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Perceptuo-Cognitive Analysis of Magritte's Iconic Painting *La Condition Humaine* (1933)

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Abstract

René Magritte once said "... the function of art is to make poetry visible, to render thought visible". The poetry emerged on his canvases by meticulous, aesthetically engaging depiction of objects and scenes replete with surprise and apparent perceptual self-contradiction. His 1933 masterpiece, *La Condition Humaine* (The Human Condition), is one of his most philosophical works. We see a room with a painting on an easel that appears to paradoxically reveal exactly what it occludes: a pastoral scene outside the room. Magritte had a sophisticated understanding of perception as representation in the brain, and he discussed this theme explicitly. This article examines in detail visual cues in *La Condition Humaine* that elicit an alternation between salient yet mutually exclusive percepts, transparency vs opacity, of the same object. The conflicting percepts are experienced as surreal, drawing us into the heart of the problem: the nature of representation (in art and in the brain), a meditation on the localization of thought, while beckoning us to ponder the nature of reality and the 'mystery of the ordinary'. The painting also illustrates the power of subtle painterly gesture, i.e., when small details act as 'perceptual amplifiers', inducing a strong effect on both our perceptual and cognitive understanding of scene elements across a large region of visual space. Finally, examination of how the competing percepts are established, and the emergence of some perceptuo-cognitive features provide clues about the visual system's scene processing hierarchy.

Keywords

René Magritte, *La Condition Humaine*, surface perception, object segregation, scene processing, depth perception, surrealism, neuroscience and art



René François Ghislain Magritte

“The function of painting is to make poetry visible ... to render thought visible”

René Magritte

1. Introduction

In 1922, a 24-year old René Magritte was sitting in a café in Brussels when the Belgian writer Marcel Lecomte placed in front of him an open issue of the magazine *Valori Plastici*. There in front of René was a reproduction of a 1914 painting by the Italian metaphysical painter, Giorgio de Chirico, *The Song of Love*. The painting depicted *objets* not normally seen together in life or in art: a white-gray sculpture of a Greek-Style head suspended on a wall next to an enormous surgical glove. In the background, behind some stylized architecture, was a black train with billowing white smoke emerging like a low cloud from the smoke-stack. The juxtaposition of these odd elements had an unexpected, enormous impact on young René. Despite only seeing a monochromatic reproduction of the painting, Magritte was overwhelmed – it literally brought him to tears. It was “... one of the most moving moments of my life: *my eyes saw thought for the first time ...*” Magritte’s idea of art was forever changed. He realized at that moment the ascendancy of poetry over art: “... I decided that all my paintings would be visual poems”. And he articulated a philosophy: “The function of painting is to make poetry visible ... *to render thought visible*” (Gablik, 1970).

Magritte wrote of that moment: “This triumphant poetry [de Chirico’s painting] supplanted the stereotyped effect of traditional painting. It represented a complete break with the mental habits peculiar to artists who are prisoners of talent, virtuosity and all the little aesthetic specialties. It was a

new vision through which the spectator might recognize his own isolation and hear the silence of the world.” (Magritte [1938a] in his 1938 lecture, ‘*La Ligne de Vie*’, quoted in Sylvester, 2009, p. 71)

Magritte’s journey to become one of the most important Surreal artists of the 20th century thus began with a glance and an epiphany. The massive oeuvre of works that followed, and Magritte’s mastery of infusing the ordinary with surreality, reach us on many levels — perceptual, cognitive, emotional, aesthetic and philosophical.

A survey through Magritte’s oeuvre shows his art to be frequently enigmatic, always thought-provoking with a style and visual themes that distinguished him from other Surrealists like Salvador Dali because his surreal effects were often constructed with realistically depicted objects: “For Magritte, painting was never an end in itself; it was only a ‘lamentable expedient’ ” by means of which he could draw us in to experience the ‘mystery of the ordinary’, query our own phenomenal experience. “This conception of the nature and purpose of art is something Magritte has in common with many of the other Surrealists. However, in other matters he was a Surrealist who slid down the rails when the others weren’t looking” (Gablik, 1970).

In the sections that follow, I endeavor to examine the plethora of perceptual features Magritte meticulously depicted in his masterpiece, *La Condition Humaine* (1933) and relate them to the various perceptual mechanisms enlisted. The work is introduced, and then we will explore the redolent conflicting percepts it elicits — most notably the surreal interplay/alternation between perceived opacity and transparency of the same object, and the implications of this conflict for perceptual processing. Careful examination of this one painting reveals pictorial details that elicit what I term ‘perceptual paradoxes’ that Magritte built into the work, effects that are paradoxical both perceptually and (more abstractly) cognitively and conceptually. Some of these paradoxical perceptions are elicited by small details that exert outsized perceptual impact, what I term ‘perceptual amplifiers’. The paper also discusses some of the salient perceptual organization and Gestalt principles enlisted (even though there is no evidence that Magritte was versed in or deliberately utilized Gestalt devices) and some putative relevant neural substrate underlying object identification and segregation and organization into a plausible three-dimensional scene.

1.1. Representation of Representation: La Condition Humaine (1933)

Magritte had a modern understanding of perception of the ‘world out there’, external reality, as the phenomenological experience of representation in the brain. Many of his works explicitly dealt with this theme, including his famous rendition of a pipe painted directly above the words “Ceci n’est pas une pipe”

(This is not a pipe) (*La Trahison des Images*, The Treachery of Images, 1929), and a series seven works between 1931 and 1949 all titled *La Condition Humaine* including one of the more famous versions painted in 1933.

During his lifetime, Magritte painted almost 400 paintings, sometimes at the rate of one per day, featuring a plethora of surreal effects that excite the imagination and provoke, in many cases, philosophical fascination. A case in point is his famous masterpiece, *La Condition Humaine* (1933; Fig. 1).

La Condition Humaine addressed questions about representation, both in art (on the canvas) and in our ‘mind’ (in our brain), and about the nature of reality since (as Magritte knew well) our understanding of (visual) ‘reality’ only has access to our phenomenological, internal experience. Magritte returned to the conceptual/philosophical themes raised by *La Condition Humaine* — occlusion of what is revealed, the perceptual alternation between transparency and opacity, as well as the conceptual and philosophical implications these evoked, such as the nature of representation in art and in phenomenology, questions about the nature of reality, the localization of perception



Figure 1. *La Condition Humaine* (The Human Condition, 1933). Oil on canvas, 100×81 cm, National Gallery of Art, accession-num 1987.55.1 (ISBN: 0810963590).

(see Note 1) — in at least 17 paintings spanning 34 years (1931–1965), including seven versions of *La Condition Humaine* and seven versions of *La Belle Captive* (Note 2). In this regard, Magritte stood out from amongst his peers. He often painted several, or many, versions of a painting, or of a theme (an idea, or philosophical inquiry embodied in a work). In fact, he was roundly criticized for this by many artists of the time. The famous art historian, and close colleague/friend of Magritte's, Suzi Gablik (Note 3) wrote: "Once Magritte found a satisfying idea, he would paint a lot of different variations. The idea always took precedence over the execution ... The act of painting in itself didn't really matter to him, assuming the idea was a good one ... For him it was the thought that mattered, so the painting was just a vehicle." (Gablik, 1970; cited in *Magritte: Life Line*, 2018).

