2 How Abstract Images Have Aboutness

An overview

Elisa Caldarola

In this chapter, I argue that genuinely abstract images do not depict but have aboutness, nevertheless.[1] All images have aboutness in virtue of the visual configurations on their surfaces: it is through those configurations that they can convey something – they can mean something, represent something, express something, and so on. On the one hand, in depictive images, the visual configurations on the images' surfaces depict visible objects while abstracting completely from some of their visual properties. In Giovanni Bellini's *Portrait of Doge Leonardo Loredan* (1501), for instance, the visual configurations on the pictorial surface depict Doge Loredan's head and torso, as seen frontally.[2] The image, however, completely abstracts from, e.g., Doge Loredan's legs, nape, and back. On the other hand, as I shall argue, when the visual configurations on a two-dimensional surface do not depict anything at all but have aboutness in ways other than the depictive, that two-dimensional surface is a *genuinely* abstract image. As I shall show, all genuinely abstract images entirely abstain from depicting but can nevertheless abstract in different measures from the visual properties of objects.

The first step for an account of genuinely abstract images is to distinguish accurately between depictive images and genuinely abstract ones. For this, one needs an account of depiction – this is provided in the first section of this chapter. In the second section, different kinds of depictive images are singled out: this facilitates focusing on images that qualify as genuinely abstract. In the third section, four ways in which genuinely abstract images have aboutness are discussed: conventionality, indexicality, exemplification, and expressivity. The fourth section concludes with some general observations on the peculiarities of genuinely abstract images.

2.1 Projective Accounts of Depiction

In this section, I briefly introduce projective accounts of depiction, explaining why I think they are superior to alternative accounts. In the

DOI: 10.4324/9781003380955-3

next section, I then rely on projective accounts of depiction to distinguish between depictive and genuinely abstract images.

There are different types of theories of depiction. The most successful accounts are those that explain depiction in terms of resemblances between pictorial content and depicted content,[3] those that explain depiction in terms of a peculiar perceptual experience aroused by some pictures,[4] and those that explain depiction in terms of "a relation of geometrical projection between a picture and the space it expresses as content" (Greenberg 2021: 847).[5] Here, I shall follow Gabriel Greenberg's two versions (2013 and 2021) of the geometrical projection theory, for reasons that I shall clarify below.

Depictive content, Greenberg argues, corresponds to the situation a depictive image represents (Greenberg 2021: 849–60). In particular, "a picture's content includes exactly those (quite abstract) spatial and chromatic properties had in common by the myriad possible scenes which could project to the same picture" (860). Spatial scenes, situations, are thus the source of the projection that generates a picture. The idea at the core of projection theories of depiction is that projection is not only a traditional method to produce pictures (as in, e.g., the Albertian model of perspective) but is also a mechanism that can be regarded as the norm for interpreting pictures and thus used to define pictorial content: "for a picture to express a content, the picture must be a projection of that content" (857). Any pictorial projection is indexed to a viewpoint. More specifically, a viewpoint is "a pair of indices, the first of which gives the spatio-temporal location of the projection source, and the second the spatio-temporal location of the picture plane" (858). Importantly, "pictorial space fills a three-dimensional region with objects and properties, whose locations are given by a direction and depth from a general viewpoint" (855): every part of a pictorial surface stands in a specific directional relation with the viewpoint the pictorial projection is indexed to (for instance, part X of a certain pictorial surface can be above the viewpoint, or to the right of the viewpoint, etc.).

