-existent objects cannot have properties, so it is even unclear how such objects can be differentiated from each other and consequently how one can differentiate between a thought about Pegasus and a thought about a gryphon. Dilemmas about intentionality have a long history among philosophers; one has often attempted to resolve them by postulating various abstract entities as intentional objects conceived of as immaterial, ideal, intentional objects to which thoughts would relate. The theory of intentionality that Searle presented in 1983 in his book *Intentionality* resolved these problems in a remarkably straightforward and simple way. According to Searle, intentionality is a biological phenomenon that results from the functioning of the human brain and explaining it should not require the introduction of abstract or immaterial entities. The starting assumption of Searle's account is that thoughts have their intentional contents, defined by their conditions of satisfaction—these are the conditions that specify the object or the state of affairs in the world that would satisfy or make that thought true. In the case of some thoughts there exist objects (or situations) that satisfy their conditions of satisfaction and these objects are then the intentional objects of these thoughts. At the same time, in the case of thoughts about non-existent objects, no objects satisfy their conditions of satisfaction, in which case the intentional content of such a thought will simply not have its intentional object. The result is an explanation of human intentionality that does not require a complex metaphysical apparatus or the introduction of additional immaterial or abstract entities: the intentional content of thoughts, conceived of as biological processes, is defined by their conditions of satisfaction and if there are objects in the world that satisfy this content, then they are the intentional objects of these thoughts.

It is easy to see the correlation of this theory of intentionality with Searle's rejection of the 'Bad Argument'. Human perceptions, according to Searle, have their objects; even when one is aware of his or her perceptions, this awareness is of a different kind than the awareness of objects as they are perceived. In the case of a hallucination, perception has a specific intentional content but no intentional object—it is an intentional state in which the intentional content has not been satisfied. It may be argued that Searle's direct realism does not provide the proof that the intentional object is really there (that it does not resolve the traditional philosophical problem of the external world) and cannot tell us how to recognize and differentiate genuine perceptions from hallucinations—but it can be also responded that it is precisely the nature of hallucinations that they are hard to recognize.

### Seeing as...

Searle's view that we directly perceive objects in physical reality stands in a complicated relationship with another aspect of his account: his view that every seeing is 'seeing as'. Art and architectural historians will remember that the phrase 'seeing as' has a long and troubled history in the debates about human perception in their disciplines. Not rarely, the phrase has been invoked precisely in order to advocate anti-realist positions. On one understanding, saying that all seeing is 'seeing as' is a platitude: all I see can be classified as either shapes or patches of colour and it may be said that all I see, I see as shapes or patches of colour. Traditionally, however, the authors who advocated the view that all seeing is 'seeing as' insisted on much more. In the wake of the publication of Ernst Gombrich's *Art and Illusion* the phrase was typically used to argue that all human perception is always already predetermined by that what one knows, expects and how one classifies things—and that since capacities to do so derive from one's membership of a culture, it follows that one's perception is predetermined by one's cultural background.<sup>8</sup>

Following Karl Popper, Gombrich in *Art and Illusion* rejected the view that one *first* perceives objects and only *then* classifies them and recognizes what they are (he and Popper called this view 'the bucket theory of mind')—but the result was that he had to spend the next four decades of his life fighting the anti-realist endorsements of his book.<sup>9</sup> If perception is inseparable from classification, then one cannot say that we perceive, for instance, a red and a blue ball as red and blue because we perceive their individual colours and then classify them accordingly. Rather, we perceive the blue object as blue and the red object as red *because* we classify them that way. Classification thus cannot depend on the properties of objects, because if it did, then we would have to perceive objects' properties first, before and independently of classification—and this is precisely assumed to be

<sup>8</sup> For a survey of Gombrich's use of the phrases "seeing as" and "there is no innocent eye" see the appendix to Branko Mitrović, 'A Defence of Light. Ernst Gombrich, the Innocent Eye and seeing in perspective', *Journal of Art Historiography*, 3, 2010, 3-BM/2.

<sup>9</sup> For a survey of these debates see Mitrović, 'A Defence of Light'.

impossible. Consequently, it would follow that the properties of objects that we perceive are independent of the properties that these objects have.

