

The Treachery of Images: Why Images Do not Exist and There are Only Flat Objects

Riccardo Manzotti
Università IULM, Italia

Abstract Do images exist? In this paper I argue that the notion of an image is ontologically empty – i.e., images are no more than a cultural invention akin to epicycles in astronomy. There are only flat objects engaged in various causal roles. In this paper I will defend the thesis that in visual culture, in the neurosciences, and in philosophy of mind, there is no convincing evidence in favor of their existence. Moreover, I will outline a series of arguments aiming at showing that images do not exist. I will discuss briefly why many authors – from the iconic turn to the neurosciences – use the notion of image as though it were something real. I will conclude suggesting to drop the subject-object divide and to consider a completely flat ontology made only of (relative) objects.

Keywords Images. Philosophy of Mind. Mind-Object Identity. Pictures. Body.

Summary 1 Have You Ever Seen an Image?. – 2 Flat Objects or Pictures, No Presence of Absences. – 3 Mental Images: A Series of Arguments Against Them. – 3.1 Images Do not Do What They are Required to Do. – 3.2 Images are not Empirically Sound. – 4 How is a World Without Images?. – 5 The Mind-object Identity Does not Images.



Peer review

Submitted	2021-03-16
Accepted	2021-06-01
Published	2021-06-30

Open access

© 2021 | Creative Commons Attribution 4.0 International Public License



Citation Manzotti, R. (2021). "The Treachery of Images: Why Images Do not Exist and there Are Only Flat Objects". *JOLMA. The Journal for the Philosophy of Language, Mind and the Arts*, 2(1), 91-112.

DOI 10.30687/Jolma/2723-9640/2021/01/006

1 Have You Ever Seen an Image?

What seemed for so long self-evident,
[...] suddenly strikes us as peculiar.
(Belting 1988, ix)

The notion of image seems rather straightforward – an image is something we see. We are allegedly surrounded by images of all shapes. We live in a world overcrowded with images, or so we are told. And yet, consider whether that is really the case. Are we surrounded by images or are we surrounded by objects that we have learnt to call images because of traditions and cultural habits? I will claim that the latter case is the correct one, and that the notion of image is an empty notion with no real ontological weight; for instance as it is the case with the notion of center of mass.

In recent times, images have received a lot of consideration in many fields (from media studies to visual cultural studies as well as in analytic philosophy and cognate scientific disciplines like neurosciences, psychology, media studies and visual culture (Mitchell 2015) and it is of course at the center of the *Bildwissenschaft*. In fact, the notion of image plays a fundamental role in many areas where it is used to explain what the content of one's visual experience is and how we do interact visually with the world. In media studies, images have had such a prominent role that scholars have coined the term 'iconic' or 'pictorial turn'. In the neurosciences and in psychology the quest for mental images has been raging for years (Kosslyn 1981; Kosslyn, Thompson, Ganis 2006; Mitchell 1984; Pylyshyn 2002; Tye 1988).

The crux of the matter is whether images are real – do they exist outside of scholarly papers and commonsensical beliefs? Undoubtedly the notion of images has been so ubiquitous that, as it always happens, their extended usage has given credibility to their existence (Belting 2005, 2011; Freedberg 1989; Freedberg, Gallese 2007; Gallese 2018). Yet, are we surrounded by images or by objects that we have learnt to call images because of traditions and cultural habits? I will claim that the latter case is true, and that the notion of image is an empty notion with no ontological weight. In this regard, images might today have a role akin to that of spirits in the past. Provocatively, there is ground to suspect that the contemporary belief in images is an updated version of animism.

First and foremost, we need to distinguish between images and pictures, whereas by 'image' I will refer to the alleged object of one's experience and by 'picture' I will refer to an object that is used by human beings in virtue of having a visual likeness with something else a picture or (if it is not predominantly flat) or a sculpture (Goodman 1974; Newall 2011).

A caveat, here by likeness I do not refer to any phenomenological notion. Two objects are alike relative to a sensor modality - in this case vision - if they elicit the same causal response, at least to some extent. Likeness comes in degree. For instance, when I see a picture of my child, I react with an emotional response that is to some extent alike what I feel when I see my child. By the same token, a face recognition program can react to various faces and by doing so it shows that they have something in common. Of course, here I will not defend a complete account of likeness, but it is enough to point out that I will adopt a causal account of likeness - two objects are alike to the extent that there is something that might be caused by both. Two keys are like if they unlock the same lock. It is, if you like, an Eleatic criterion of likeness (Kim 1998; Manzotti 2009; Merricks 2001; Shoemaker 1980); something not entirely dissimilar from the David Freedberg's response (Freedberg 1989) and reminiscent of Hyman's aspect (Hyman 2006).

Going back to the mentioned issue of the ambiguity of the word 'image', which refers both to the external physical object and to the alleged visual experience, I will move from Belting's formulation (Belting 2011, 2):

The English language distinction between 'image' and 'picture' is pertinent, but only in the sense that it clarifies the distinction between the 'image' that is the subject of our quest and the 'picture' in which that image may reside. At a fundamental level, the question of what an image is requires a two-fold answer. We must address the image not only as a product of a given medium, be it photography, painting, or video, but also as a product of ourselves, for we generate images of our own (dreams, imagining, personal perceptions) that we play out against other images in the visible world.

In Belting's words, the image is indeed different from the picture. While he does not commit to a psychological or dualist account of the image, he considers an image as a real entity; something that "resides" in the picture and that is both a "product of a given medium" and "a product of ourselves". For him, images "do not exist only on the wall (or on the TV screen), nor do they exist only in our heads" (Belting 2005, 4). In fact, Belting argues "against the rigid dualism that so often claims to distinguish between 'internal' and 'external' representation, or 'endogenous' and 'exogenous' representation to use the terminology current in neurobiological research" (Belting 2005, 4).