Why argue that pictorial content is grounded in pictorial projection? I concur with Greenberg in claiming that there are two reasons to favor the projective theory of depiction. First, to explain depiction it makes sense to focus on geometrical projection because of how the human visual system works:

> According to the computationalist understanding of vision, a central function of the visual system is to generate an estimate of the kind of scene that must have produced the retinal image […] the visual system hypothesizes an environmental space on the basis of a retinal image. […analogously] a viewer hypothesizes a pictorial space on the basis of a

> pictorial image. In the first instance, the hypothesis is an (unconscious) inference to the best explanation about the actual environment. In the second, the hypothesis is an interpretation, a guess about the type of scene the image purports to be projected from. The Projection Principle [the principle at the core of Greenberg's geometrical projection view of depiction] thrives in human transaction because the computations it requires can be carried out on much of the same computational machinery already supplied by the visual system.
>
> (Greenberg 2021: 870–1)

According to computationalists, to guess what kind of three-dimensional space has generated a certain retinal image, the visual system has developed certain computational abilities; according to Greenberg, it makes sense to hypothesize that we exploit those abilities also when guessing what kind of three-dimensional space has generated a certain image, via a certain projection system.

Second, projection theories are better at accounting for the organization of pictorial space than resemblance and experiential theories (Greenberg 2021: §6). On the one hand, according to resemblance theories, for a picture to be accurate with respect to a certain scene, there must be similarities between the picture and the scene. However, Greenberg (2013: 271–84) shows that if a picture is produced via a transformative method of projection such as curvilinear perspective, for instance, a picture that is accurate with respect to a certain scene looks different from that scene, rather than similar to it. Resemblance theories thus attribute wrong directional structures to pictures produced via certain methods of projection: structures that do not map onto the spatial situation represented by the picture.[6] On the other hand, according to perceptual theories, the basic tenet of an account of depiction is that there is a connection between perceptual content and pictorial content. However, there are gaps between how we see spatial scenes and how we depict them through certain methods of projection. As Greenberg explains,

> early vision normally treats certain kinds of converging lines in the retinal image as indicative of parallel edges in the environment. But in parallel projection, converging lines on the page can only indicate converging edges in the scene. Applying normal visual perception to such cases yields incorrect interpretations. Projection semantics captures the fact that depiction conforms with the general structure of vision, but unlike perceptual theories, allows that depiction also departs from vision in myriad ways.
>
> (Greenberg 2021: 879)

Greenberg's account is not dissimilar to Hyman (2006) and Kulvicki's (2006) views on depiction. Both of Greenberg's versions of the theory (2013, 2021), however, differ from Hyman and Kulvicki's views in that the latter account for the depictive character of a narrower range of images than the former does (see Greenberg 2021: notes 32 and 33, p. 869). I favor Greenberg's account because of its broader explanatory power.

Notwithstanding these differences, we can trace the following distinction: while, on the one hand, according to Hyman, Kulvicki, and Greenberg (2013) the projection theory provides necessary and sufficient conditions for depiction, according to Greenberg (2021: 860), on the other hand, it only provides necessary conditions for depiction. This, he argues, is because there are many "deviant scenes" (860) that the projection theory cannot by itself rule out as the spaces expressed by certain pictures. For instance, it cannot rule out that a picture which apparently expresses a scene inhabited by a cube is, actually, a picture projected from a scene inhabited by an object that is only partially cube-like. And, for the same reasons, the projection theory cannot explain why we are prompted to attribute, e.g., certain depth, shape, and texture features to projected scenes. Greenberg concludes that the projection theory provides necessary, but not sufficient conditions to produce pictorial content. This is important for the present discussion, because, as I shall explain below (Section 2.2), to the divide between Hyman, Kulvicki, and Greenberg (2013), on the one hand, and Greenberg (2021), on the other hand, there corresponds a distinction concerning abstract images: while Hyman, Kulvicki, and Greenberg (2013) allow for the kind of images I shall call "abstract depictions", Greenberg (2021) does not. Thus, the realm of genuinely abstract images is broader for the latter than it is for the former.

In what follows, I shall not be interested in adjudicating whether the projection theory provides necessary and sufficient, or only necessary conditions for depiction: my focus is on abstract images. Thus, I shall distinguish between three varieties of depictive images, from a projection theory perspective, clarifying whether they fit Greenberg's (2021) framework or not and what consequences ensue for our understanding of abstract images.