In spite of his direct realism, Searle's endorsements of the view that all seeing is 'seeing as' occasionally seem to come close to anti-realist positions. Searle thus seems to suggest that the visual experience depends on that what we know about the object we perceive:

...often a change in intentionality will produce a change in phenomenology. If I believe that the object I am seeing is a house, it will look different from what it looks like if I believe it is only the façade of a house, even if the optical stimulus is the same in both cases. If I believe the car I am looking at is *my* car, it will look different to me from type identical cars made in the same year by the same manufacturer.<sup>10</sup>

This is not an unproblematic statement, and it can be responded that if the optical stimulus is the same, the phenomenology of the corresponding perceptual experiences cannot be different. Imagine a person who looks at two identical cars under identical conditions (the same distance, angle, lighting and other factors that can affect the optical stimulus) and that he or she owns only one of them. Imagine also that he or she looks at each car through a glass plate and draws on the plate what he or she sees through it. It is reasonable to assume that the two drawings would be identical.<sup>11</sup> Nevertheless, Searle insists that it is 'demonstrably false' that

<sup>10</sup> Searle, *Seeing*, 37.

<sup>11</sup> In Searle, *Intentionality*, 54-55 he similarly discussed

difference between looking at the front of a house where one takes it to be the front of a whole house and looking at the front of a house where one takes it to be a mere façade, e.g. as part of a movie set. If one believes one is seeing a whole house, the front of the house actually looks different from the way it looks if one believes one is seeing a false façade of a house, even though the optical stimuli may be identical in the two cases. And this difference in the actual character of the visual experiences is reflected in the actual character of the visual conditions of satisfaction. It is part of the content of my visual experience when I look at a whole house that I *expect* the rest of the house to be there if, for example, I enter the house or go around to the back.

It can be responded that such potential or future visual experiences that I may have if I walk into or around the building are simply not part of my current visual experience. Their conditions of satisfaction pertain to what I would see if I walked into or around the buildings; they do not pertain to what I see now. What I see now is determined by the visual stimuli I receive at this moment.

The idea that perceptual experiences derived from identical stimuli can differ because of the non-perceptual contents associated with them has a long history. Kurt Koffka, 'Zur Theorie der Erlebnis-Wahrnehmung', *Annalen der Philosophie*, 3, 1923, 375-399, 393, claimed that if a person looks at a Diesel engine, then hears an explanatory description by an engineer, and then looks back at the machine, the machine looks differently ('...sieht er anders aus'). One does not see round and angular parts but nameable parts of the machine,

vision is a matter of the passive reception of stimuli and the production of visual experiences by the neurobiological apparatus.<sup>12</sup> In a way that reminds of Popper's and Gombrich's rejection of the 'bucket theory of perception', he dismisses the view that two people with normal visual neurobiological equipment confronted with the same stimuli would see pretty much the same thing.<sup>13</sup>

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such as cylinders. What was perceived as a heap of plates and bars has become an articulated object. One phenomenon, Koffka says, has been replaced by a better one – and by 'better' he means a more appropriate one, whereby the criterion is his capacity to describe. It can be responded that it is not obvious that the acquisition of a better capacity to describe in words an object that is visually perceived changes the visual experience of that object. Nevertheless, Koffka insists that an experienced painter can never draw the human brain so well as a brain anatomist who can draw well.

In more recent decades in debates about non-conceptual content, this problem has been expressed as the dilemma about the detachability of the phenomenal character of perceptual experience from the conceptual content associated with it. Alan Millar, 'Concepts, Experience and Inference', *Mind*, 100 (1991) 495-505, 496 thus states:

Suppose that you are running your hand over the wool side of a sheepskin rug. Your tactual experience might have the content that something smooth and silky is there. The detachability thesis implies that you could have had an experience of the very same type even if, for want of the appropriate concepts, the experience did not have the content in question.

But contrary to this D. W. Hamlyn, 'Perception, Sensation and Nonconceptual Content' in Gunther York, ed., *Essays on Nonconceptual Content*, Cambridge Mass., MIT Press, 2003, 251-262, 257 insists that

a new realization, a new way of thinking, a new application of a concept, can totally transform a perceptual experience. The experience derived from running one's hand over the wool side of a sheepskin rug might be totally transformed by the realization that that is what it is, and if one had no concepts of smoothness and silkiness what on earth would the experience be like?

<sup>12</sup> Searle, *Seeing*, 70. In Searle, *Intentionality*, 53, he defended the view that perception is a function of expectation by referring to the late 1940s experiments by Jerome Brunner, that (in those days) triggered so-called 'New Look' psychology. At the present moment there exists a strong body of psychological literature indicating the opposite – that visual experience is impenetrable for conceptual thinking – and this perspective is unfortunately left undiscussed in Searle's latest book. See in particular Zenon Pylyshin, 'Is vision continuous with cognition? The case for cognitive impenetrability of visual perception', *Behavioural and Brain Sciences*, 22, 1999, 341-423 and Athanassios Raftopoulos, *Cognition and Perception. How Do Psychology and Neural Science Inform Philosophy*, Cambridge Mass., MIT Press, 2009.