Belting's suggestion is all well and good, if only he had a sound theory of images from the neurosciences. Unfortunately, there is no working theory of images in neurosciences and, aside from cognitive accounts of visual processing (Hubel 1988; Marr 1982; O'Regan, Noë 2001; Pearson et al. 2015; Reuter-Lorenz et al. 2010), there is no con-

vincing account of images in the head. There is not even consensus as to whether mental imagery requires consciousness (Nanay 2020). In fact, there is no empirical evidence of the existence of images inside the brain as it should be expected given that images are not defined as something physical – e.g., “the intangible nature of the mental image” (Belting 2005, 4).

Notwithstanding such a conspicuous absence of a sound physicalist account, many neuroscientists use the notion as though it was established. It is not so. Even the alleged reconstruction of internal mental imagery by means of machine learning and statistical correlation, while technically impressive – these techniques promise to show on a computer screen what one is imaging or seeing – should be considered more properly correlation-based tools to reconstruct the relation between external stimuli and internal neural activity (Miyawaki et al. 2008; Shen et al. 2019). There is no need to introduce anything like an intermediate image (Manzotti, Chella 2018). Consider how these techniques work in the case of standard perception: there are external physical events impinging on the sensory organs and there is the ensuing and correlated neural activity in various cortical areas. The algorithm stores a database of the external stimuli and the resulting cortical activity. Afterwards, when the subject imagines something, the cortical activity is mapped against the original external stimuli and the proper combination of world events is mapped on a computer-generated picture. At the end of the day, there is no need to suppose the existence of an image at any point of such an, admittedly, very complex causal chain of events. Everything is just an object – the external world, the chemical reaction inside sensory organs, the neural activity in the brain, the electric activity in the recording instruments, and the final computer-controlled display. They are all objects, physical objects. There are no images anywhere along the chain and there is no need to suppose the existence of any.

We can therefore comfortably quote Bernard Stiegler’s words to the effect that “There have never existed physical images (*images-object*) without the participation of mental images, since an image by definition is one that is seen (is in fact *one* when it is seen)” (Stiegler 2002, 145). Yet, based on such implication, I reach a conclusion opposite to that of many authors – e.g. Belting or Stiegler himself: I maintain that, since there are no mental images, there are no images too – neuroscientists and media scholars have neither need of nor evidence for the existence of images. Or at least, this is what I will try to further substantiate.

2 Flat Objects or Pictures, No Presence of Absences

We are surrounded by flat physical objects with various colors, often with the capabilities of changing their colors in a fast and dynamic way (as with computer and phone screens and display). All of them are just physical objects. They are not images. Frescos, tempera, oil painting, and printed pictures are objects too; objects that can be physically weighted, handled, shattered to pieces, and touched. Is this fact already not somewhat suspicious? Can we touch an image? It does not seem right. An image can be seen, not touched. Objects can be touched too.

Yet, we call certain objects images. This is surely only a matter of habit. It is not ontologically committing. When an object is sufficiently flat and the distribution of colors on its surface is more conspicuous than its shape, weight, and size, we have get used to call it an image, as though its physical thickness might be overlooked, and the flat object were nothing but an infinitely thin layer of colors. This is of course an idealization of something that, no matter how thin, as in the case of film, it is still a flat object. A film, for instance, is 0.14mm thick. Computer screens, LCD screens, and OLED phone screens are of course, much thicker although we tend to dismiss their physical thickness and consider only the superficial layer of microscopic colored lights. Such a layer, though, is yet another flat object made of a mosaic of microscopic light emitter diodes.

So, this is to say that wherever we look, we do not see literally images. We see flat objects we conventionally call images because we overlook their thickness, and we deal with them as though they were flat surfaces floating in space or surfaces over imposed to an object. We open a book, and we see very flat and thin objects, like pictures on a page. A printed 'image' is a very thin layer of ink deposited on to a thin foil of paper.

One might rebuke that there is a bit of playing with words here. We may see a photograph of a beautiful pair of running shoes in a magazine. The object is a magazine, it is not an 'image'. Yet, there are no actual running shoes in the magazine, only an image of them. In that sense, images do exist. This is, of course, a case of Belting's presence in the absence - i.e., an image is the presence of an absence by means of another presence that of the other medium (a notion recently defended by Noë 2012). It needs the presence of the medium. But the medium is such only because, as I've argued above, the medium which is an object affects an observer in some way that is alike to that of another object. The presence is a causal presence and not an iconic presence in the sense that, over above the object we call medium, there is an icon or an image. All the causal power is drained by the object called medium which is, Eleatically speaking, all there is. Existence is causal relevance.

Just to be clear about what I mean, consider Belting's account of the relation between image and its medium (Belting 2011, 6, emphasis in the original):

The distinction between image and medium becomes equally apparent when we consider the inherent nature of images as the *presence of an absence*. The image is present in our gaze, certainly. But that presence, or visibility, relies on the medium in which the image appears, whether on a monitor or embodied in an old statue. In their own right, images testify to the *absence* of that which they make present. By virtue of the media in which they are produced, they already *own* the very presence that they are meant to transmit. The stone or bronze or photograph now owns the only *presence* that is possible, which is in fact the *absence* of the real object. In this lies the paradox of images – in the fact that they are or mean the presence of an absence – and this paradox is in part a result of our capacity to distinguish image and medium. We are willing to credit images with the representation of absence, because they are present by virtue of their chosen medium. They need a presence as a medium in order to symbolize the absence of what they represent. The body analogy here comes into play again. The relation between absence, understood as invisibility, and presence, understood as visibility, is in the final instance a body experience. Memory is a body experience, as it generates images of absent events or people remembered from another time or place. We tend to *imagine* as present what in fact has long been absent, and we impute the same ability to the pictures (such as photographs of the dead) that we fabricate.

Here the confusion is between medium and object, rather than between medium and image. Why does a certain object behave in such a way that is considered to be an image? Because there are two objects, the object which is absent and the object which is present (the medium) and they happen to have the same causal properties. They are two keys, undoubtedly not identical, which nonetheless unlock the same lock. The lock is kindly offered by the body of a beholder. Belting's explanation is based on a dualistic conceptual framework that, regardless of its commitment to full-fledged dualism of substances, assumes the existence of intermediate entities. While it is a perfectly legitimate linguistic attitude, there is no need to take it seriously.