2.2 Varieties of Depictive Images

In the three following sub-sections, I delve deeper into projective theories of depiction, showing that they allow for distinguishing between different kinds of depictive images. This, as we shall see, is relevant for understanding in what genuinely abstract images differ from depictive images.

2.2.1 Full-Blown Depictions

This is the kind of images that are depictive according to all versions of the projection theory. Velazquez' *Las Hilanderas* (1657), for instance, is a full-blown depiction: we can describe it not merely in terms of the generic objects whose shapes and colors it presents us with, but in much more detail, relying on our acquaintance with three-dimensional objects such as female bodies, tents, ladders, spindles and so on.[7] Famously, we can describe the depicted fuse as spinning, thanks to the brushstrokes Velasquez skillfully applied to suggest motion in a static image.

Note that one might fail to produce a full-blown depiction of a certain object and still produce a full-blown depiction, albeit of another object, as it might happen to one who sets to produce a picture of a larch and, inadvertently, produces a picture of a spruce. Thus, the criterion of correctness for full-blown depiction can be stated as follows: *X* is a full-blown depiction of *Y* iff it presents *Y*'s spatial properties as well as (some) of *Y*'s fleshed out visual properties, as seen from a certain viewpoint, and projected onto a pictorial surface via a specific method of projection.

2.2.2 Bare-Bones Projections

This is the kind of images that merely result from the production of a pictorial space that can be traced back to a specific method of projection applied to a certain kind of spatial scene.[8] As we have seen, on the one hand, according to Greenberg (2021), this kind of images abstain from properly depicting and are, rather, quasi-depictive: all depictions necessarily are pictorial spaces that can be traced back to a specific method of projection applied to a certain kind of spatial scene. However, this condition is necessary, but not sufficient, for depiction. It thus seems appropriate to infer that, according to Greenberg's (2021) framework, images of this kind must be some kind of *genuinely abstract*, *albeit quasi-depictive* images (see Section 2.3). On the other hand, according to Hyman (2006, 2012), Kulvicki (2006, 2020), and Greenberg (2013), bare-bones projective images are instead depictive: they are *bare-bones depictions*.

> Consider a drawing of a man's head. The head may be bulbous or narrow, the nose may be Roman or snub, and the chin may be a rounded curve or a jutting wedge. […] But even if we cannot find the right words to describe them, the shapes of the head, the nose, and the chin are the shapes they are represented as having.
>
> (Hyman 2006: 79–80)

A bare-bones projection is an image that can be fully described in terms of the particular pictorial space that results from applying to a certain kind of spatial scene a specific method of projection. In Hyman's example, it is a space occupied by a head, a nose, and a chin that present certain shapes when seen from a certain viewpoint and projected onto a pictorial plane via a specific method of projection.

Note that one might fail to produce a bare-bones projection of an object of a certain kind, as seen from a certain viewpoint, via a specific method of projection, and still produce a bare-bones projection of an object of a different kind, as seen from a certain viewpoint, via that same system of projection. For instance, one might seek to produce a bare-bones projection of a cube, as seen frontally, within the linear perspective system, and end up producing a bare-bones projection of a trapezoid, as seen frontally, within the linear perspective system. The criterion of correctness for bare-bones projections can be stated as follows: *X* is a bare-bones projection of a kind of object *Y* iff it presents the shape of *Y*-objects as seen from a certain viewpoint and projected via a specific method of projection.

2.2.3 Recognitional Bare-Bones Depictions and Abstract Bare-Bones Depictions

I argue that for those theorists who admit for bare-bones depictions, there ensues the need for distinguishing between two such kinds of depictions: recognitional ones and abstract ones.