<sup>13</sup> Searle, *Seeing*, 70. The argument he provides in this case is not quite satisfactory: he says that patients who were born blind and then had their vision restored surgically did not have normal vision. It seems that visual apparatus at the early stages of development undergoes enormous changes and that the brain learns how to see normally by reinforcing certain visual pathways and eliminating others. But obviously if we are talking about individuals whose use of visual pathways developed differently then one cannot say that the neurophysiology of their vision is the same.

At the same time, there are contexts in which Searle seems to suggest that 'seeing as' is not quite that decisive for what we see. We have seen that he says that one can see an object and know nothing about it except that it caused the given perceptual experience. (108) In this sense, indeed, it would be uncontroversial to say that every seeing is 'seeing as': whatever we see, we see it as the cause of our visual perception. Further on, Searle endorses the standard argument of the proponents of the impenetrability of vision (the view that our perception is unaffected by what we know, believe or expect) pertaining to optical illusions: even when we know that what we see is an optical illusion, we perceive the illusion, not the way things are.<sup>14</sup> But if this is so, then one cannot say that the phenomenology of our experience depends on intentionality – that our perception depends on what we know or expect.

One possible response to this dilemma is that Searle (in the citation above) did not say that the change of intentionality causes the change of phenomenology, always but 'often'. More generally, one should note that Searle uses the terms 'perception', 'looks like', and talks about its phenomenology in a very wide sense. What he means becomes clearer from his discussion of Johannes Vermeer's painting 'A glass of wine' and Gerard ter Borch's 'The Admonition'. For the former, Searle cites Arthur Wheelock's view that it presents no association of love, while Searle thinks that the painting shows 'a standard seduction scene'. (72) Similarly, according to Johann Wolfgang Goethe, ter Borch's painting represents a father admonishing his daughter; in Searle's view however, the painting represents a madam, employee and a potential client. (74) He says that he is arguing that 'the interpretation of a visual experience, and in particular, the interpretation of a work of art, will be a function of the conceptual apparatus that the interpreter brings to the experience'. (73) Searle's reinterpretations imply, or suggest, the view that the viewer of the painting may understand and interpret the painting differently on the basis of his or her beliefs or expectations (which is certainly uncontroversial) but he is not suggesting that such different interpretations will result in different perceptions of forms and colours.

Our visual experience, according to Searle, is hierarchically structured. 'Seeing as', he says, always requires lower perceptual features: in order to see X as Y, one has to see X, the lower order in the hierarchy, and one has to see it as Y, the higher order. (111) The idea is that some kind of basic perception has to be present in order to be further interpreted. This is quite different from the way 'seeing as' was often understood in the second half of the twentieth century, when it was taken to suggest that what we see is constructed by what we know (or expect)—or, as Marx Wartofsky put it, it is not the case that 'if I want to hit you, I have to be able to see you' but rather 'If I see you, it is because I want to hit you'.<sup>15</sup> Contrary to this

<sup>14</sup> Searle, *Seeing*, 57. The same argument was formulated by Richard Gregory, 'How do we interpret images' in Horace Barlow, Colin Blackmore and Miranda Weston-Smith, eds, *Images and Understanding*, Cambridge: Cambridge University Press, 1990, 310-330, 329. See also Pylyshin, 'Is vision continuous with cognition?', 344.

<sup>15</sup> Marx W. Wartofsky, 'Perception, Representation and the Forms of Action: Towards an Historical Epistemology', in Marx W. Wartofsky, *Models*, Dordrecht: D. Reidel 1979, 188-210, 195. For an analysis of Wartofsky's views see Whitney Davies, 'The Presence of Pictures:

view, on Searle's account there are basic perceptions. Similarly to Arthur Danto's definition of basic actions, Searle defines as basic those perceptions of an object or feature that one can have without perceiving anything else by way of which one perceives it. (112) These basic features, the rock bottom of human perception, he says, are shapes and colours. One may add, although Searle does not discuss it, that shapes and colours are directly related to the information that the brain can derive from the light rays that fall on the retina: one perceives shapes on the basis of the geometry of the light rays reflected from objects, while colours result from the nature of light (its frequency) that our eyes receive. One should then understand Searle's descriptions of the way the perception of a house or a car 'changes' as a result of a change in the intentional content associated with the basic percept, while the basic percept (shapes and colours) remains the same. Consequently, in the examples presented above, one will not perceive shapes or colours of the house or car differently, depending on interpretation.