2. A Painting within a Painting that Reveals what it Conceals

We find ourselves inside a room, looking out of an arch-topped window onto a lush verdant field through which passes a small dirt path (Fig. 1). A lone tree stands mid-field near a large tuft of shrubbery, with green hills softly illuminated in the background under a blue sky and cotton-puff clouds (a recurring theme in Magritte's work). To some viewers, it is not immediately obvious what a striking visual effect Magritte has created. A huge section of the scene outside seems to reside inside the room as a detailed image of what eventually is understood to be a realistic painting sitting on an easel just inside the window. The painted image appears so perfectly matched to the scene outside that the painting in the room transiently (paradoxically) seems like a window or transparent glass, allowing us to see through it to the scene outside. The painting depicted in the room seems to reveal (if intermittently) exactly what it conceals (Note 4). This device, recapitulated in many of Magritte's paintings, reflects a philosophical observation that Magritte articulated: "Visible things always hide other visible things" (Whitfield, 1992, cat. 62).

Magritte has set a perceptual 'trap' for us, masterfully guiding us to experience an alternation between two salient, but incompatible, perceptions: transparency vs opacity. Associated with each of these mutually exclusive perceptual states are fascinating perceptual and conceptual paradoxes.

2.1. The Problem of the Window

Magritte painted several works that addressed what he called "the problem of the window", an exploration of representation of interior vs exterior, which Magritte understood as an inquiry into the nature of reality, or more specifically a beckoning for us, the viewers, to reflect on the nature of reality (Gablik, 1970; Magritte, 1938a, b; Whitfield, 1992, cat. 62). Clearly *La Condition*

Humaine so beckons by drawing us to perceive incompatible properties of the same object as well as incompatible cognitive understanding of objects within a three-dimensional scene: objects exist as both inside the room and in the scene outside the (problem) window.

2.2. Transparency

For many viewers, the initial perception is of transparency, as if the canvas were a pane of glass, in effect itself a window to the scene outside the room. Anecdotally, I have shown this painting to many observers, some art-naïve, some Magritte-naïve, some who were familiar with Magritte but not with this specific painting, some professional artists and even some visual neuroscientists unfamiliar with this work. The initial impression is frequently some form of confusion with comments that reveal that the initial impression is of transparency: “... well I see a field and trees and ... oh my ... what’s that brown thing floating in the sky?...”, only to be shocked when they realize that they are viewing not an outdoor scene directly, but a reproduction on an opaque canvas, and that the brown thing ‘floating in the sky’ is an easel clamp. Suddenly the scene blossoms in all its delicious ambiguities and bi-stable percepts and cognitive interpretations. Admittedly, this warrants more systematic empirical survey of individuals’ perceptions, but the anecdotal observations comport well with observations by professional art historians and Magritte experts (see quote by David Sylvester, Section 2.2.3 below).

Magritte enlists at least two devices that seduce us to see the canvas area as if it provided a transparent view to the outside scene: (1) continuation of salient scene elements across the canvas border, (2) the strategic use of ‘value’, artists’ word for brightness or lightness.

2.2.1. Seduced by a ‘Gestalt Trick’: the Law of Good Continuation

Some viewers do not even see a canvas at first. The percept of transparency, when experienced, is induced by Magritte’s meticulous enlistment of a ‘Gestalt trick’ (Note 5): i.e., the apparent continuation of key scene elements outside the frame of the canvas across the canvas borders (“Gestalt Law of Good Continuation”; Michotte and Burke, 1951; Michotte *et al.*, 1964).

The visual system’s completion mechanisms permit Magritte to effectively seduce us to see the area of the canvas as transparent by continuation of five key scene elements outside the frame of the canvas across the canvas borders: (1) the distant trees in the background have two boundaries that cross the right edge of the canvas, one treeline–sky boundary and another where the distant trees form a boundary with the central bushes; (2) the upper and lower boundaries of the central bushes cross into the right edge of the canvas; (3) the borders of three clouds with adjacent blue sky cross the canvas boundary in five

locations; (4, 5) the brown dirt path and its two borders with the grass cut diagonally across the scene and traverse the right edge of the canvas. The completion of contours based on their positions and orientations occurs due to perceptual mechanisms of contour interpolation (Kellman and Shipley, 1991) that are consistent with statistics about the continuity of contours across gaps in natural scenes (Geisler and Perry, 2009). In addition to completion based on contour relations, the surface qualities of the bushes and clouds are visually connected across gaps due to a surface spreading process that depends on similarity of surface color and texture (Yin *et al.*, 1997, 2000).

These five scene elements contribute nine object boundaries that cross from outside the canvas into the scene on the canvas at 11 locations. Collectively, these border crossings elicit a perceptual bias to amodally complete the objects along their entry trajectories across the canvas boundaries.

However, in the context of this very special object, are all the completions genuinely ‘amodal’? We understand ‘amodal’ to refer to completion without sensory input from the completed portion of the object behind some occluder. The unambiguous amodal completions are the completions of the scene elements that traverse the right canvas edge (scene elements 1, 2, 4 and 5). However, two of the three clouds that enter the canvas area are subject to negligible occlusion since they traverse the scarcely noticeable upper edge of the canvas marked by a thin line, and so it is nonsensical to refer to these completions as amodal.

However, the boundaries of the cloud on the lower right, though ‘fuzzy’, conform to the geometry of (‘fuzzy’) contour relatability and also engage surface interpolation processes (continuation of texture, shading, chromaticity). Its upper and lower fuzzy boundaries thus are readily and robustly interpolated in an initial contour-linking process governed by geometric relations termed *contour relatability* (Kellman and Fuchser, 2023; Kellman *et al.*, 2005a,b). Completion of the other scene elements traversing the right canvas edge also occurs due to contour interpolation, including the fuzzy contour geometries/trajectories that cross the right edge of the canvas (e.g., dirt path, grass, bushes, distant hazy hills and the rightmost cloud). They are also perceptually connected by surface interpolation utilizing, in part, compatible spatiochromatic properties and approximate luminance across the occluding boundaries (Kellman and Fuchser, 2023; Kellman and Shipley, 1991).

Another way to think about completion mechanisms elicited in this painting is that a large fraction of the features depicted inside the canvas area, away from any occluding edges, exist in a kind of ‘twilight’ zone between amodal completion and direct representation. Away from the boundaries of the canvas, the objects discussed above are all seen, vividly depicted for us, and thus these elements are not amodal. However, if and when we are perceiving the canvas area as opaque, these elements might be conceptualized as amodally

linked with their matching counterparts outside the canvas, with the unique twist that the artist has given to us on the canvas the very same elements needing completion due to the opacity of the canvas! In a sense, Magritte has provided us with a direct view of the occluding element (canvas) but has saved our visual system the trouble of conceptually filling in the occluded scene elements by painting them meticulously on the very same occluding material. The central tree (indeed all the features distant from the borders of the canvas, but most strikingly that tree!) violates the pattern: no amodal completion can explain the tree.

2.2.2. Cognitive Completion of Scene Elements

The acceptance of the scene elements that cross into the canvas area as replicas of (direct views of) those same elements in the distant scene outside the window establish a generalized perceptual bias such that other scene elements, depicted far from the canvas edges, are also accepted as views of the same elements outside the room. Most notably, this includes the tree standing in the midst of the grove of bushes. Several features that do complete amodally across the right canvas edge (e.g., the treeline, bushes, grass, path) continue far into the scene, far from the canvas edge, along a trajectory that is relatable (Kellman, 1981; Kellman and Fuchser, 2023) with the matching features outside the canvas. Strictly speaking, the continuation components of these objects are set up by, but not fully perceptually specified by, the local trajectory of those scene elements across the initial occluding object (right canvas edge). When we see the canvas as opaque, these are more cognitive completions harmonious with the matching feature trajectories as they approach the right canvas border: in principle, if we imagine for the moment a real opaque canvas, all the aforementioned features could have taken *any* trajectory behind the painting, not the paths depicted on the canvas.