Recognitional bare-bones depictions are such that, when we look at them, we can recognize three-dimensional objects we are acquainted with and can describe in non-abstract terms (as is the case with the picture of a head, a nose, and a chin described in Section 2.2.2). Often, however, bare-bones depictions do not allow for recognition, as they are very generic: to describe those depictions, we can only describe in abstract terms the configurations and colors we see on the pictorial surface and the pictorial space that is presented to us, while we cannot rely much on our previous acquaintance with three-dimensional objects. Consider, for instance, a picture we can only describe "as grayish-pink and yellow and shaped like a piece of molten wax" (Hyman 2006: 64), as well a picture thus described by Kulvicki:

> A bare bones content might specify a trapezoid-shaped region, from a certain vantage point, but not specify that there's a square thing there, at an oblique angle, or a trapezoid, seen head-on. It might specify a region of streaked light and dark, but not specify whether it is a uniformly colored thing illuminated streakily, or a streaky thing illuminated uniformly.
>
> (Kulvicki 2020: 27)

According to theorists who admit for bare-bones depictions, those pictures are depictive, although they disregard visual properties that would allow us to describe their depictive contents less abstractly, in terms of three-dimensional objects we are acquainted with. I suggest calling this sub-kind of bare-bones depictions "abstract bare-bones depictions" or, more shortly, "abstract depictions". Abstract depictions do not abstain from depicting but abstract from those visual properties of the objects they depict that would allow for recognizing them and describing them in precise ways.

Against the view that there exist abstract depictions, one might however raise the following criticism: we cannot claim that there are abstract depictive pictures, because we have no way to ascertain whether abstract "depictions" truly are depictive. The reason is that, when it comes to that kind of images, we have no means to make sure whether we are supposed to look at the configurations on their surfaces as at mere marks or as at projected shapes of three-dimensional objects in certain spatial scenes. In full-blown depictions, as well as in recognitional bare-bones depictions, we recognize depicted objects and, in virtue of this, we get a grasp of what method of projection those depictions are products of. With abstract "depictions", however, we cannot rely on recognition of depicted objects as a clue for identifying the perspectival system the picture is a product of. Thus, we cannot understand whether the picture truly is depictive, i.e., whether it expresses a depictive content by means of being a projection of that content.[9]

I think the force of this criticism is limited, however, as recognition of depicted objects is not the only available guide to grasp whether a certain visual content is appropriately interpreted as the result of the use of a certain method of projection. Another way consists in considering whether there is evidence that the image maker sanctioned that a certain image is to depict via a certain method of projection, and ascertaining whether their sanction was successful.[10] How, then, can we get a grasp of an image maker's sanctions? In what follows, I shall consider some available strategies.

In the first place, titles might offer us reliable clues to identify the author's sanctions concerning the depictive character of the image, or lack thereof (see Levinson 1985). Consider, for instance, Piet Mondrian's *Oval Composition (Trees)* (1913).[11] The picture presents a variety of superposed plans, which do not immediately recall the shapes of trees. On learning about the picture's title, however, we can understand that the picture was successfully sanctioned to be an abstract depiction painted in linear perspective, which significantly abstracts from many visual features of trees.

In the second place, contextualizing a candidate for the status of abstract depiction within the wider context of its author's oeuvre, interests, and

projects might be instrumental to understanding whether a given abstract image is depictive (this remark is inspired by Walton 1970: 360–3). Suppose we know that at a certain time a painter was interested in producing images by employing a very unusual method of projection, and we find out that at that time she produced an abstract painting that can easily be interpreted as an abstract depiction presenting some very generic spatial features of an everyday scene, once it is recognized as a product of that peculiar method of projection. It seems to me that, in such case, we would have good reasons to claim that the image qualifies as an abstract depiction. Moreover, we would have good reasons to claim that a certain image is an abstract depiction also in case we could ground the claim not on our knowledge of the maker's intentions, but on our knowledge of the pictorial practices prevailing in the picture maker's cultural and artistic context. Finally, we would have good reasons to claim that a certain image is an abstract depiction produced via a certain method of projection also in case, in the absence of reasons to deem the image non-depictive, regarding it as depictive would confer to the image higher artistic value.