Arguably, seeing shapes and colours is seeing proper; saying that I 'see' a car or a birch is merely a figurative way of talking or an abbreviation for saying that I see a shape that indicates that the object is a car or a birch. (This is how I would understand the word.) Searle however, insists that 'one does not typically just see colours and shapes, one sees a black car'. (112) The use of the verb 'to see' should be regulated by the features of objects that one takes to count as visible. Intuitively, Searle says, those should be the features whose existence can be settled through vision: one can literally see that something is a California coastal redwood, but not literally see that someone is frank or intelligent. (137) In other words, since it is possible to recognise a California coastal redwood on the basis of a set of properties that are all visible, it is proper to say that one can see that something is a California coastal redwood.<sup>16</sup> A California coastal redwood both causes seeing something red and seeing a California coastal redwood, because having the visual features of a redwood is in part constituted by being able to cause such visual experiences. (144)

In what sense, however, can one then say that one 'sees as' basic perceptual features (shapes and colours) in situations when one knows nothing about the object except that it caused a certain visual experience? The response is going to be that we see it at least as the cause of that specific experience. Searle obviously assumes that we perceive objects, at that basic level (shapes and colours) at least, independently of what we know about them – and, contrary to the postmodernist theories of vision, independently of our membership of a culture or a linguistic community. Also, one can ask whether the hierarchical nature of human vision that he describes implies inference: for instance, that I infer that I see a Californian coastal redwood when I see an object with certain shapes and colours. The response, Searle points out, depends on whether we think about inference as a conscious act of inferring or not. (150) A conscious act of inferring is typically not present, while if we define

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Arthur Danto and the Historicity of the Eye', *Journal of Aesthetics and Art Criticism*, 59, 2001, 29-38.

<sup>16</sup> A possible counterargument would be that we can see that a creature is a dog and consequently visually establish that it must have canine DNA, but since DNA is invisible, one would not say that the possession of canine DNA is a visible property.

‘inference’ as the situation when the informational content of the whole subjective visual experience is larger than the informational content of the perception of the basic properties, then there is an inference.

## Perspective

Searle also uses the hierarchical model of human visuality to explain the fact that we can understand and interpret the visible world as three-dimensional, while our visual experience is structured as if it were two-dimensional.<sup>17</sup> (138) One grasps the world as three-dimensional because of the cognitive capacity to interpret the experiential content in a certain way. The background mastery of perspective enables the perceiver to see the world as having three dimensions. (139) When walking, one experiences that objects occupy a bigger portion of the subjective visual field as they become closer. Nevertheless, because of size constancy these objects do not look as if they changed size. Similarly, if someone says ‘I saw an object that was a perfect cube’ the experience was not a perfect cube—the basic perceptual features were a set of connecting and crossing lines. ‘Given the subject’s mastery of perspective, these lines are perceived as a cube’. (139) The upshot is that depth is not a basic perceptual feature—these are lines, shapes colours, angles and so on, while depth is perceived because of the Background of human perception includes the capacity to interpret them according to the laws of perspective. Searle’s explanation of the perception of depth, based on unconscious inference, potentially brings his views close to Helmholtz’s.<sup>18</sup>

In Searle’s view, the principles of perspective that revolutionized Western painting during the Renaissance are part of the Background capacity of any competent perceiver. He endorses Gombrich’s view that the increased understanding of the principles of perspective enabled painters to achieve feats that were inconceivable before. (140)

Because they understood perspective, Renaissance and post-Renaissance artists were able to produce visual representations that would have effects on the viewer similar to those of the actual object itself, and they did this by producing in the viewer an experience that had basic perceptual features that would give the impression of seeing something like the object itself, given the perspectival situation of the perception. (141)

<sup>17</sup> Searle is careful not to say that visual field itself is two-dimensional, because this would imply that we see the visual field and consequently rely on what he calls the Bad Argument. (138) The subjective visual field is not a visible object having two dimensions. Rather, he says that ‘whatever you get in the subjective visual field by way of depth you can get from a two-dimensional stimulus’. (139)

<sup>18</sup> For a summary of Helmholtz’s views see Edwin Boring, *A history of experimental psychology*, New York: Appleton-Century-Crofts, 1950, 309-311. For a discussion of unconscious inference see Irvin Rock, ‘In Defence of Unconscious Inference’ in William Epstein, ed., *Stability and constancy in visual perception: mechanisms and processes*, New York: John Wiley and Sons, 1977, 321-372.