Magritte addressed these internal scene elements, in particular the central tree, in the context of an astute, philosophical articulation of his understanding of perception as representation in the brain: “I placed in front of a window, seen from inside a room, a painting representing exactly that part of the landscape that was hidden from view by the painting. Therefore, the tree represented in the painting hid from view the real tree (Note 6) situated behind it, outside the room. It existed for the spectator, as it were, simultaneously in his mind, as both inside the room in the painting, and outside in the real landscape. *Which is how we see the world: we see it as being as outside ourselves even though it is only a mental representation of it that we experience inside ourselves...*” (Magritte, 1938a; italics mine). In a 1934 letter to his colleague, the French Surrealist André Breton, Magritte wrote “... one may suppose that behind the picture the scene is different from what one sees, but the main thing was to eliminate the difference between a view seen from outside and from

inside a room” (Sylvester, 2009, p. 386). This comment reveals Magritte’s intention, i.e., the ambiguity between the hidden and revealed captured in the depiction of a canvas on which a scene is designed to visually imply a compelling match to the outdoor scene it is blocking.

The above quote also shows that Magritte’s understanding of perception is quite compatible with modern brain neuroscience in which perception is conceived as an emergent property deriving from complex neural representation involving dynamic interplay between low-, mid- and higher-level processing (e.g., re-entrant processing in the Reverse Hierarchy Theory of Hochstein and Ahissar, 2002).

2.2.3. Perceived Transparency and Magritte’s Use of ‘Value’, Lightness

David Sylvester, the famous British art critic who wrote extensively about Magritte, wrote regarding his experience viewing *La Condition Humaine*: “... the question is usually whether it [the canvas] is a picture or a pane of glass. There is always perfectly clear evidence that it is not a pane of glass. Nevertheless, every time I confront *La Condition Humaine*, I begin by seeing the canvas as a pane of glass: the luminosity does it” (Sylvester, 1969, pp. 8, 71)

Sylvester’s reaction highlights another cue that Magritte enlisted to seduce us into seeing the canvas area as a transparent glass ‘window’ to the outside scene. He was careful to equate the ‘value’ (artists’ word for brightness) of the canvas region to the overall value of the scene outside the canvas boundaries. This match helps perceptually bind the scene elements depicted within the area of the canvas with the outside (background) scene, a grouping harmonious with the Gestalt Law of Similarity (Wertheimer, 1922, 1923, 2012; also summarized in Wagemans *et al.*, 2012) (Note 7). This strongly enhances the impression of the canvas area being transparent, and thus the surreal ‘resonance’, perceptual competition, with perceived opacity (see *Opacity*, Section 2.3 below). If the canvas area is manipulated to have a reduced brightness, the effect, even if transient or intermittent, is to bias our perception of the canvas area towards seeing it as an opaque object, attenuating the surreal ambiguity Magritte intended (as was done in Jakesch *et al.*, 2013) (Note 8). An example is shown in Fig. 2.

Jakesch *et al.* (2013) implemented just such a manipulation. Their study focused on evaluating the influence of ambiguity on perceived complexity in 36 Magritte paintings, including *La Condition Humaine*. One group of subjects rated the perceived complexity of the painting, and a second group rated it after digital manipulation to reduce the painting’s ambiguity. They recognized that the central ambiguity in *La Condition Humaine* was the conflict between opacity and transparency in the region of the painting where the canvas is depicted. As simulated in Fig. 2, the manipulation used by Jakesch *et al.*



Figure 2. The canvas area was reduced in brightness by 8%. Note that the tendency to see the canvas area as a transparent window-like view of the outside scene is reduced when the canvas brightness does not match the brightness of the outside scene. Alternatively, it could be seen as transparent ‘smokey glass’ (see text for details).

to reduce ambiguous interpretation of the canvas in *La Condition Humaine* was to simply darken the region of the canvas relative to the surrounding scene, thereby biasing perception towards opaque canvas inside a room. This manipulation reduced the degree of ambiguity perceived by their subjects.

It should be noted that although the darkened canvas area in Fig. 2 may be more likely to be seen as an opaque canvas, it can also be interpreted as a transparent view to the outside scene through a smoked-glass window. Metelli’s (1974) classic paper on the perception of transparency showed an array of examples of the conditions under which we tend to perceive transparency. In Fig. 2, the canvas area, within the context of the scene around it, contains all three configural conditions Metelli delineated for perceived transparency: figural unity of the transparent layer (the painting in this case), continuity of the boundary line (which must be perceived as belonging to the occluded object, like the dirt path or the clouds), and adequate stratification

(perceived depth order). If we envision the glass being progressively less smokey, in the limit we arrive at Magritte's original painting (a limiting case of 'Metellian' transparent layers).

There is good reason to believe that the 'trick' of equating the value of the canvas region with the outside scene was deliberately employed by Magritte. Based on the shadow information in the room (e.g., the shadows of the curtains), the canvas would be assumed to be illuminated by artificial room light, whereas the scene elements outside the window would have all been illuminated by sunlight. The likelihood of such a perceptually convincing 'value match' occurring in a real three-dimensional scene is thus low.

2.3. Opacity

Magritte ensures that our percept of transparency alternates/competes with perceived opacity by depicting seven cues that induce a percept of 'opaque painted canvas', highlighted by the numbers in Fig. 3: (1, 2) the invasion of the two left canvas corners into the brown curtain, (3) the thin shadow of the easel clamp onto the (implied) opaque paint on the canvas, (4, 5) the two thin

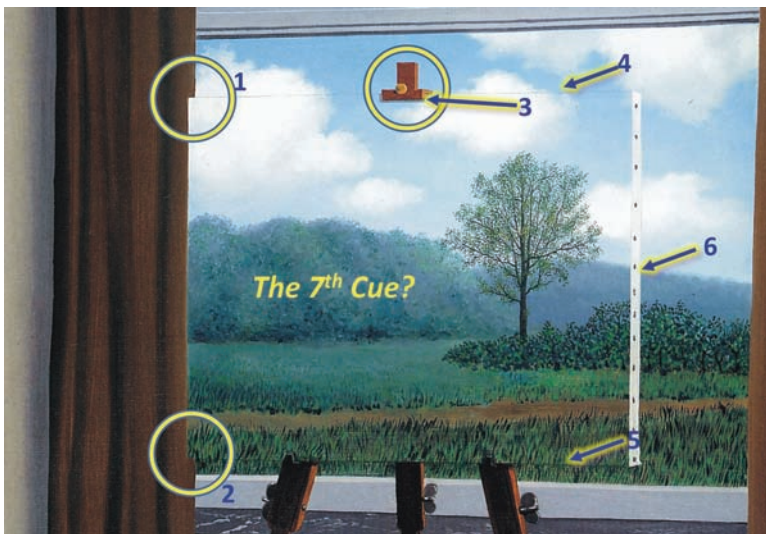


Figure 3. Seven cues, highlighted by numbers, draw us to perceive an opaque canvas. The seventh 'cue', unlike the other six, is not a visible feature (hence the '?'), but the absence of one (see text). Though this feature sometimes goes unnoticed, even by expert viewers, it is the strongest 'cue' to perception of opacity *via* an implied (cognitive) occlusion by the canvas, and cognitive completion behind it.

lines marking the upper and lower edges of the canvas, (6) the white edge of the right side of the canvas. The seventh is an invisible cue, an absence of a feature, that serves as the most profound and salient ‘perceptual proof’ (Note 9) of opacity: the disappearance of the easel behind the painting. Curiously, this cue is often not noticed by some viewers, even art-savvy viewers, until it is pointed out.