The case of memory and dreams is justified because they assume that in such cases we see images rather than things. So using memory and dreams to endorse the ontological weight of images is question-begging. Media scholars need images because their conceptual framework is based on the notion of images.

Very often, optical inventions – such as media and computer screens or displays – have fooled us into believing that we were seeing images (Crary 1992). When we watch the silver screen at the movies, we see an object (the flat screen) over which shadows and lights are projected. It is not ‘an image’. It is a flat and usually white object over which we play smart light games. Do we see an image? Why should we say so? We see lights and shadows and colors over a flat homogeneous object. The distribution of colors and lights and shadows is such as in everyday life is produced by not so flat objects. Yet, no matter how those colors and shadows are produced, they are physical phenomena. So, I see the same physical distribution of shadows on a screen as it would be produced by George Clooney’s face. What I see, though, is the physical distribution of shadows, and that is an object that might be instantiated either by a human face, or by lights projected by a film projector, or by an array of lights in a computer screen.

The fact that different objects may lead to the same behavior depends on the proper physical system. For instance, a painting of a beautiful body will have no resemblance to the body if one is congenitally blind. As in the hilarious illustration *The Innocent eye test* (Mark Tansey 1980), a cow would not react to a painting that, relative to a human being, would indeed be alike two cows having sexual intercourse. The point is that likeness is in the eye of the beholder or, to put it less chauvinistically, is relative to the observer.

However, being a picture (let alone an image) is more a matter of being in the proper relation with another organism that is fooled by the picture and may mistake it for another object or circumstance. Yet, aside from such an aspect, pictures are just objects, mostly flat, and occasionally less flat as is the case with bass reliefs and statues.

3 Mental Images: A Series of Arguments Against Them

Having, perhaps too briefly, addressed the issue of physical images (or pictures) and showed that they are nothing but objects, let’s consider for a moment the notion of mental images. If there are no images in the physical world, from where did we get the idea that we see the world by means of them? By means of something that is neither to be seen nor to have any causal role? The answer to such a question is of course beyond the limits of this paper, however it is possible to mention two factors – one of historical nature and another one of more philosophical nature – that are likely to have had a key role in endorsing the widespread belief into the existence of images.

The first is the very well-known influence of the invention of perspective. Ever since Brunelleschi and Alberti’s invention, people have conceived vision as a process by means of which the external world

is projected inside the retina following the converging rays of the inverted visual pyramid. What we see is then something that travels from the external world and that shrinks until it goes through the pupil and that has been presented as the section of the optical pyramid. The section, which has been conveniently represented as a bi-dimensional immaterial picture is the ancestor of the notion of image - i.e., something that is in the physical world but that is in the process of becoming like a two-dimensional image. The orthogonal section of the visual pyramid was later revisited as the occlusion or contour shape by many visual culture scholars or psychologist of perception (Gibson 1979; Hyman 2006; Marr 1982). The merging between perspective theory, the invention of the camera, the study of the eye, the study of perception, and the neurosciences, completed the process (Gross 1998; Lindberg 1976). It is all well-known, but it is worth to remember.

The second factor is the ever-assumed separation between the subject and the object. Such a separation is not monopoly of the dualism of substances, of course. Neurosciences are not immune. In fact, the current physicalist dominant view - the brain here and the world there - is a form of dualism (Koch 2012; Manzotti, Moderato 2010; Rockwell 2005; Uttal 2001). Even embodied cognitive scientists or enactivists distinguish the world one perceives from the world as it is. Once the separation between subject and object is assumed, there is the need for something to (re)present the world in the subject which cannot be the object since we have assumed it is different. The image is then, in the empire of the mind, is the alleged mandatory herald of the world (small pun inspired by a couple of authors, Jaynes, McMuffin, David Lynch). More prosaically, if the subject is separate from the mind, it cannot be aware of anything which is not part of itself. So, as Cartesian philosophers considered the existence of ideas or impressions, by the same token, neuroscientists seek neural representations and mental images. Is this mandatory? Of course not. It is a necessary step only if one assumes the separation between the object and the subject which has been questioned by various recent ontological framework. In the last section I will try to upturn this assumption upside down.

I will now address a series of arguments that show that, even if the subject and the object were separate, the notion of images is empirically unsound and logically inconsistent.

3.1 Images Do not Do What They are Required to Do

The first point I want to make is to show that images betray their very purpose - being a way (or a means) to see something else. The very idea that we see objects by means of images gives rise to a dilemma. If images were invisible, how could we see them? And if they

were not, how could we see anything else, and why should we use them to see something else.

Likewise, if the world is visible (by any means), images would be no longer needed. We would see the world as such. Is it not the meaning of being visible? But if the world were not visible, we would see only images and not the world. Images, as Kant's phenomenon, defeat their own purpose.

Elaborating the dilemma further, if images were something we could see, we could not see anything else. They would cover the world of objects with a veil of appearance. Suppose I look at an apple. Do I see the apple or an image of the apple? If the latter were the case, I should draw the conclusion that only images are visible. Clearly, they would occlude the world. And thus, the dilemma will ensue. Either images are objects in the world, or they are not. Both options are self-contradictory.

In fact, on the one hand, if images were objects, then they could not be seen because they would require an image to be seen. So, we would have something akin to infinite regress. On the other hand, if images were not objects, we would be stuck in a Cartesian/Kant idealistic/mental world and we would have to provide a feasible ontology for images. While this idea is popular today (Hoffman 2019) and it has been popularized even more in many fiction works as in the *Matrix* movie (1999), it is a cover of traditional dualism. The world we see is just a world of images that prevent us from accessing the real world as in Magritte's *The Human Condition*. So, either images are visible or they are not. Either way, they would prevent us from doing the very thing they are supposed to exist for: allowing us to see the world.

The argument holds also if one considers images to be a neural creation. For instance, suppose that we see images generated by the brain. What are such images? Are they physical objects or processes inside the brain? If images were physical processes, they would be objects like everything else and then, if we could see objects by means of images, why should they be visible? They would require other images generated in some further brain area. Once again, the issue of infinite regress will kick in. Moreover, if we could see a neural process, why should we not see an apple?