Nevertheless, his claim is much wider: the point is not only that perspectival representations ‘would have effects on the viewer similar to those of the actual object itself’ (in other words, that they deliver to the eye a bundle of light rays equivalent to those that would reach the eye from the object itself). The point is also that our vision itself is organised according to perspectival principles. Gombrich famously defended the first point against many critics including Nelson Goodman.<sup>19</sup> The second would have been much more problematic to him because of his interest in constancies, though later in his life he may have come close to this view, due to his experiments with occlusion.<sup>20</sup>

### Constancies

Saying that our vision is organized according to the principles of perspective means that it follows (with some exceptions such as optical illusions) proximal vision—i.e. that the size of objects is perceived as proportional to the size of their visual angle and, accordingly, the size of their projection on the retina. This is the way of seeing in which one indeed sees objects that are farther away as reduced in size; once it assumed that light rays travel in straight lines, their geometry defines visual experience according to the principles of perspective.<sup>21</sup> Through the twentieth century the proponents of Gestalt psychology and their followers have insisted on the phenomenon of constancies in order to oppose this perspective-based understanding of visual experience.<sup>22</sup> Visual experience is said to rely on the constancies of size when it replicates the relative sizes of objects as they really are, regardless of objects’ distance from the observer.<sup>23</sup> In such situations, perceptual experience violates the laws of perspective. Since the early decades of the twentieth century, psychological literature has been replete with examples of the situations in which visual experience manifests significant independence from the retinal

<sup>19</sup> Nelson Goodman, ‘Art and Illusion; a Study in the Psychology of Pictorial Representation by E. H. Gombrich’ (book review), *The Journal of Philosophy*, 57, 1960, 595-599. For Gombrich’s response see Ernst Gombrich, ‘The “What” and the “How”: Perspective Representation and the Phenomenal World’ in R. Rudner and I. Scheffler, eds, *Logic and Art: Essays in Honor of Nelson Goodman*, 1972, 129-149. Also, Ernst Gombrich, ‘Image and Code. Scope and Limits of Conventionalism in Pictorial Representation’, in Wendy Steiner, ed., *Image and Code*, University of Michigan 1981, 11-42.

<sup>20</sup> Ernst Gombrich, ‘Mirror and Map: Theories of Pictorial Representation’, in Ernst Gombrich, *The Image and the Eye*, London: Phaidon Books, 1982, 172-214, 202.

<sup>21</sup> See Branko Mitrović, *Visuality for Architects*, Charlottesville: University of Virginia Press, 2013, 38.

<sup>22</sup> See for instance Wolfgang Köhler, *Gestalt Psychology*, New York: The New American Library, 1947, 42-59.

<sup>23</sup> A useful definition was provided by Zigmund Pizlo, ‘A theory of shape constancy based on perspective invariants’, *Visual Research*, 34, 1994, 1637-1658, 1637: ‘Shape constancy is the phenomenon in which the percept of the shape of a given object remains constant despite changes in the shape of the object’s retinal image’.

counterpart.<sup>24</sup> One thus reads that if a number of chairs of the same size are placed in a room at different distances from the observer, they will be perceived as if they were of the same size.<sup>25</sup> Similarly, according to the laws of perspective, a rectangular table should be perceived as trapezoid, but 'in everyday life, ... our percept of the table's shape is not affected by viewing direction or distance'.<sup>26</sup> The visual size of a person that approaches us from ten yard to five yard distance is said not to change.<sup>27</sup> Contrary to the laws of perspective, it is said that '...when we look obliquely at a circular object, we see it not as an ellipse but as a true circle'.<sup>28</sup> These descriptions do not pertain to the mere ability to infer the true sizes and shapes of objects from visual experience. Rather, it is claimed that visual experience itself is structured in opposition to the laws of perspective—this is *distal* vision in which experience is said to replicate the real relationships between the sizes of objects. One normally reads in psychological literature that this kind of vision is almost exclusively used in everyday life, although proximal vision (that follows perspectival laws) can be noticed and attended to, once it is pointed out.<sup>29</sup> At least since the 1950s psychologists have known that in experimental situations the instructions given to the subjects have to explain clearly whether to follow distal or proximal vision.<sup>30</sup> At the same time, it is recognized that people who work professionally with visual representations (such as visual artists), may lose the capacity to perceive distally.<sup>31</sup> As Gombrich put it, visual artists largely rely on their capacity to break constancies in their perception.<sup>32</sup>

Searle's account of size constancies reads as somewhat ambiguous when it comes to the relationship between proximal and distal vision. Searle says that if he sees a row of trees, they

all look the same size, even though at the basic level the trees farther away look smaller because of the difference of the impact of the distant trees and the nearby trees on my subjective visual field. As I walk along the row of trees, the subjective visual field changes to accommodate this change in the perspective. My intentional content at the higher level is that the trees are

<sup>24</sup> For a comprehensive survey of discussions about constancies see Dejan Todorović, 'Constancies and Illusions in Visual Perception', *Psihologija*, 35, 2002, 125-207.

<sup>25</sup> Ten Doesschate, *Perspective. Fundamentals, Controversials, History*, Nieuwkoop: B. De Graaf, 1964, 74.

<sup>26</sup> Pizlo, 'A Theory', 1637.

<sup>27</sup> Köhler, *Gestalt Psychology*, 44.