It should be noted that amodal completion of the easel legs to link up with the tiny clamp at the top of the canvas occurs despite the large gap between the tops of the legs and the clamp which presents a challenge to perceptual contour relatability mechanisms (Kellman and Fuchser, 2023). The completion occurs despite the fact that the specific structure of the hidden section of this particular easel is unknown and it need not include a direct-line link between easel legs and clamp. In fact, in general, the height of easel clamps is often vertically adjustable to accommodate different canvas dimensions. Magritte thus seems to have intended for such a perceptual link to occur since he ensured that the linear trajectory of the easel legs all pointed precisely towards the clamp.

Based on our priors about general easel structure, we know that the legs must be linked with the clamp. In addition, similarity along other dimensions (e.g., correspondence of wood color and texture) promote the completion.

This is a cognitive completion, not a more sensory-driven completion in which object features on either side of an occluder are similar in structure and trajectory as they enter and exit from behind the occluder (like a wolf with midsection blocked by a tree). Moreover, it is striking that the easel legs themselves would seem to defy gravity were it not for the implied linkage with a complex easel structure occluded behind the canvas. Our interpretation of the legs as connected to the clamp is thus likely not specified by early perceptual processes, but involves ‘recognition from partial information’ (as discussed in Kellman, 2001; Kellman *et al.*, 2005b), knowledge about easel structure, as well as plausible physics (e.g., the improbability of free-floating clamps). These are factors that influence the representation of the scene beyond the basic contour-linking given by contour relations. Thus, the nature of the completion here is compatible with Kellman’s concept of coexisting processes of perceptual contour interpolation and a more cognitive process of recognition from partial information (Kellman and Fuchser, 2023; Kellman *et al.*, 2005b).

Why do these cues so strongly bias our perception towards opaque canvas? The mechanisms that underly this percept cannot be fully explained based on low-level, ‘bottom-up’ visual signals or image statistics (Ritchie and van Buren, 2020). They require top-down input, automatic, rapid input from priors, from higher levels of processing, including memory of object properties and structure (e.g., the opacity of canvas and paint and the rather complex structure of easels, most of which is not visible here). For example, based on prior knowledge of the (opaque) nature of paint and canvases, the thin shadow

underneath the easel clamp (cue 3 in Fig. 3) draws us to perceive opacity. Though this shadow is not readily attended, Magritte went out of his way to include this subtle but powerfully informative feature. He was keenly aware of the potential perceptual impact of things that go unnoticed: “Seeing is an act, according to Magritte, in the course of which it can happen that a subject escapes our attention. ‘A thing which is present can be invisible, hidden by what it shows.’ ” (Magritte quote in Gablik, 1970, p. 12). Magritte’s quote above directs our attention to the central ambiguity of the painting, both a perceptual and philosophical ambiguity, which leads to some perceptual paradoxes discussed in Section 3.1.

Other details in the depiction of the canvas contribute to a perception of opacity and help drive our net perception to see the canvas area as an opaque figure localized inside the room. The canvas borders form 12 T-junctions in relation to the surrounding scene elements: four T-junctions at the canvas corners, two on each side of the easel clamp, and six T-junctions where the three easel legs meet the bottom of the canvas. These T-junctions also contribute to the perception of the canvas area as figure, as opposed to a direct view to the outside distant scene (Nakayama and Shimojo, 1992; Nakayama *et al.*, 1995, Rubin, 2001). In addition, as mentioned earlier, *La Condition Humaine* also has several ‘fuzzy junctions’ that may also contribute to the perception of the canvas area as occluding figure (e.g., clouds–canvas, grass–canvas, dirt path–canvas intersections).

2.3.1. ‘Perceptual Amplifiers’: the Power of Subtle Painterly Gesture, when Small Details Have Profound Perceptual Impact

Shown below are two versions of the *La Condition Humaine*. The original version is shown on the right (Fig. 4B). In the version on the left (Fig. 4A), I have masked the left edge of the canvas by inserting a sliver of the curtain, and the right canvas edge has been removed.

If you compare the left edge of the canvas in the two panels in Fig. 4, you can see that, as discussed above, the small 90° cutout of the drapes at the top left of the canvas in Fig. 4B biases us to perceive an occlusion of the curtain by the top left corner of the canvas (cues 1 and 2, Fig. 3). The bottom left corner of the canvas also invades the curtain, but it is much lower in contrast and less salient. These two small details have amplified perceptual impact:

(1) They elicit perceptual understanding of the ‘border ownership’ of that contrast edge by an *opaque* canvas (Craft *et al.*, 2007; Koffka, 1935; Zhou *et al.*, 2000). The border ownership propagates down the entire contrast edge to the other corner. (2) A perceived depth order is established (canvas in front of curtain). (3) The depth order is associated with a perceived occlusion of the right edge of the curtain implying an opaque canvas. In effect, the perception of opacity at the thin strip of the left edge of the canvas imbues the entire



Figure 4. (Left) *La Condition Humaine* with left canvas edge now masked by a strip of the brown curtain, and the right canvas edge replaced with the outdoor scene elements. (Right) The original painting as in Fig. 1 is reproduced here for ease of comparison with the left panel. The two panels highlight the importance of the two incursions of the corners of the canvas into the left curtain at the top and bottom of the canvas. These small details act as ‘perceptual amplifiers’, establishing border ownership by the canvas, and concomitantly imbuing the entire canvas with opacity, the same opacity seen in those corners.

canvas area with its properties akin to Kellman’s ‘surface interpolation’ (Kellman and Fuchser, 2023; cf. Rubin, 2001). This perceptual propagation reflects the visual system’s prioritization of extraction of surfaces from the lower-level input features in the process of object segregation and identification from memoric priors (Nakayama and Shimojo, 1992; Nakayama *et al.*, 1995; Rubin, 2001).

However, those small invading corners of the canvas contain elements from the outside scene: cloud is seen in the top left corner, and grass in the bottom left corner. These features belong to the distant background, and thus contradict our perception of an opaque canvas situated much closer to us. Yet, the perception of occlusion of the curtain draws us back to see opacity. Because these small details (especially the more salient top left corner) tend to bias our perception to see an opaque canvas, they behave analogously to the accentuation principle delineated by Pinna *et al.* (2014). They showed how a small dot (or multiple small dots), strategically placed, can convert the perception of an entire extended pattern to be seen as either background or figure depending on the geometry of the pattern and the placement of the dot(s) within the pattern. However, the elements described here as ‘perceptual amplifiers’ serve double

duty because the background (e.g., cloud) is seen in the same locale as the feature that elicits perception of figure. Its effect depends on the net global interpretation of the canvas area as either opaque canvas or a transparent view of the outside scene.

3. Perceptuo-Cognitive Paradoxes

In *La Condition Humaine* (1933), and in several other versions of this painting, and in similar works like the variants of *La Belle Captive* (the Fair Captive, 1931, 1947, 1948), Magritte explores his rule that “visible things always hide other visible things” (Whitfield, 1992, cat. 62), but, provocatively, mocks it by depicting objects that seem to either reveal what they conceal (e.g., the outdoor scene on the canvas), or conceal what ought to be visible. *La Condition Humaine* provokes a number of perceptuo-cognitive paradoxes that may not be immediately noticed. These are elaborated below.