In this regard, Alva Noë stated that "When we see in pictures, we really do see models, if my proposal is on the right track. But here the models are very much on the world side of the mind/world divide" (Noë 2012, 110). Fair point, yet why should we not be able to see an image inside the brain if it were a physical object? We can see pictures after all! One may counterargue that we do not see images inside a computer. In fact we do not see any image *inside* the computer, but we see pictures on the screen of the computer (or better we see the screen of the computer becoming a picture). If a 'pictorial' file

was never converted physically to a colored flat physical object – be it a print or an LCD screen, it would not be an image. It would be a physical recipe to produce an image. Recipes are not food. They are a tool to cook and create food. Likewise, we do not experience recipes, we experience the world. We see something. What do we see? Surely not mental images, but the world.

3.2 Images are not Empirically Sound

Take all the findings of the neurosciences, is there any trace of the existence of an image? No. All available evidence refers to three things: neural activities in the CNS, the external stimuli, and the resulting behavioral output (either as verbal reports or as body movements and physiological reactions). This is all the neurosciences are about.

Of course, one may point out that in the future we will find something completely unexpected, like Aladin's jenny. This might well be. However, one thing is to say that we have evidence of, say, the existence of aliens and another one is to say that we know for sure they exist. Moreover, from an ontological angle, the existence of aliens is a lot less problematic than the existence of images. To the best of our knowledge, aliens do not require any ad hoc ontological addition to the physical world.

I do not want to repeat the argument presented in the first section of this article, but there is no empirical evidence of the existence of any image. Everything science and empirical evidence has shown is flat objects with different colors or flat objects illuminated by multiple colors in various configurations.

To appeal to the existence of images inside brains or inside computers is not any better, actually it is probably worse. In fact, flat objects at least are loosely reminiscent of the section of the visual pyramid, but the structures in brains and computers are nothing like that.

Consider a cell phone, which is a miniaturized and pocketable computer equipped with cameras and a display. When you point at an object, the device modifies a certain number of electronic tensions inside tiny circuits. Because of the overall organization of the device, such tensions may be used to easily modify the light emitted by the display so that the phone and the photographed object produce a similar response in a standard human viewer. All of that is fantastic. However, do we need, besides the electronic machinery, the lens, the external object, and the viewer's body, anything else? No, we do not. Such a description is causally closed. All causal powers have been drained by the elements just sketched. Adding an image, anywhere along the change, would be causally overdoing.

In other words, the physical world is causally closed and self-sufficient and the existence of images would causally overdetermine

what has happened. One cannot claim that the appearance of certain colors on the screen has been caused by the *image stored inside the phone*, since if that were the case, there would have been two causes, each completely sufficient, to determine the colors on the screen: the electronic tensions inside the phone and the image. They cannot be the cause of the resulting change of colors on the screen. One of them must be, at best, epiphenomenal, which means that it does not make any difference. In short, it does not exist. Since the electronic tensions are surely there since they can be measured and detected irrespective of our ontological commitments, so much the worse for the image.

In *passim*, let me note that the expression “colors on the screen” is as misleading as the expression “the image on the screen”. There is nothing *on* the screen. There is just the screen with its changing color. The fact that the outermost layers of the screen is very thin may suggest that its thinness is zero and there is an image on the screen. This idea would be naïve of course. The outermost layer of the screen is indeed a very thin object in its own respect. One may even argue that it is the actual screen and that all the electronics underneath is just some additional circuit to power and control the colored outermost layer.

It is useful to address quickly the habit that many neuroscientists have of speaking freely about neural patterns and the like as they were a sort of proto-images inside the nervous system or the brain. They are not. They are a figure of speech. If one looks inside the brain, as we did with the phone, one will find neither images nor pictures. As it ought to be expected, one will find neurons and glia and blood cells but no images. Are such biological structures busy concocting images? At the best of our knowledge, they are not. Biological cells inside the brain are busy controlling the body movements. Neurons are not flashing images inside the head. They have neither the means nor any interesting in doing so.

Then, why do neuroscientists feel the need to speak of images inside the head? It is difficult to say. Probably, as aforementioned, neurosciences still endorse dualistic picture of the mind ever since the classic mind-brain identity theory failed (Bennett, Hacker 2003; Feigl 1958; Fink 2016; Koch 2012; Polger 2011; Smart 1959; Tononi, Koch 2008). So, although nothing in the neuroscientific evidence supports the existence of images in the head (where? In V1? V2? In a special integrative area that nobody has even pointed out), neuroscientists often talk as though inside the brain a visual mental/virtual world is constantly up and running. For many neuroscientists, it is quite mundane to state that, thanks to “fMRI and neuropsychological evidence, [the pictorial theory of mental images] gained widespread acceptance” and that while “the debate over the format of mental images is not entirely over, the way to resolve it [...] is to learn even more

about how the brain realizes and processes mental images". (Boone, Piccinini 2015). Consider this passage by two neuroscientists (Laureys, Tononi 2009, italics mine):

From the internal standpoint, consciousness consists of a multiplicity of mental images of objects and events, *located and occurring inside or outside the organism, [...]. Those images* are automatically related to *mental images* of the organism in which they occur [...]. *By 'image' we mean a mental pattern* in any of the sensory modalities, for example sound images, tactile images, or images of pain or well-being conveyed by somatic sensation. We do not regard *the issue of generating mental images* as an insurmountable problem in consciousness research. We believe that *mental images correspond to neural patterns* and acknowledge that further understanding of the relationship between neural and mental descriptions is required.

I quoted the passage at length because it exemplifies nicely the dominant view in the neurosciences; a view that has been summarized by Alva Noë "to see, it is widely supposed, is to have picture-like representations of the world in consciousness; seeing is having a kind of mental picture" (Noë 2012, 82). Possibly, the only evolution from the pictorial theory of mental images popular in the seventies (Kosslyn 1980; Lennie, Krauskopf, Sclar 1990; Tootell, Silverman 1982) has been the shift from a bidimensional and literally pictorial notion of mental images to a four-dimensional mental world. According to such a view, the world we see is a virtual reality 3D-4D fiction generated inside the brain. Unfortunately, nobody knows what that world should be made of and the appeal to mental images is question begging.