To sum up, I have shown that both Hyman and Kulvicki's versions of the projection theory of depiction, and Greenberg's (2013) version, allow for claiming that there are abstract depictions. Abstract depictions are usually the kinds of images that also some scholars who subscribe to perception theories of depiction are happy to consider representational in the distinctively pictorial way. For instance, Richard Wollheim claims:

> we must not confuse the *representational* content of a painting with its *figurative* content. The idea of representational content is much broader than that of figurative content. The representational content of a painting derives from what can be seen in it. The figurative content derives from what can be seen in it *and* can be brought under non-abstract concepts, such as table, map, window, woman.
>
> (Wollheim 2001: 131)

In a similar vein, but backing his proposal with research in vision science, Michael Newall argues that representational abstract pictures prompt experiences of "non-veridical seeing without recognition of volumetric form" (Newall 2011: 173), i.e., experiences where one sees, e.g., non-existent relations of depth, although one does not see everyday objects. More recently, Paul Crowther (2021) has distinguished among different sub-kinds of representational abstract pictures, while arguing from a perceptual approach to depiction. Crowther claims:

> both figurative and abstract works share a common ground in *optical illusion*. The very placing of a mark on a plane surface creates optical

> relations, whereby the mark appears to push from the surface or, by suggesting a puncture, pulls the gaze beneath it. In this way, the basics of pictorial space are created as the outcome of optical push/pull effects. An important cognitive factor is also involved. The retinal image is two-dimensional, but our cognitive processes resolve it into three-dimensional structure. Given, accordingly, a plane surface, it is only to be expected that vision will seek to interpret any configurations upon it in three-dimensional terms, even if we are dealing with no more than lines and/or dots, and the like.
>
> (Crowther 2021: 104–5)

The projection theorists' (minus Greenberg 2021) approach and the perceptual theorists' approaches to abstract depiction, however, produce different results in the categorization of some images. Namely, since projection theorists do not tie depictive character to the perception of depth, they (minus Greenberg 2021) allow for, e.g., the silhouette picture of a cube to count as abstract depiction, while perceptual theorists, who tie depictive character to the perception of depth, do not (see Hyman 2006: chapter 7). Moreover, Crowther's view that "Given, […] a plane surface, it is only to be expected that vision will seek to interpret any configurations upon it in three-dimensional terms" clashes against all versions of the projection theory. Crowther here seems to suggest that we have reason to interpret as a bare-bones (abstract) depiction any pictorial surface presenting some kind of configuration. However, by the standards of projection theories of depictions, this is too vague. According to those theories, namely, an image qualifies as an abstract depiction if we are prompted to describe it, in quite abstract terms, as a scene produced via some identifiable method of projection – and this is not true of any image configuration whatsoever. We have, for instance, no title-based, contextual, or artistic reasons to claim that Pollock's *Autumn Rhythm* (1950), one of his drip-paintings, is better regarded as a depictive abstract image: the painting's title is suggestive of a sound, rather than a visual scene, we know that Pollock produced the painting while engaged in the project of making work that did not encourage interpretation in depictive terms, and the artistic value of the work lies in part in its being capable of sustaining prolonged visual interest *in spite* of its lack of depictive content, rather than thanks to the presence of some depictive content.[12] Similar remarks apply to many images that merely present abstract configurations on a plane surface.

2.3 Genuinely Abstract Images

In this section, I argue that there are genuinely abstract images: images that entirely abstain from depicting – i.e., from representing in the distinctively

pictorial way – but that nevertheless convey something in virtue of the configurations on their surfaces.