3.1. Paradox 1: Transparent Canvas Occludes Opaque Objects, yet Imbues Them with Transparency

During the moments when the canvas area is seen as an opaque object blocking (yet seeming to replicate) the view of the outside scene, two prominent objects are completed, one amodally and the other cognitively, behind the canvas: the right edge of the left curtain and the main, central section of the easel linking the tops of the legs and the clamp. However, during the moments when the canvas area is seen as a transparent view of the outside scene, we encounter a paradox: the clear view of the clouds, field, grass and trees implies, paradoxically, that objects we know to be opaque (based on priors and the properties of similar objects in the painting) must, logically, be transparent.

3.1.1. Occluded Curtain Rendered Transparent

Once you realize the role that the top and bottom left corners play in establishing our perception of the canvas as opaque, you realize Magritte has pulled us into a ‘nested paradox’. Why did Magritte abandon his ‘reveal-what-is-concealed’ approach when painting the two small left canvas corners invading the curtain? Even in the ‘invasion zone’, we seem to see right through the curtain to the scene outside the window, implying that not only is the canvas transparent in that region, but, paradoxically, the occluded curtain is itself transparent. If the outside scene is visible ‘through’ the rest of the canvas, the edge of the curtain ought to be similarly visible ‘through’ the canvas. The logic of the painting demands this. Yet these two small details (left canvas corners), which serve as strong cues for perceiving the whole canvas as opaque, also appear to be transparent corner ‘windows’ to the outside scene. The two most likely

(but not the only possible) interpretations of this part of the painting are: (1) the curtain has been cut out exactly along the entire left edge of the canvas to match the geometry of the canvas, or (2) the (amodally completed) curtain is intact, and the invading canvas edge is occluding that portion of the curtain (Note 10). In the first case, we would have to accept (perceptually speaking) an unlikely curtain configuration: unlikely based on priors as well as the structure of the matching right-hand curtain that Magritte presents to us. We would still be left with the two main competing percepts of the canvas — an opaque painted canvas that reveals what it conceals, but without the added paradoxical implication of a section of transparent curtain.

The second, more natural (and more likely) interpretation follows the implicit logic of the painting and adds the paradoxical implication that the occluded sliver of curtain is itself transparent, in violation of our priors about thick, light-blocking curtains. These competing perceptual interpretations of the left canvas edge, and the implied propagation of the induced canvas properties, highlight the dynamic interplay between bottom-up sensory signals and top-down, even cognitive input to the ultimate percept. The perceptual paradoxes illustrated by this analysis of these small components of the painting depend, in part, on our knowledge about the properties of canvases, paint and curtains.

3.1.2. Occluded Easel Rendered Transparent

Analogously, during those moments when we see the canvas as transparent, we do not see the huge section of easel in the center of the canvas. The only way we could see the complete, unobstructed outside scene would be if the easel too were transparent (Note 11). However, the disappearance of the main section of the easel forces our perception back to seeing the canvas as opaque, occluding the easel. Yet, the apparent identity of the scene-on-canvas with the (presumed) scene outside continues to draw our perception back towards seeing the canvas as a transparent ‘window’, which logically (but impossibly) implies a transparent easel.

3.2. Paradox 2: when ‘Far’ Becomes ‘Near’: Collapse of Disparate Depth Planes

During the moments when we perceive the canvas as opaque, our visual system readily accepts elements from the scene outside the room ‘magically’ jumping space, across multiple depth planes, to appear on a flat canvas near us inside the room. The jump from a vividly perceived distant scene (outside the room) to near (canvas surface) is accepted despite Magritte’s meticulous depiction of cues that firmly establish relative depth of all the objects in a

robust three-dimensional scene in which objects at vastly different distances are depicted.

This ‘plane-jumping’, ambiguous localization, reflects, and is a consequence of, a conflict between lower-level visual mechanisms that analyze basic object features and strive for perceptual continuity, and higher processing mechanisms that segregate objects and organize them into cogent three-dimensional perceptual space.

This conflict is one of several elements in this painting that contribute to the salience of ‘surreality’, the shock of self-contradiction. The top left corner of the canvas in Fig. 4B is a good example: perceptually we can assign that feature to the white, distant cloud ‘seen’ through that corner, or to a painted depiction of a cloud localized on the (near) plane of the canvas surface. Notice that the two alternative percepts of this detail are associated with implicitly distinct material properties – open space (or transparent glass, for example) *vs* paint-on-canvas (Ritchie and van Buren, 2020; see Section 6 in the present article).

As noted in Ritchie and van Buren (2020), alternation between different depth planes is evident in some well-known images like Rubin’s face–vase illusion, as well as an intriguing variation in which the faces are filled in with a real-world outdoor scene that elicits perceived depth to the horizon, and the vase region is replaced with a dark, moonlit evening view of an outdoor scene. In this example, Ritchie and van Buren reproduce Pinna *et al.*’s (2014) demonstration that accentuating red dots added to the classic Rubin vase bias our percept to see the vase region containing the dots as figure. However, in the outdoor-scene variant, with red dots replaced by an image of a moon that reflects off some distant outdoor-scene elements, the moon-dots draw us to see the vase shape as background, not figure.

Therefore, the small piece of cloud in the upper left corner of the canvas can function perceptually either like Pinna *et al.*’s dots (biasing towards figure, and hence towards opacity) or like Ritchie and van Buren’s outdoor-scene variation, biasing towards background (transparent canvas).

It is also noteworthy that the two competing localization percepts are linked to our perception of the canvas area as either transparent (features on the canvas seen as distant) or opaque (features on the canvas seen as close, in the room).

4. Shadows Seen and Shadows Missing: Both Speak to Us, some Confuse

Shadows tell us about light sources and about the objects casting them, their structure and even trajectory in three-dimensional space in the case of moving

objects (Kersten *et al.*, 1997). In this case, some shadows Magritte depicted make sense, others not, while some missing shadows may go unnoticed.

The thin shadow underneath the easel clamp imparts opacity to that region of the canvas, and, by implication, the rest of the canvas, one of the examples of what I called ‘the power of subtle painterly gesture’ or ‘perceptual amplifiers’. The shadows behind the drapes and underneath the windowsill imply illumination by a single light source inside the room from above, roughly centered between the drapes. The source must be close enough to the window so that the curtain’s shadows are cast towards different directions (slightly leftward for the left curtain, rightward for the right curtain). But where are the shadows from the easel legs that would be cast on the wall and the floor? In fact, we do not even notice the absence of a shadow that would be cast by the canvas onto the white window frame or the windowsill.

Some visible shadows confuse. There are two small shadows at the base of the easel legs that extend at an angle along the floor away from the wall: but these shadows make no physical sense, especially for the easel leg closest to the wall, given the illumination implied by the shadows of the curtains. Yet we tend not to notice these aberrant shadows without methodical inspection of the painting details, nor do they detract from our acceptance of the otherwise meticulously rendered scene. The overall scene organization, ‘scene-understanding’ mechanisms in the visual system override the impact of such violations of physics of light, shadows and outright omissions (Cavanagh, 2005).

5. Why We Tend not to See a Logical Alternative Interpretation of the Scene

In principle, the entire outdoor scene could have been painted on the glass of the window. However, Magritte went out of his way to prevent us from seeing the painting that way. He certainly had thought of this approach as evidenced by several variants of *La Condition Humaine*, such as *La Clef des Champs* (Key to the Fields, 1936), *Le Domaine d’Arnheim* (The Domain of Arnheim, 1949), and, later, *Le Soir Qui Tombe* (Evening Falls, 1964). In each of these we see a similar window in a similar room that has been shattered by some large object, leaving shards of glass inside the room leaning improbably upright along the wall beneath the window and on the windowsill. On these glass shards we see a near-exact reproduction of elements in the scene outside the room, creating the unavoidable impression that the outdoor scene had, indeed, been painted on the glass.