<sup>28</sup> Robert Thouless, 'Phenomenal regression to the Real Object', *British Journal of Psychology*, 21, 1931, 339-359, 339.

<sup>29</sup> Todorović, 'Constancies', 150.

<sup>30</sup> Alberta S. Gilinsky, 'The Effect of Attitude upon the Perception of Size', *The American Journal of Psychology*, 68, 1955, 173-192, 178. V. R. Carlson, 'Instructions and Perceptual Constancy Judgments' in Epstein, ed., *Stability*, 217-254. Todorović, 'Constancies', 150.

<sup>31</sup> See for instance Irvin Rock, and William McDermott, 'The perception of visual angle', *Acta Psychologica*, 22, 1964, 119-134, 132.

<sup>32</sup> Gombrich: *The Image and the Eye*, 34.

always the same size, but at the lower level there is no question that there is a change in the basic perceptual properties.<sup>33</sup>

The very word 'look' can be taken to stand for both distal or proximal vision—in the latter case, trees farther away will 'look the same size' as those in the forefront—not in the sense that they are the same size in visual experience itself, but because one can infer from the way they are experienced that they are the same size.

Searle also discusses colour constancies. The discussion opens with the statement that if a shadow falls over a portion of a red ball so that part of it is in shadow, and another part not, the part of shadow will not change colour, and it is not seen as having changed colour. (151) Strictly speaking this is not correct: shadow is the absence of light and when it falls on a coloured surface, the surface loses its colour. A common mistake among beginners in watercolouring is to use a darker nuance of the same colour for the parts of an object that are in the shadow—one needs to use grey. But in this case, Searle is making the point that precisely describes the phenomenon of constancy: the part in shadow is seen as not having changed its colour. He also points out that it is extremely misleading to describe this phenomenon as 'color constancy' because the experienced color is precisely not constant.

It is because of my higher level Background capacities that I am able to see it as having the same color even though at the lower level I see it as having in part changed its color. ... At the basic level, there is no such thing as color constancy. At the basic level, the color is precisely not constant, neither subjectively nor objectively.<sup>34</sup>

In other words, colour and size constancy do not exist at the basic level. (152)

But in what sense are constancies then present in perceptual experience according to Searle? If the perception of size and colour is the basic level of perception and is unaffected by constancies, then one is actually not quite sure that Searle's account leaves space for constancies as a genuine aspect of human visual experience *qua* visual. If basic visual experience is always present and if it follows the laws of perspective, then one cannot have, at the same time, another visual experience that is in accordance with psychologists' description of constancies. If one sees round plates on the table as ellipses as a result of the laws of perspective, one cannot see them as full circles, at the same time. One can *know* that they are circles, because one can *unconsciously infer* it from their shape and one's position in relation to them, relying on one's mastery of perspective. On this understanding, Searle's account is suggesting that when psychologists talk about 'seeing' in accordance with constancies, this 'seeing' is not really seeing in the sense of direct visual experience. Rather, it is the knowledge about the sizes of the objects that are perceived that can be inferred from the basic visual experience that always follows the laws of perspective.

<sup>33</sup> Searle, *Seeing*, 151.

<sup>34</sup> Searle, *Seeing*, 151.

Similarly, consider the use of the verb 'look' in the above example with trees and in relation to the problem of occlusion that was pointed out by Gombrich.<sup>35</sup> One can say that trees are seen proximally (according to the laws of perspective, or 'basic vision' to use Searle's phrase) or one can say that they are seen distally (that trees farther away visually appear to be the same size as those in the front). But they cannot be both, because of occlusion: the trees that are occluded by the trees seen proximally cannot be the same trees that are occluded by (or occluded the same ways as) the trees seen distally. One and the same tree (or its parts) cannot be visible and invisible, occluded and not occluded at the same time, in the same visual experience. It seems therefore quite appropriate to say that trees 'look' the same only in the extended (non-visual) sense of the verb 'look': we actually see them according to the laws of perspective, and then infer that they are of the same size. Insofar as Searle wants to deny that constancies affect our basic perceptions of shapes, Gombrich's strategy to emphasize the phenomenon of occlusion certainly provides him with a strong argument.<sup>36</sup> But, as mentioned, this is not how psychologists describe the perception of constancies.<sup>37</sup>

One can see the difference between Searle's and the standard psychologists' accounts of constancies if one considers the discussion of the way one perceives railroad tracks that extend into distance. Strange as it may seem, there exists a long debate about the way railway tracks are perceived in such situations and whether they are perceived to converge. Psychologists' statements on the problem actually reveal certain unease about this problem. As Irvin Rock observed

If we stress constancy of size, as has been tried in the literature since the Gestalt revolution, we cannot explain the vivid impression of convergence that every observer will tell you he has.<sup>38</sup>

Robert Thouless, who was among the first to study constancies experimentally in the 1930s, was still prepared to admit that parallel lines converge, but claimed that this convergence did not follow perspectival laws.<sup>39</sup> Alberta Gilinsky in an influential

<sup>35</sup> Gombrich: *The Image and the Eye*, 202. David Topper observed that 'The fact that we cannot look round a corner became one of the foundations of Gombrich's subsequent defence of perspective', David Topper, 'Perspectives on perspective: Gombrich and his critics', in Richard Woodfield, ed., *Gombrich on Art and Psychology*, Manchester: Manchester University Press, 1996, 78-99, 82.