Many neuroscientists believe that we do not see the world as it is, rather that we see the mental images which are internally generated (Crick 1994; Eagleman 2015; Koch 2004; Michel et al. 2019; Seth 2016), and as a result, most scholars outside of neurosciences believe it to be the case. Of course, here I cannot enter into the debate about consciousness, I need only to point out that, given views as those expressed by Laureys and Tononi's quoted text, it is easy to fall into the mistaken impression that mental images are akin to mental or neural patterns. This is not a minor point, and it is far from obvious that being neural is either sufficient or identical to be mental. Actually, there is no evidence of any kind of constitutive relations between the two mental and the neural. Moreover, using the notion of pattern as an explanation of the notion of images is rather suspicious. A pattern is a causally-relevant functional configuration. It is not, to any extent, akin to what we mean by 'image'. An image may be used to produce a pattern and viceversa, but they are not the same. The fact that, in many circumstances, we use pictures to depict patterns

is a misleading source of confusion that should be avoided. Students end up believing that patterns and geometrical entities are bidimensional shapes. They are not. We use figures to speak of patterns and abstract entities – e.g., sets or numbers. While this confusion was acceptable in the infancy of geometry, today it should be discouraged. A triangle is not a shape, and a pattern is not a bidimensional picture, although they can be communicated to the amateur using such objects.

And, of course, as in the case of the phone, one may argue that in the brain too events run the risk of being overdetermined. In fact, once we have the neural activity there is no space left for images. If what I do were determined both by the neural activity and an image, my behavior would be overdetermined. All causal powers are drained by the neurons and what they do. From a causal perspective, so much the worse for images.

The bottom-line is that today there is no evidence of any image in the brain. We may use the notion of images as a convenient placeholder to refer to some intermediate stage in the complex chain of processes that goes from the external world to one's behavior, but there is no need to commit to their existence, at least from a neurological perspective. Everything we know from the available neurological findings does not require any image.

4 How is a World Without Images?

The short answer is that it is just like our own, so it might be that it is the very world we live in. A world without images is a world of objects with causal properties. Do we really need anything else? Occasionally, in such a world, different objects that have similar causal powers have different physical structures. The object A might be round, and the object B might be flat and thin. Yet, in the proper geometrical circumstance, A and B may impinge in the same way on some further structure, for instance an eye. In such a case, people have the habit to call B an 'image' or a 'picture' of A. No big deal. Here, 'similar causal powers' means to be able to cause, everything being the same, the same effect. This is a relative and Eleatic notion of similarity.

However, as we did in the previous section, if there were no images, it might be objected that we could not see anything. Most models of visual experience are based on the notion of images. Images are assumed to be what allows us to see the world. Many scholars and laymen assume that visual perception is the experience of images that are somewhat connected with the external world, which is what those images *are about*. Such a view is the likely hunch behind the notion of a medium (or media), as something that is *in the middle* between the subject and the object.

Above, I have argued at length about why the invention of images, once the separation between subject and object is accepted, is not a solution but it leads to a series of Magrittesque dilemmas. Sadly, the subject-object dichotomy resuscitates the traditional issues of the noumenon/phenomenon dichotomy with the usual bag of problems (from infinite regress to ontological prodigality).

So, how can my eliminativist proposal of getting rid of images tackle with the fact that we experience the world visually? My main reply is that we do not experience (nor see) any image, rather we use the notion of images to explain our phenomenology (and epistemology). So, images are not a datum – i.e., something we must start from – they are a hypothesis that must be backed up by adequate either empirical evidence or analytical arguments. They both lack. Images are not the explanandum. They are a possible explanation not what must be explained. In this regard I totally disagree with Noë's phenomenological insight and pretheoretical intuition that

[w]hen you look at a photograph of Hillary Clinton, say, you see her. After all, there she is, in the picture. This is not to deny that you also see the picture itself, that is, the physical piece of paper [...] But it is to deny that that is all that you see. Every picture has a double aspect: it is there for you, as a tangible, physical thing, and as a presentation of (in our example) Hillary Clinton. Suppose you were to say: “Well, I see a bit of paper with smudges of color on it and I interpret this as representing something I independently know to be Hillary”. if you were to say this you would be utterly untrue to the character of your visual experience. You would be misdescribing what you see. So, Hillary confronts you when you see her picture. Hillary shows up for you, in your experience of the picture. She is present for you, visually, in the picture. full stop. This is phenomenological bedrock. (Noë 2012, 83)

Then I must clearly have a different phenomenology than Noë, since I do not see Hillary Clinton and I feel no embarrassment in putting the picture of Hillary Clinton in my bathroom when I am shaving as it would be were Hillary next to me. I am perfectly aware that what I hold in my hands is only a bit of paper with smudges of color that I am quite good at interpreting as something that may tell me something about Hillary Clinton. But not necessarily so since it might be, for instance, the output of a DeepFake algorithm which is just producing one faked woman after the next and one might happen to be randomly but cannily similar to Hillary Clinton. Or I might be the victim of a conspiracy à la Matrix and there might have never been any Hillary Clinton. So it is all a fake. Clearly, as Noë himself admits, a photo is a manufactured object designed to be causally efficacious with my visual system and my cognitive processes “[Pictures]

are made for us, that is to say, they are made with our particular perceptual and cognitive capacities in mind. They [...] have been selected for to be straightforwardly accessible to us just on the basis of our normal perceptual and cognitive capacities” (Noë 2012, 103).

So, what do I see when I watch the colored picture? I see a picture that looks a bit like a woman. Likeness, as I argued in the above, might be explained as a causal properties. So, a photograph is a bit femalish, while a Wax statue at Madame Tussauds’s is even more femalish, and a read doll animated with Microsoft recent patented algorithm to mimic a specific person might be even more femalish and so forth, up to the android in *Black Mirror’s* “Be right back” episode. But all such objects are not objects plus an image. They are just objects. So, sorry, but for me it is not a phenomenological bedrock that Hillary Clinton is present in the picture (a presence that is, of course, the role we have attributed to images).