Le Soir Qui Tombe (1964) and its earlier brethren are thus reasonably seen as Magritte’s not-so-subtle counterpoints to *La Condition Humaine* and a

defiant answer to logical question implied by the heading of this section. If *La Condition Humaine* confronts us with a reality in the form of a scene, a visual and conceptual terrain which he has ‘mined’ with perceptual antonyms and paradoxes, *Le Soir Qui Tombe* (and variants) literally shatters that reality. Moreover, *Le Soir Qui Tombe* adds three more philosophical considerations to those raised in *La Condition Humaine: Agency, Causality, and Time*. Someone/ something (agent) broke (causality) the glass, arranged the shards (agent) to appear improbably leaning upright against the wall and windowsill with the images on them all facing us (agent). In addition, in the case of *Le Soir Qui Tombe* (Evening Falls), Magritte has given us an implicit time-keeper in the painting: the distance between the setting sun and the hills forming the horizon are nearly identical in the scene outside the room and on the painted shards of glass inside the room, as if the window had been hastily shattered immediately after the sun had been added to the scene (we have to imagine a real setting sun being painted in this scenario).

However, Magritte’s design of *La Condition Humaine* biases our perception strongly against seeing the logical alternative implied by *Le Soir Qui Tombe* by carefully laying out the scene elements so as to elicit a vivid three-dimensionally depicted space that spans a large range of perceived depth (from the front of the easel legs to the plane of the painting, to plane of the window, to the distant bushes and more distant hills, sky and clouds). The grass and distant green hills exhibit texture gradients and implied atmospheric haze commensurate with receding distance. Even a detail like the thin strip of grass that appears beneath the canvas serves as a strong cue to localize the grass outside the room, contiguous with the grass leading up to the dirt path. The outside scene thus remains firmly outside, refusing to collapse to the implied plane of the window.

In addition to the implied three-dimensional layout of scene elements outside the window, several object features on the canvas and inside the room bias against a paint-on-window-glass perception:

- (i) The occlusion of the right edge of the left curtain by the edge of the canvas localizes it in front of the curtain, inside the room. Without this feature, the whole left edge of the canvas could more easily have been seen as belonging to the same plane as the window. This is readily seen in Fig. 4A, where the occluding strip of the canvas has been filled in with elements of the outdoor scene.
- (ii) The easel clamp is amodally connected with the easel legs via an implied (occluded) easel structure that extends all the way from the tops of the easel legs to the clamp, all hidden behind the painted canvas (see text associated with Fig. 3). And these easel legs are convincingly localized inside the room, perceived as in front of the windowsill.

- (iii) The depiction of the easel legs extending above the sill into the region of the grass outside reinforces their localization inside the room and interferes with any perception of the entire scene within the window frame as having been painted on the glass.

6. Transparency vs Opacity: what these Competing Percepts Tell Us

Because any shift in percept between transparency and opacity occurs without a change in the stimulus, the competing appearances cannot be explained by the scene's local or global image statistics and pure 'bottom-up' sensory signals (Ritchie and van Buren, 2020). Higher brain mechanisms that instantiate image segmentation and figure–ground assignment and three-dimensional scene organization must be enlisted. Our cognitive understanding of the scene at any given moment, which changes depending on what features we attend to, determines which we see — a transparent window-like structure or an opaque canvas.

Ritchie and van Buren (2020) astutely pointed out that, depending on whether a scene element is perceived as figure or ground, our perception of the nature of the material properties of that element change. In *La Condition Humaine*, for example, when the canvas area is perceived as opaque, based on our priors, we perceive the canvas area as a material, with the associated physical properties of a canvas covered with paint. We may not attend to this feature, but when the canvas area is being experienced as an opaque canvas, its associated material properties are quite distinct from those of the alternative interpretation, i.e., transparent glass. Other paintings by Magritte also illustrate this phenomenon quite vividly, such as Magritte's *Les Muscles Du Ciel* (Muscles of the Sky, 1927) and *Le Blanc-Seing* (The Blank Check, 1965; see Hamer, 2023). Hamer (2023) discussed the latter work which features a woman riding on a horse through a stand of trees. The most strikingly surreal feature of that painting is a prominent gap in the front end of the horse. The gap is coincident with the opening Magritte depicted between two large trees, and so we seem to see through the horse to the hazily depicted foliage and grass far in the background. A second glance reveals that this gap is behaving as an opaque occluder, blocking the rider's left hand and part of the reins as well as a huge chunk of the horse's front torso. The gap in the horse is thus bi-stably perceived as either open space in which we see textured background foliage in the distance, or as an opaque foliage-textured occluding 'ribbon' in the foreground, a material with unspecified properties other than its opacity.

6.1. *Tasks the Brain Must Solve: Surfaces, Objects and Scenes*

The tasks the visual system must solve, beyond processing of essential stimulus features (e.g., lines, edges, contrasts, colors, orientation...) are (at a minimum): (1) to identify objects *qua* objects (whether recognized or not), (2) to segregate objects, and (3) to recognize objects so segregated, (4) organize objects into a plausible perceptual three-dimensional scene with plausible figure–ground relationships between objects.

Object recognition and segregation requires visuo-perceptual assignment of surfaces and boundaries to objects (e.g. Kellman and Fuchser, 2023; Nakayama et al, 1995), and assignment of border ownership to objects within their context (see Section 2.3.1 above). The Gestalt psychologists recognized the visual system’s penchant to assign ownership of contrast borders to objects (e.g., Koffka, 1935), and famous bi-stable illusions like Rubin’s vase (Rubin, 1921) “demonstrates this compulsion of the visual system” (Zhou *et al.*, 2000).

6.2. *Implications for Processing Hierarchy*

In *La Condition Humaine*, robust perception of opacity of the canvas also requires enlistment of high-level vision, input from top-down priors, e.g., memory about the opaque nature of canvases and paint. The spatial ordering of objects into a coherent perception of a three-dimensional scene must be preceded by the identification and recognition of the objects, segregation of these into figure–ground relationships, and ultimate arrangement of the objects in a plausible three-dimensional scene. Functional magnetic resonance imaging (fMRI) studies in human subjects have permitted us to identify candidate brain areas subserving these various functions. For example, input from loci in the inferotemporal cortex such as the lateral occipital cortex appears to be important for object recognition (Grill-Spector *et al.*, 2001; Kourtzi and Kanwisher, 2001; Kourtzi *et al.*, 2003; Malach *et al.*, 1995; Spiridon *et al.*, 2006).

Research on primate cortex, which is structurally and functionally very similar to human cortex, supports a working hypothesis that surface texture and border ownership may be coded earlier in visual processing, in so-called midlevel visual pathways (e.g., visual area V2: Pasupathy and Connor, 2001; Pasupathy *et al.*, 2019; Zhou *et al.*, 2000). Area V2 in the visual cortex seems to play a role in figure–ground segregation in that it contains cells that respond more vigorously when they are receiving stimuli from the figure side of a figure–ground boundary (they are ‘side-of-figure selective’, e.g., Craft *et al.*, 2007; Qui *et al.*, 2005; Sugihara *et al.*, 2011; Zhou *et al.*, 2000).

Finally, the artist’s skilled hand must evoke in us a robust three-dimensional scene, with objects arranged in depth order with appropriate relative size. Recent fMRI data from human subjects obtained while they were performing visual tasks suggests that scene recognition *per se* appears to be

achieved, at least in part, by processing in a special brain region, the parahippocampal place area located in the inferior temporo-occipital cortex (Spiridon *et al.*, 2006).