<sup>36</sup> It would not be inaccurate to say that if constancies affected the perception of shapes, the world would look like a cubist painting and, as Richard Woodfield observed 'If the world actually did look like cubist painting, we would have enormous difficulty in getting around it, and if the world looked as if it was depicted in twelfth-century pictures, archers would have no difficulty in shooting their prey around corners.' ('Introduction' in Woodfield, ed., *Art and Psychology*, 1-27, 14)

<sup>37</sup> See in particular Todorović's 'Constancies' as a comprehensive and well-balanced survey of psychological research on constancies.

<sup>38</sup> Rock, 'Unconscious inference', 347.

<sup>39</sup> Thouless, Robert, 'Phenomenal regression to the Real Object', *British Journal of Psychology*, 21, 1931, 339-359, 340.

paper in 1955 talked about ‘the dilemma of railroad tracks, now seen to converge, now seen not to converge’.<sup>40</sup> According to V. R. Carlson railroad tracks are ‘perceived to be parallel and never meet but are cognitively interpreted to converge’.<sup>41</sup> Probably the most radical view was formulated by Marx Wartofsky:

parallel lines going off into the distance appear, in normal binocular vision, to be just what they are—parallel lines going off into the distance, *without* convergence. Constancy does not need to be preserved. It is given.<sup>42</sup>

In Searle we find the view that is in line with the assumption that railway lines receding in distance are perceived to converge—in other words, that visual experience follows the laws of perspective and is not affected by constancies when looking at railroad tracks. If you look at railroad tracks extending into distance, he says

your subjective visual field will contain the subjective correlates of two lines getting progressively closer together toward the top of the objective visual field. The basic subjective elements do not fix the conditions of satisfaction of three-dimensional space by themselves. But given our background mastery of perspective, the subjective visual field carries an intentional content that has the three-dimensional as its conditions of satisfaction. (140)

In other words, in his view, we perceive railway tracks as converging, but our background mastery of perspective enables us to infer from this experience that the tracks are parallel.

## Architecture

While Searle does not pay much attention to visual imagination, his discussion of other aspects of human visuality does imply a clear way to understand this type of human mental processes, crucial for an architect’s work. Painters and sculptors will hardly ever need to discuss the qualities of a painting that was not painted or a sculpture that has not been sculpted. When it comes to architectural works visual imagination plays much a much more significant role. Architectural works (and their aesthetic properties) often need to be discussed before the building has been built, or after it has been destroyed, on the basis of drawings and models. One can infer from Searle’s book that his view would be that visual imagination is similar to the hallucination, except that we are aware when we imagine things. The intentional content of an act of imagination will have its intentional object if the building that

<sup>40</sup> Gilinsky, ‘The Effect’, 174.

<sup>41</sup> Carlson, ‘Instructions’, 220. The author thinks that ‘the decrease in apparent object size is a cognitive misnomer, how much smaller for how much farther away is completely subjective’. (220)

<sup>42</sup> Marx Wartofsky, ‘Rules of Representation: The Virtues of Constancy and Fidelity put in Perspective’, in Wartofsky, *Models*, 211-230, 217.

one imagines exists and it will have no object if it does not. As Searle would put it, if an architect imagines a building that is to be built, this is a case of intentionality in which the world is made to fit the mind; if one studies the survey of an existing building, then the thought contents of one's mind are made to fit the world. Also, one should not assume that the intentional object has to be a *material* building; it can be a system of spatial relationships. Non-architects typically think that architects design buildings; many architects, however, would say that they design spaces, whereby buildings are mere tools to make spaces. Certainly, they will point out, nobody can inhabit a building understood as a physical structure, but only the spaces that the physical structure of a building forms. The view was famously articulated by August Schmarsow, but its history is much longer and goes at least to Leon Battista Alberti's and Andrea Palladio's precepts for preferable room proportions.