Back to the main problem, if images do not provide a successful explanation, there is no need to buy them. They can be dumped. My point, in brief, is that we do not experience images, we do not experience “the presence in absence”, we perceive objects that happens to share causal properties with other objects. What we believe is not a presence in absence, rather is a presence of a presence. However, since we have assumed in subject-object dichotomy, we believe that what we perceive is an image. This is not a phenomenological fact, let alone a “bedrock”, this is a belief, a wrong belief.

5 The Mind-object Identity Does not Images

Can we do without images? Yes, I believe we can if we move from a different premise. In this final section, I sketch a possible alternative framework that I have defended in much greater detail elsewhere (Manzotti 2016; 2018a; 2018b; 2019; Manzotti et al. 2020), which aims to provide a different starting point. This hypothesis is the mind-object identity that considers the possibility that the subject and the object are indeed identical; more precisely that the subject is the object as it exists relative to our body.

To cut a long story short, there is no need of a separation between the subject and the object unless we suppose so. When we experience an object, we must be something. What are we? Neuroscientists suggests we are neural processes or the properties they instantiate. Cartesian dualists assumes we are the ideas or impressions caused by such object. The mind-object identity suggests that we are the external objects themselves as they take place relative to our body (or a part of our body). So, when we perceive an apple, the hypothesis is that we are the apple as the apple takes place relative to the ongoing causal intercourse between the world and our body. Suppose

that the causal intercourse takes place by means of optical means. The apple that takes place and that is causally efficacious is a “visual” apple in the sense that it is an object whose causal properties are endowed by means of optical causal processes. Such an object is the visual apple - i.e., the apple that exists relative to a pair of human eyes and the ensuing cortical structures. It is an apple that does not include many of the properties that we might be tempted to include in a standard apple (weight, taste, smell). But it is a perfectly red, round, and shiny apple and relative to an eye it does not miss any property. So, the idea is that rather than assuming that the apple exists absolutely and that senses grasps only partial projections or aspects of it, we may consider the existence of umpteen relative apples, each relative to a different portion of our body (or to further bodies as those of animals and other people or even objects). Each relative apple (a visual apple, a tactile apple, a tasty apple) exists relative to the right causal circumstance.

Please beware of the fact that such an apple is not a mental or a phenomenal apple. It is neither objective or subjective. It is not created inside the head of the beholder. It is the external cause of one's cortical activity. I want you to pay attention to the fact that in such an account there is need to appeal neither to images nor of to mental properties. Everything is utterly physical. The causal apple that is impinging on my retina by means of light rays bouncing on its surface is completely physical. The different and yet as much physical apple that may impinge on my olfactory sensors inside my nose would be a different one. There is no causal overdetermination in such an account. What is then the visual experience of the apple? It is simply the apple taking place relatively to a visual apparatus and thereby having causal efficacy. That is why this hypothesis is called the ‘Mind-Object Identity Hypothesis’, since it is based to the identity between our experience and the external object as it takes place relative to our body (or a part of it).

Once the separation between subject and object is set aside, a different account of visual experience and of pictures becomes available. If we deny the subject-object divide, images are no longer required. The act of perception is indeed the certification of an identity between us and the external world relatively to some part of our body. Other sensor modalities will certify the identity between us and other parts of our body (a tactile apple, a smelly apple, a tasty apple, and so forth).

Ontologically speaking, the notion of image has never been a good solution, it has always been the problem.

In fact, the introduction of images, whatever they are, does not address the problem of our relationship with them. If images were indeed between us and the world, how could we access them? Suppose they were visual structures somewhat instantiated by the activity in

our brain, how could we see then? We would need another intermediate image to project the image of an object. And so on, *ad infinitum*. The only solution is to adopt some form of identity. For instance, in Cartesian dualism, there is no relation between the subject and its ideas – the subject is *his* ideas. Descartes does not need intentionality. In this regard, he stated that if two subjects had exactly the same ideas, they would be the same subject. There is no residual haecceity insofar as the subject is one with his ideas (Descartes 1642). So, identity between the subject and what the subject finds in his experience (both conscious and pictorial) is indeed an unavoidable step. Of course, one might appeal to intentionality, but I will not even take into consideration such an ontological expensive addition here. Intentionality is a left over of a dualist-friendly bygone age.

What do we see when we see a picture then? If we do not see an image, what do we see? We see an object that shares some causal properties with another object.

What about images and pictures, how does this theory address their case? The basic idea is that we always see objects as they take place relative to our body. It is a completely flat ontology that requires only one kind of entities: (relative) objects. When we see a picture of something, we see an object that shares with its subject, which is just yet another object, the ability to impinge causally on our body in the same way. For contingent and historical reasons, such objects have been manufactured using the former object as their blueprint (as it happens with photographs or with 3D printers). This contingent relation has often been mistaken for some kind of constitutive historical relation by causal theories of perception or representation (Aristila, Pihlainen 2009; Ayer, Cohen 1977; Grice, Wilhte 1961; Hyman 1992; Watling 1950).

I see a picture of my mother in Italy while I am in New York. What do I see? I see an object, the flat object covered with colored inks I call a photograph. Do I see my mother too? No. I see an object that shares with my mother certain properties. The photograph is just a bit like my mother. They have something in common. Since I am who I am with my past experience and my memory, such an object is enough to make me recollect my mother and think of her. The object may also trigger a memory of my mother and various emotions that are associated with my childhood, a bit like Proust's madeleine. Do I see an image of my mother? No. There is no image of my mother. There is just an object who resembles to my mother from a certain angle and, given certain causal circumstances largely fixed by my body and my neural structures, produces the same effect my mother would were she in the right place in front of me. In my brain there are neural locks that can be unlocked both by my mother and by the photograph. It might be interesting here to consider the connection between this eliminativist approach and various theories of objec-

tive similarity (Hyman 2006) but I will postpone such a comparison to another opportunity.

Or consider smell. Last night I was running by the sea, after a big storm, close to a small hill. It's early spring and I smelled a combination of grass and mud that made me think of my birthplace, a village in the Apennine mountain in Italy. Was that an aromatic image of my birthplace? Of course not. My birthplace and that small hill by the sea happened to share the same combinations of smells. There was no aromatic image of my birthplace in the hill by the sea. There was just a hill very wet after any days of rain.