In *La Condition Humaine*, Magritte has successfully manipulated our visual system's automatic scene construction. At first glance, the spatial arrangement of the objects in the three-dimensional scene Magritte has depicted are all as 'expected' (i.e., harmonious with our 'priors': 'it's just a painting on a canvas in a room') except that Magritte has thrown a monkey-wrench into the perceptual works by crafting the set of visual cues that imbue paradoxical transparency to the central opaque object.

6.2.1. Predictive Coding and Transparency–Opacity Ambiguity

The involvement of priors in our perception of the painting, and in particular, our perception of ambiguous elements in the painting, directs attention to the Predictive Coding model of perception with applicability to art perception (e.g., Van de Cruys and Wagemans, 2011a; Wagemans, 2017; Wolf, 2020). Predictive Coding emphasizes inferential processes in perception. According to this model, with accumulated experience, the brain builds a 'Generative Model' of the external stimuli causing the perceptual experience: perceptual processing starts with the predictions of the Generative Model, not from the input. Predictions are iteratively sculpted and refined according to incoming (bottom-up) sensory data from which the visual system calculates a 'Prediction Error' signal by comparison of incoming sensory data with predictions of the Generative Model. Moreover, it has been hypothesized that the dynamics of positive aesthetic experience in response to art may be explained if one assumes that we can experience active reduction in the Prediction Error signals and that this is experienced as pleasurable (Van de Cruys and Wagemans, 2011b; Wagemans, 2017).

According to a Predictive Coding model, our alternation between seeing an opaque, painted canvas and a transparent glass-like view of the outdoor scene occurs because the Prediction Error signals associated with each percept are equal or close to equal.

6.3. A Clue to the Dynamics: Ambiguity Is Perceived Rapidly

One notable result in the research by Jakesch *et al.* (2013) on ambiguity and perceived complexity was the speed with which ambiguity was perceived by participants. Ambiguity in the 36 Magritte paintings was reported in approximately 50% of the observers when the stimulus duration was only 100 ms, and in 75% of the observers when the stimulus was 500 ms in duration. These rapid temporal dynamics of detection of ambiguities may aid in articulating temporal boundary conditions for understanding processing hierarchies.

7. Conclusion

Multiple perceptual and cognitive dualities are set into conflict with each other in Magritte's 1933 masterpiece, *La Condition Humaine*: an opaque painting behaves like a window, paradoxically revealing what it conceals; a scene exists alternately outside a room and near us inside a room, on a canvas. Subtle details exert amplified perceptual impact, like the left corners of the canvas that impart opacity to the entire canvas. Moreover, the very same details elicit perceptual and conceptual paradoxes whereby an opaque canvas corner seems to reveal the outside scene, thereby propagating an implied transparency to the (opaque) curtain that it is blocking. Magritte's art thus draws us into reflections on perception, on what is seen and what is hidden, on the inescapable yet permeable boundary between the imagined and the real. Magritte draws us into the provocative conceptual territory in which he explores, and violates, our visual system's perceptual 'rules', or categories of objects, and even examines, almost as a scientist, the very nature of representation itself.

The approach in this paper emphasizes one domain of art analysis, namely the role of compositional features, large and small, in perceptual organization evoked by Magritte's masterful depiction of features that both inform and confuse. I highlight the perceptual impact and philosophical implications of the painting, zeroing in on some of the embedded conflicting cues, emphasizing at times a kind of 'butterfly effect', what I termed 'perceptual amplifiers', where large perceptual interpretive effects result from tiny, often unnoticed, Gestalt factors brought into play by the artist. The focus on such pictorial details and their perceptual impact can enhance viewers' appreciation of *La Condition Humaine* as well as other works of art: "By establishing more connections between parts of an artwork and more associations to the artwork, it becomes a stronger Gestalt, which is more easily mastered by the viewer and leads to increased appreciation" (Wagemans, 2011).

Magritte considered himself a painter of ideas (Dubnick, 1980; Gablik, 1970; Paquet, 2015, p. 46). In this sense, Magritte's works were those of a philosopher as much as an artist. *La Condition Humaine* clearly addresses fundamental philosophical dualities — interior vs exterior reality ('the problem of the window'), representation vs reality — and guides us to examine a universal 'mystery of the ordinary', including our ubiquitous everyday experience of visible things hiding other visible things (Magritte, 1938b). However, in Magritte's hands, the quotidian mystery is rendered more mysterious, rendered surreal, by the perceptual-conceptual conflict inherent in the 'reveal-what-is-concealed' construction of the painting. In *La Condition Humaine*, the exterior and interior trade places, a localization ambiguity, depending on how the canvas area is perceived. Thus, *La Condition Humaine* raises

questions about the ‘location’ of perception and thought (Wargo, 2002), a topic Magritte discussed explicitly in relation to this painting.

Although Magritte was well versed in philosophy, there is no indication that he had read work by Wittgenstein, philosopher of mind and language (Gablik, 1970), who, coincidentally, was examining the localization-of-perception question during the same time period (Note 12): “I can say: ‘in my visual field I can see the image of the tree to the right of the image of the tower’ or ‘I can see the image of the tree in the middle of the visual field.’” And now we are inclined to ask “and where do you see the visual field?” (Wittgenstein, 1965, cited in Wargo, 2002).

In addition to the latter dualities, Magritte saw this painting almost as a meditation, a philosophical reflection, on a kind of space-time -travel: “For the viewer, the tree was simultaneously in the room in the picture and outside in the real landscape. That existence in two different spaces at once is like the moment existing simultaneously in the past and the present as in *déjà vu*” (Magritte, 1938a).

The central paradox of the painting may also be interpreted to challenge the temporality of the work in another manner: “*La Condition Humaine* ... exemplifies how, by both negating and affirming the opacity of the picture plane, perspective transforms the painting into a transitional object that is both ‘there’ and ‘not there’ simultaneously” (Wargo, 2002).

Magritte’s art thus engages us on perceptual, aesthetic, emotional, cognitive, philosophical and even unconscious levels, challenging expectation and simplistic views of the world, all animated by his belief in the ‘mystery of the ordinary’, his devotion to create visual poetry, to make thought visible and seduce us into novel intellectual/emotional territory by means of strategic use of ‘poetic shock’, the deliberate juxtaposition of related objects in unexpected contexts (Note 13). Magritte’s brand of Surrealism was notable in that his surreal effects were constructed with realistically depicted objects: “Because his images draw their material so often from normal daily experience, they are the more persuasive in their haunting suggestion...they make us conscious of the wonder of our own mind’s speculation rather than of a personal realm of fantasy belonging solely to the artist” (Taylor, 1957)

Magritte recognized the importance of perceptual completion phenomena in our overall visual and cognitive experience. In *La Condition Humaine* Magritte has cleverly constructed a grand, self-contradictory (implied) completion scenario that begins at the canvas edges where ‘outdoor’ scene elements enter the canvas, but which are then plausibly extrapolated across the whole canvas surface: the visible object doing the ‘hiding’ (canvas) is ineluctably, albeit intermittently, seen as revealing what it is hiding. In this regard, this bi-stable construction “challenges our naïve ideas about the distinction between seeing and thinking” (van Lier and Ekroll, 2020). The net perception

reflects multi-level perceptual processes that both automatically extract basic stimulus relations and attempt to resolve higher-level, interacting constraints on plausible scene descriptions (Kellman and Fuchser, 2023). Our visual system's attempt to extract a unified plausible scene description is constantly challenged by competing interpretations complicated by the fact that some relevant cues are subtle and may be subject to the vagaries of attention or fixation, an insight that Magritte seems to have expertly employed here.