It is also important to consider why and how architects use visual imagination. Buildings are three-dimensional objects, while human visual imagination, like visual experience, is organized two-dimensionally. One can never see, and one can never imagine, a building from more than one side (more than one visual angle) at the same time. That does not mean that what I see or imagine from one side does not affect what I would see (or can imagine) from another side. As a three-dimensional object, a building must obey the rules of three-dimensional space. Having studied the plans of a building, or having seen it from different sides, one can acquire enough knowledge about the building's spatial properties to be able to draw even those aspects of the building that one has not seen. This is a result of our background knowledge about how shapes of things operate in three-dimensional space. For instance, we can always be sure that there do not exist two points on a building such that more than one straight line goes through them or that no room could have more than one ceiling that is parallel with the floor at a given height. Objects in the real world behave according to these geometrical principles, but so does our visual imagination as well. It is equally impossible to *imagine* a building on which there are two points connected with more than one straight line as it is to build it. Geometry determines the limits of what can be visually imagined and through centuries architects developed techniques and skills that enabled them to use visual imagination in order to test whether their designs were geometrically possible. Until the final decades of the twentieth century architecture schools used the discipline of descriptive geometry in order to develop such mental skills in their students; today (arguably) the use of CAD has made such skills obsolete.<sup>43</sup> In Searle's terminology, these capacities that underlie visual imagination would count as the 'background'.<sup>44</sup> All this suggests that the mental representation of a building cannot be one single mental image but our knowledge about spatial relationships between its parts that enables us to imagine it from different sides.

<sup>43</sup> See Branko Mitrović, 'Leon Battista Alberti, Mental Rotation and the Origins of Three-dimensional Computer Modeling', *Journal of the Society of Architectural Historians*, 73, 2015, 210-220.

<sup>44</sup> Searle, *Seeing*, 44-45 and 70-76. See also Searle, *Intentionality*, 19, 53 and 66-68.

The hierarchical nature of human visuality that Searle describes provides also an important perspective on the nature of the aesthetic properties that can be attributed to architecture. Some properties of architectural works are better described using drawings, others using words. It is next to impossible to describe the shape and colour of a building using words, while drawings are of little use when it comes to stating the building's function, the material it is made of, its social and cultural role, the 'meanings' attributed to it, and so on. Since the 1960s a long tradition among architectural theorists has denied (or made efforts to play down) the significance of architecture's visual and spatial properties, often using the argument that such properties are inseparable from and cannot be even contemplated independently of 'meanings' that are attached to them.<sup>45</sup> This tendency paralleled the rejection of aesthetic formalism in analytic aesthetics that followed Kendall Walton's influential paper 'Categories of Art'.<sup>46</sup> If it is believed that objects cannot be visually perceived independently of the conceptual contents we associate with them, then it is hard to see how one could attribute them any aesthetic properties independent of such contents.<sup>47</sup> In more recent decades, however, psychological research about the impenetrability of vision, as well as the philosophical works on non-conceptual content, have largely led to the understanding of human visuality as more independent of its conceptualization.<sup>48</sup> By the early 2000s Nick Zangwill was able to re-introduce formalism in analytic aesthetics in the form of what he called moderate formalism: the idea that at least some aesthetic properties depend on the purely visual properties of objects while others may depend on the meanings and associations we have about aesthetic objects.<sup>49</sup> This latest perspective, it could be argued, corresponds with Searle's understanding of human visuality as hierarchically structured. Some aesthetic properties in this case would depend on the basic perceptions of shapes and colours, while others may depend on higher level properties.

### Concluding remarks

I confess I wish Searle's book was available thirty years ago—that he wrote it about the time he completed his *Intentionality*. Though probably we would not have avoided the wave of deconstruction in architecture that came at the end of the 1980s, at least the expectations of those who opposed it and hoped that analytic philosophy could provide an antidote would not have been disappointed. As the situation was in those days, the only prominent analytic philosopher known in architecture departments was Nelson Goodman, and his writings certainly could not have provided much support against the tide of anti-realism. Times have

<sup>45</sup> For a summary of that debate see Branko Mitrović, 'Architectural Formalism and the Demise of the Linguistic Turn', *Log*, 17, 2009, 17-25 and Mitrović, *Visuality for Architects*.

<sup>46</sup> Kendall Walton, 'Categories of Art', *The Philosophical Review*, 79, 1970, 334-367.

<sup>47</sup> See the discussion in Mitrović, *Visuality*, 75-90.

<sup>48</sup> See Mitrović, *Visuality*, 75-90.

<sup>49</sup> Nick Zangwill, *The Metaphysics of Beauty*, Ithaca: Cornell University Press, 2001.

changed and today deconstruction (at least in architecture) is as dead as a dodo. Nevertheless, Searle's thesis about the hierarchical structure of human visuality provides potentially important contribution to current debates about the role of the visual in architecture and architectural aesthetics in general. One way or another, it is great that the book is finally with us.

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