On the one hand, if we follow Greenberg (2021), the question arises whether the realm of genuinely abstract images admits for *bare-bones projections*: configurations that we have reason to see as resulting from the projection on a two-dimensional surface of visible aspects of three-dimensional objects as seen from a certain viewpoint, according to a certain method of projection, and that however do not convey full-blown depictions. As we have seen, Greenberg (2021) argues that those configurations only allow for descriptions of their content in quite abstract terms and are therefore not truly depictive. It follows, then, that those objects are candidates for the status of genuinely abstract images. Can we explain how they have aboutness and thus claim that they indeed qualify as genuinely abstract images, within Greenberg's (2021) theoretical framework? I submit that, staying faithful to Greenberg's (2021) account, we can claim that those configurations convey content in *quasi-depictive* fashion. Although they do not allow for recognizing three-dimensional objects while looking at them, they invite description in terms of scenes presenting generic shapes, organized relative to a viewpoint. In other words, they are suggestive of spatial scenes that, however, they do not fully depict: they are parasitic on depictive images, since they are images where we are expected to notice the absence of depicted content (see Walton 1988: 352). Mondrian's *Oval Composition (Trees)*, for instance, would qualify as an abstract projection. The picture is suggestive of a scene inhabited by trees, as hinted by the title, but trees do not properly constitute its depictive content, as we cannot really recognize trees in the picture: rather, while looking at the picture, we are expected to notice that it fails to depict trees, although it alludes to them. In this explanatory framework, then, *quasi-depictive genuine abstract images* are those images that abstain from depicting by abstracting from those visual properties of objects that would allow for recognizing them in an image and describing them in precise ways.

On the other hand, if we follow Hyman (2006), Kulvicki (2006) and Greenberg (2013), we must conclude that the realm of genuinely abstract images does not encompass bare-bones projections, as they qualify instead either as abstract bare-bones depictions or as recognitional bare-bones depictions. Be that as it may, all versions of the projection theory of depiction allow for identifying some configurations on two-dimensional surfaces that we have no reason to consider depictive, or parasitic on depictive images, and that, however, we have reason to consider images, nevertheless. All those configurations are genuinely abstract images. In the following sub-sections, I shall describe four ways in which those images can convey content, while not relying on depictive or quasi-depictive

means: conventionality, indexicality, exemplification, and expressivity. These forms of aboutness are mutually compatible but, for the sake of explanatory clarity, I shall discuss each of them separately. Other forms of aboutness in genuinely abstract images might be possible: I do not aim to give a complete taxonomy.

Before delving deeper into this, let me spell out the criterion of correctness for genuinely abstract images: *X* is a genuinely abstract image if and only if (i) *X* has aboutness in virtue of the visual configurations on its two-dimensional surface and (ii) *X* is not depictive. On the one hand, if we embrace Greenberg's (2021) view, we can observe that one might seek to produce a genuinely abstract image with a certain configuration and end up producing a full-blown depiction by mistake. On the other hand, if we follow Hyman (2006), Kulvicki (2006) and Greenberg (2013), we can observe that one might seek to produce a genuinely abstract image with a certain configuration and end up producing an abstract depiction, or a recognitional depiction, or even a full-blown depiction.

2.3.1 Conventional Genuine Abstract Images

Conventional genuine abstract images convey meaning in virtue of established conventions. For instance, the yield sign means that drivers must slow down and yield their right to other vehicles and pedestrians approaching from different directions. Analogously, in the column charts often used in scientific communication, rectangles of different colors (and, if need be, heights) stand for different categories of objects – depending on the conventions holding for each image. Note that, without knowledge of the relevant convention, there is no understanding of the meaning of a conventional genuine abstract image, and the convention does not shine through the image itself: we need to learn it through other means.

Conventional genuine abstract images abstain from depicting but they may present some visual properties of the objects they conventionally represent, thus not abstracting entirely from the visible. For instance, a red monochrome image might conventionally stand for fire, thus presenting a visible aspect of the object it stands for. On the other hand, the same image might conventionally indicate a school building, thus not presenting a visible aspect of the object it stands for.