It is important to stress that the proposed approach is based neither on an objective nor on a subjective account of similarity. Rather it is based on the notion of relative existence which is neither objective nor subjective. Such a notion of similarity is the kind of casual likeness I mentioned at the very onset of this paper. Two objects are alike to the extent that, everything being the same, they would cause the same effect.

The notion of "relative" is here to be intended like to the notion of relative velocity in physics. Relative velocity is neither subjective nor objective. It is just relative. Yet relative velocity cannot be established in isolation. Ask to a physicist what the velocity of a body is. There is no valid answer. Velocity exists only relative to a given frame of reference, which is a formal way to refer to another object. The earth has a relative velocity of 67 km per sec relative to the sun and a whopping speed of 220 km per sec relative to the center of the galaxy. Relative to my laptop the earth is perfectly still. At any time, the earth (and any other object) has multiple velocities, each relative to a proper object. Every object has umpteen relative velocities. Likewise, the causal properties of objects exist only relative to other objects. Relative existence is a rather straightforward notion that should be more popular.

We can borrow the notion of relative existence for all properties - i.e., all causal aspects - of an object. So, it might happen that two objects share the same causal property relative to a given system (for instance a human body with its sensory organs and neural structures). If those two objects instantiate the same relative property, one of them will be a picture of the other one. Usually, we use the word 'picture' only when this property is instantiated relative to a subset of the human body which includes the visual apparatus and the connected neural structures. Yet, this may be a narrow definition and different subjects (for instance, congenitally blind subjects) may have no problem in including a more liberal definition of picture which includes sculptures, action figures, bass reliefs, and so forth. Or you may consider cases such as the fragrance of the hill or Madame Tussaud's statues.

When there are two objects sharing a causal property, why should one of them be deemed a picture of the other rather than vicever-

sa? I have addressed this issue in the above but it is better to elaborate it a bit more. The short answer is contingent and practical reasons. There are many rules of thumbs. For instance, the object that existed earlier is usually considered to be the original. Alternatively, the original is the object that was causally antecedent or the object that was used to manufacture the other. Or there might be other arbitrary, conventional, or historical reasons. I am not interested here to provide a comprehensive list, which will always be incomplete given the inventiveness of humans. The traditional contrast between the relation of similarity, which is symmetrical, and the relation of representation, which is asymmetrical, is here immaterial. We choose one object as the picture of the other because of arbitrary reasons. Circumstances being different, it might be the other way round. If 3D printers were cheaper than inkjet printers, we might 'take' three-dimensional sculptures of bidimensional photographs. As it turned out so far, it was cheaper to realize frescos, drawings, paintings, and photographs than realized three dimensional structures representing bidimensional sketches. Practical constraints have biased our conceptual framework and pushed us towards a 'pictorial' turn.

To recap, the notion of images was the offshoot of the assumption of the separation between the subject and the object. Once such a separation was assumed, something was needed to bridge the gap and to be the object of the subject's visual experience. This need led many authors to consider the existence of a fictitious entity, the image, which was conceived as the intermediate entity that is perceived by means of various vehicles and mediums. In turn, this led to a proliferation of theories that addressed the relationship between such a fictitious entity and physical objects (for instance, flat objects of ten called pictures). Here I propose

1. to consider a more parsimonious assumption - the subject is identical with the (relative) object - called the mind-object identity, and
2. to get rid of the notion of images in favor of a flat ontology where there are only objects engaged in various causal roles. The proposed ontological revision does not conflict with visual culture or media studies, but it may provide a neutral and more parsimonious ontology.

Bibliography

- Arstila, V; Pihlainen, K. (2009). "The Causal Theory of Perception Revisited". *Erkenntnis*, 70, 397-417.
- Ayer, A.J.; Cohen, L.J. (1977). "The Causal Theory of Perception". *Proceedings of the Aristotelian Society*, 51, 105-25.
- Belting, H. (1988). "The End of the History of Art?". *History and Theory*, 27, 188. <https://doi.org/10.2307/2505142>.
- Belting, H. (2005). "Image, Medium, Body: A New Approach to Iconology". *Critical Inquiry*, 31, 302-19.
- Belting, H. (2011). *An Anthropology of images. Picture, Medium, Body*. Princeton: Princeton University Press.
- Bennett, M.R.; Hacker, P. (2003). *Philosophical Foundations of Neuroscience*. Malden (MA): Blackwell.
- Boone, W; Piccinini, G. (2015). "The Cognitive Neuroscience Revolution". *Synthese*, 193(5), 1509-34.
- Crary, J. (1992). *Techniques of the Observer on Visions and Modernity in the Nineteenth Century*. Cambridge (MA): The MIT Press.
- Crick, F. (1994). *The Astonishing Hypothesis: the Scientific Search for the Soul*. New York: Touchstone.
- Descartes, R. [1642] (2008). *Meditations on First Philosophy*. Transl. by Moriarty, M. Oxford: Oxford University Press.
- Eagleman, D.M. (2015). *The Brain. The Story of You*. New York: Pantheon Books.
- Feigl, H. (1958). *The Mental and the Physical*. Minneapolis: University of Minnesota Press.
- Fink, S.B. (2016). A Deeper Look at the "Neural Correlate of Consciousness". *Frontiers in Psychology*, 7(1044), 1-13.
- Freedberg, D. (1989). *The Power of Images: Studies in the History and Theory of Response*. Chicago; London: Chicago University Press.
- Freedberg, D; Gallese, V. (2007). "Motion, Emotion and Empathy in Esthetic Experience". *Trends in Cognitive Sciences*, 11, 197-203.
- Gallese, V. (2018). "The Problem of Images: A View from the Mind-Body". *Phenomenology and Mind*, 14, 70-9. https://doi.org/10.13128/Phe_Mi-23626.
- Gibson, J.J. (1979). *The Ecological Approach to Visual Perception*. Boston: Houghton Mifflin.
- Goodman, N. (1974). *Language of Art*. Cambridge (MA): Harvester Press.
- Grice, P.; White, A.R. (1961). "The Causal Theory of Perception". *Proceedings of the Aristotelian Society*, 35, 121-68.
- Gross, C.G. (1998). *Brain, Vision, Memory. Tales in the History of Neuroscience*. Cambridge (MA): MIT Press.
- Hoffman, D.D. (2019). *The Case Against Reality*. New York: W.W. Norton.
- Hubel, D.H. (1988). *Eye, Brain, and Vision*. New York: Freeman.
- Hyman, J. (1992). "The Causal Theory of Perception". *The Philosophical Quarterly*, 42, 277-96.
- Hyman, J. (2006). *The Objective Eye. Color, Form, and Reality in the Theory of Art*. Chicago: The University of Chicago Press.
- Kim, J. (1998). *Mind in a Physical World*. Cambridge (MA): MIT Press.
- Koch, C. (2004). *The Quest for Consciousness: A Neurobiological Approach*. Englewood (CO): Roberts & Company Publishers.