Magritte as philosopher-artist appreciated the fundamental relevance of Plato's famous 'Allegory of the Cave' (Plato, 360 B.C.E.). The allegory depicts a group of people chained up in a cave facing a wall. They can only see the shadows of objects cast on the wall by a fire located behind them. They give names to the shadows which become their reality. To Plato, the shadows are, like the products of our senses, imperfect, illusions, inferior to the reality outside the cave in the sunlight where reason and logic and mathematics reside. And we now know that even the latter are not enough — experiment and the methods of science must be employed to resolve inevitable ambiguities. Plato's allegory inspired Magritte to call on us (including his fellow Surrealists) to "leave the cave" (Marszalkowski, 2017). In fact, a version of *La Condition Humaine* painted in 1935 is a quite literal reference to the allegory, depicting a canvas and easel similar to the one in the 1933 work, but situated literally inside a cave looking out into the sunlit 'reality' outside the cave.

Yet, alas biology dictates that, like Plato's prisoners, all we have to work with are those 'shadows on the wall', and our visual/cognitive 'mind', amplified by our natural scientific impulse, must make 'sense' of it all.

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Notes

1. The heading introducing Section 1.1 ("Representation of Representation") summarizes Magritte's philosophical insight: the painting itself is a representation (like the pipe in *The Treachery of Images*, 1929); but it goes one philosophical step further in that it is also 'representing' (inquiring into) perception as representation in phenomenological experience, in 'our heads'. It is a query into the localization of thought! The phrase is thus fairly literal (in an abstract sort of way): the painting is a representation that 'discusses' (by provocation) perception as representation in the brain, thus drawing us into philosophical consideration of the nature of reality. In a 1967 interview with the BBC's Hyatt Carter, Magritte said

“... you see the world as being outside yourself, but what you actually experience is a mental representation — (he taps his head) — a mental event, inside, in here ...”. Carter later mused aloud to Magritte: “It raises so many questions. It is the pictorial equivalent of the kōan in the Zen tradition.” The kōan is a story, dialogue, question, or statement in Zen practice that provokes doubt, a metaphor for a principle of reality beyond the private opinion of one person and is used to test a student’s understanding of the principle.

2. Versions of *La Condition Humaine* were painted in 1931, two in 1933, two in 1935, one each in 1945 and 1949. An array of at least 10 other works with other titles also dealt with similar issues: *La Belle Captive* (1931, 1947, 1948, 1949, 1950, 1960, 1965); *L’Appel Des Cimes* (1943); *La Clef des Champs* (1936); *Le Soir Qui Tombe* (1964).
3. Suzi Gablik (1934–2022) was an artist, art historian and a professor of art history and art criticism who wrote a definitive book about Magritte (Gablik, 1970) while she was living with him and his wife, Georgette.
4. Magritte’s first foray into this theme was in his 1931 *La Belle Captive* (The Fair Captive; see below) which depicted a canvas in a verdant field behind which, down a hill, in the distance, was a lovely large country house. The house and its immediate environs appeared on the canvas which was situated so as to block the ‘real’ house down the hill, behind the canvas. The canvas thus blocked exactly what it revealed, just as in *La Condition Humaine*. Magritte painted seven paintings entitled *La Belle Captive* between 1931 and 1965 depicting varied scenes, but always with this ‘reveal-what’s-concealed’ theme.
5. The word ‘trick’ is used here because Magritte almost certainly did not intentionally implement any Gestalt principles in designing or conceiving of the painting. Magritte eschewed all psychological interpretations of art, whether Freudian-analytic or Gestalt. “It would not be difficult to hit upon some ignored activity in my brain and charge it with having been responsible for determining the content of what I call an ‘unforeseen image’ ... I am incapable of believing in the necessity of an unconscious activity that reduces consciousness to the manifestation of a superficial mechanism. For my part I find rather comic the seriousness of specialists and victims of the ‘unconscious.’” (Magritte, 1957, in *Magritte*, 1958). Also, it is a ‘trick’ because however salient (even if transient) the global percept of transparency elicited by the several continuation features, Magritte meticulously painted a set of local features that ineluctably draw us to perceive the antithesis of transparency, i.e., an opaque canvas (Section 2.3).
6. It is ironic that, in the very explication of the layers of meaning *vis-à-vis* the nature of representation, Magritte refers to the “real tree situated

- behind ...” the painting depicted in the room (Sylvester, 2009). This makes perfect sense from the point of view of the artist who, presumably, painted a real scene. However, his choice of words highlights importance of maintaining a clarity of language vis a vis the phenomenal (percepts) vs ‘noumenal’ (‘the real tree’ in a real three-dimensional scene).
7. The similarity in this case is a case of multidimensional Gestalt similarity: similarity of luminance and chromaticity (see Wagemans *et al.*, 2012).
 8. The darkened canvas shown in Figure 2 could be interpreted as a transparent smoked-glass pane. However, the brightness difference tends to bias our perception towards the opaque-canvas interpretation, and diminish the ambiguity that Magritte set up (Jakesch *et al.*, 2013).
 9. I placed ‘perceptual proof’ in quotes because this ‘proof’ (cue) derives from what is not seen. It is thus more accurate to describe the (implied) invisible portion of the easel as a cognitive/logical cue, not a perceptual cue, requiring prior knowledge about the structure of easels plus some logical interpretation of this scene.
 10. There are, in principle, other possible interpretations of the left canvas edge. For example, instead of the curtain being cut out to match the canvas edge, or an intact, opaque brown curtain that (paradoxically) permits a view of the outside scene, it could also be an intact opaque curtain whose right edge has been painted so as reproduce the exact elements of the outside scene it is occluding. Magritte was certainly inventive enough, likely mischievous enough, and sufficiently enamored of surprise and what he termed “the mystery of the ordinary”, to have imagined any or all alternative interpretations ‘induceable’ by this portion of the painting. However, it seems *prima facie* unlikely that Magritte would have realistically expected our perception to go this route: and besides, the net result would be indistinguishable from the other two cases (opaque, intact curtain that we see through, paradoxically, vs a cutout curtain). Moreover, Magritte painted the other curtain, serving as, in essence, a model for both curtains, ‘normal’ curtains.
 11. Same reasoning here as in Note 11: Magritte could have envisioned the central main section of an opaque easel painted so as to exactly match all the elements of the outside scene that it ought to be occluding. Again, it seems *prima facie* unlikely that Magritte would have realistically expected our perception to go this route.
 12. Suzi Gablik wrote: “... the similarity between the preoccupations of both men is striking, to the point where even the images they use often correspond. The resemblance is all the more curious since Wittgenstein was actually dictating [the original material later published in] *The Blue and Brown Books* [Wittgenstein, 1965] to his students in Cambridge at the

time when Magritte completed ‘The Human Condition’ [1933] and the ‘Key to the Fields’ [1936], [which was] the initial version of ‘Evening Falls’ [1964], both of which deal with experiencing the mental phenomena of inside and outside” (Gablik, 1970, p. 96).

13. The concept of ‘poetic shock’ came to Magritte one evening: “One night, I woke up in a room in which a cage with a bird sleeping in it had been placed. A magnificent error caused me to see an egg in the cage, instead of the vanished bird. I then grasped a new and astonishing poetic secret, for the shock which I experienced had been provoked precisely by the affinity of two [related] objects — the cage and the egg — to each other, whereas previously this shock had been caused by my bringing together two objects that were unrelated.” (Magritte, 1938a; also quoted in Paquet, 2015, p. 28, and Gablik, 1970, p. 104).

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