2.3.2 Indexical Genuine Abstract Images

Indexical genuine abstract images are about the object or event which produced them through a causal process – they are traces of that object or event. Consider Lucio Fontana's *Spatial Concept* series of images: the sharp cuts on the canvases are to be understood, among other things, qua

traces of the precise slashing gestures that have produced them.[13] Indexical genuine abstract images are used in scientific practice too: for instance, while we do not yet have the instruments that allow us to observe directly the first stars that ever shone in the universe, we can get indexical genuine abstract images of those stars. This was done by astronomers who looked at the UV light emitted by the BD+44 493 star through a non-depictive image produced via the Cosmic Origins Spectrograph, attached to the Hubble Space telescope: the image is a product of the UV light emitted by the BD+44 493 star, which presented traces of phosphorus, sulfur, and zinc – particles that belonged to the first stars, which exploded quickly and disseminated their elements around the universe (see Roederer et al. 2016). Thus, the Hubble abstract image, having been produced, in part, by elements belonging to the first stars, is an indexical genuine abstract image of the first stars. The indexical character of genuine abstract images does not shine through the images themselves either: in order to be capable of understanding what those images are about, we need to be aware – through means other than looking at the images – of the causal history that links the images to the objects/events they are traces of.

Indexical genuine abstract images abstain from depicting but may present some visual properties of the objects they are indexes of, thus not abstracting entirely from the visible. For instance, an indexical genuine abstract image of a squid might show the black trace left by the squid's ink on a two-dimensional surface – a visual aspect of the squid. On the other hand, the indexical genuine abstract image produced by my thumb sliding on the sand does not show a visual aspect of my thumb.

2.3.3 Genuine Abstract Images With Exemplificatory Character

Genuine abstract images that have exemplificatory character exemplify one or more of the properties of the configurations on their surfaces, by means of possessing them and referring to them at the same time (see, e.g., Goodman 1976, 1978; Elgin 2018).[14] For instance, a column chart (see Section 2.3.1), consisting of three columns of different heights, each standing for a sub-set of set X in virtue of a convention, can be used to exemplify the particular height of each column in a context where the distribution of a specific property p is discussed, and the distribution of properties q, r, and s among the same three sub-sets of X turns out to be the same as the distribution of p. In the artistic context, Robert Ryman's white monochromes are a case in point. Ryman was interested in exploring the quality of paint in his works and, among other things, he produced a vast array of canvases where he applied white brushstrokes in various fashions. Those canvases are images: they have aboutness in virtue of the visual configurations on their two-dimensional surfaces. What they are about,

I submit, are some properties of their two-dimensional surfaces that they exemplify, and which are perceived as salient by viewers encountering the works. In Ryman's white monochromes, those are properties of the white paint and of the pictorial support, which he manipulated in a variety of ways: *Twin* (1966), for instance, exemplifies the many parallel, horizontally oriented, white linear brushstrokes on its surface, while *Arrow* (1976) exemplifies its property of presenting a pictorial support with white paint applied on it in such a way that the support can be glimpsed by looking at the edges of the image and appears to be overwhelmed by the white paint.[15]

It seems to me that artistic, exemplificatory, genuine abstract images are analogous to music that "may present a very general concept by being, not representing, an instance of it" (Walton 1988: 357). For instance, as Walton explains, a musical recapitulation may exemplify "the general notion of returning […] Music might serve to show us what certain instances of returning from a trip, returning to health, returning to previous convictions, etc., have in common" (357–8). Applying Walton's reasoning to Ryman's white monochromes, I submit that those genuine abstract images show us what certain instances of, e.g., being a group of individuals with the same political orientation, being a set of independent elements physically oriented in the same way, and being a series of independent, concomitant events of the same length have in common, or what certain instances of, e.g., an individual overpowering another, a concrete slab poured over a plot of land, and a historical narration of certain events replacing another have in common.