- Koch, C. (2012). *Consciousness. Confessions of a Romantic Reductionist*. Cambridge (MA): MIT Press.
- Kosslyn, S.M. (1980). *Image and mind*. Cambridge (MA): Harvard University Press.
- Kosslyn, S.M. (1981). "The Medium and the Message in Mental Imagery: A Theory". *Psychological Review*, 88, 46-66. <https://doi.org/10.1037//0033-295X.88.1.46>.
- Kosslyn, S.M.; Thompson, W.L; Ganis, G. (2006). *The Case for Mental Imagery*. New York: Oxford University Press.
- Laureys, S; Tononi, G. (2009). *The Neurology of Consciousness. Cognitive Neuroscience and Neuropathology*. London: Elsevier.
- Lennie, P.; Krauskopf, J; Sclar, G. (1990). Chromatic Mechanisms in Striate Cortex of Macaque. *The Journal of Neuroscience: The Official Journal of the Society for Neuroscience*, 10, 649-69.
- Lindberg, D.C. (1976). *Theories of Vision from al-Kindi to Kepler*. Chicago: University of Chicago Press.
- Manzotti, R. (2009). "No Time, No Wholes: A Temporal and Causal-Oriented Approach to the Ontology of Wholes". *Axiomathes*, 19, 193-214.
- Manzotti, R; Chella, A. (2018). "Good Old-Fashioned Artificial Consciousness and the Intermediate Level Fallacy". *Frontiers in Robotics and AI*, 5, 1-10.
- Manzotti, R; Moderato, P. (2010). "Is Neuroscience the Forthcoming 'Mindscience'?" *Behaviour and Philosophy*, 38, 1-28.
- Marr, D. (1982). *Vision*. S. Francisco: Freeman.
- Merricks, T. (2001). *Objects and Persons*. Oxford: Oxford Clarendon Press.
- Michel, M. et al. (2019). "Opportunities and Challenges for a Maturing Science of Consciousness". *Nature Human Behavior*, 3, 104-7.
- Mitchell, W.J.T. (1984). "What Is an Image?". *New Literary History*, 15, 503-37.
- Mitchell, W.J.T. (2015). *Image Science. Iconology, Visual Culture, And Media Aesthetics*. Chicago: The University of Chicago Press.
- Miyawaki, Y. et al. (2008). "Visual Image Reconstruction from Human Brain Activity using a Combination of Multiscale Local Image Decoders". *Neuron*, 60, 915-29.
- Nanay, B. (2020). "Unconscious Mental Imagery". *Philosophical Transactions of the Royal Society B: Biological Sciences*, 376, 1-9.
- Newall, M. (2011). *What is a Picture? Depiction, Realism, Abstraction*. Basingstoke: Palgrave MacMillan.
- Noë, A. (2012). "Presence in Pictures". *Varieties of Presence*. Cambridge (MA): Harvard University Press, 82-113.
- O'Regan, K.J.; Noë, A. (2001). "A Sensorimotor Account of Vision and Visual Consciousness". *Behavioral and Brain Sciences*, 24, 939-73.
- Pearson, J. et al. (2015). "Mental Imagery: Functional Mechanisms and Clinical Applications". *Trends in Cognitive Sciences*, 19, 590-602. <https://doi.org/10.1016/j.tics.2015.08.003>.
- Polger, T. (2011). "Are Sensations Still Brain Processes?". *Philosophical Psychology*, 24(1), 1-21.
- Pylyshyn, Z.W. (2002). "Mental Imagery: In Search of a Theory". *Behavioral and Brain Sciences*, 25, 157-238.
- Reuter-Lorenz, P.A. et al. (2010). *The Cognitive Neuroscience of Mind*. Cambridge (MA): MIT Press.
- Rockwell, T. (2005). *Neither Ghost nor Brain*. Cambridge (MA): MIT Press.
- Seth, A.K. (2016). "The Real Problem". *Aeon*, 11, 1-11.

- Shen, G. et al. (2019). "End-to-End Deep Image Reconstruction From Human Brain Activity". *Frontiers in Computational Neuroscience*, 13(21), 1-11.
- Shoemaker, S. (1980). "Causality and Properties". Van Inwagen, P. (ed.), *Time and Causes*. Dordrecht: Reidel, 109-35.
- Smart, J.J.C. (1959). "Sensations and Brain Processes". *The Philosophical Review*, 68, 141-56.
- Stiegler, B. (2002). "The Discrete Image". Derrida, J.; Stiegler, B. (eds), *Echographies of Television. Filmed Interviews*. New York: Blackwell, 145-63.
- Tononi, G; Koch, C. (2008). "The Neural Correlates of Consciousness: An Update". *Annals of the New York Academy of Sciences*, 1124, 239-61.
- Tootell, R.B.H.; Silverman, M.S. (1982). "Deoxyglucose Analysis of Retinotopic Organization in Primate Striate Cortex". *Science*, 218(4575), 433-60.
- Tye, M. (1988). "The Picture Theory of Mental Images". *The Philosophical Review*, 97, 497-520.
- Uttal, W.R. (2001). *The New Phrenology: The Limits of Localizing Cognitive Processes in the Brain*. Boston: MIT Press.
- Watling, J. (1950). "The Causal Theory of Perception". *Mind*, 59, 539-40.