Note that the exemplificatory character of genuine images can shine through the images themselves – although it does not need to: exemplified properties are usually perceptually salient and thus capture our attention. For instance, it is quite evident that, if Ryman's monochromes are about something, they are about the white regions of color on their surfaces. Note, also, that exemplificatory genuine abstract images abstain from depicting, but never abstract from visual content entirely. Namely, they always exemplify visible properties.[16] For instance, as we have seen, Ryman's *Twin*, exemplifies the parallel, horizontally oriented, white linear brushstrokes on its surface, while the column chart described above exemplifies the heights of the columns.

2.3.4 Genuine Abstract Images With Expressive Character

The issue of how to explain the perception of expressive character is much debated in philosophy, but mostly for what concerns works of music. A general theory of expressivity, that is suited to apply to a variety of objects and events (especially artistic ones), and that is backed by some

research in cognitive science (as it is desirable), has however been put forward by Paul Noordhof (2008). Here, I shall briefly show how the theory can help us gain some insights into the expressive character of genuine abstract images. This is how Noordhof sums up his view:

> My proposal is that when we perceive expressive properties in a work of art, we imagine a particular kind of creative process which, when the expressive properties are those of emotions, is guided by emotions. […] we imagine how an emotion would be manifested through that creative process in non-expressively specified features of the artwork which realise the expressive property.
>
> (Noordhof 2008: 338)

Experiencing, e.g., a piece of music as joyful, according to Noordhof (330, 343), consists in sensuously imagining how joy feels and how one's feeling joyful would guide one's proceeding in composing that piece of music. Importantly, the imagining involved in the perception of expressive properties need not be conscious. At the core of this proposal lies the idea that emotions have "causal profiles": each emotion tends to cause certain behaviors, certain patterns of thought, certain patterns of feeling, and among the behaviors a certain emotion might cause there are not only simple behaviors like making certain gestures (e.g., smiling when we are happy), but also much more complex behaviors such as producing artworks with specific features (339).

Noordhof makes two remarks concerning the expressive character of images. In the first place, he argues, images can have properties that are expressive of emotions – for instance, properties of the brushstrokes – and thus work just like pieces of music that are expressive of emotions do, i.e., by prompting viewers to imagine how one's feeling the relevant emotion would guide one's proceeding in composing the image. Let me illustrate Noordhof's point with both a depictive and a genuinely abstract example. Consider Van Gogh's *Wheatfield with Crows* (1890): many brushstrokes in this painting prompt viewers to imagine how a feeling of angst would have guided the production of such an image.[17] Consider, also, Gerard Richter's multiple gray monochrome paintings, whose flat grayness prompts viewers to imagine how a feeling of despair would have guided the production of those images.[18]

In the second place, Noordhof observes,

> Expressive perception *can rest on our knowledge of mental life more generally*. Suppose that an artist wishes to paint a picture of a summer's day that reveals how, amidst all that sunshine, one' s mood can remain a contrasting one of sadness and despondency. It would not do to paint

> the day as sad and despondent because then we would lose the contrast. Rather the day must be painted bright and joyous. The mood will be conveyed by features upon which a sad and despondent person would focus, knowledge of which would enable us to see the emotion expressed in the picture.
>
> (Noordhof 2008: 336–7, my italics)

In a nutshell, images can have properties that are expressive not of emotions, but of sensuous ideas, such as an idea related to the experience of sadness on a beautiful summer day, or an idea related to the musical experience of jazz, which is key to grasping, e.g., the expressive character of Piet Mondrian's *Broadway Boogie-Woogie* (1942/1943), as Noordhof (336) stresses quoting Gombrich (1960: 311–3).[19] In the former example, grasping the expressive character of the image consists in imagining one's being guided by the sensuous idea of experiencing sadness during a beautiful summer day in one's painting that image. In the latter example, it consists in imagining one's being guided by the sensuous idea of jazz in one's painting the image. In such cases, Noordhof points out, understanding the relevant sensuous idea requires knowledge of "the features of the world the artist has chosen to focus on […] and the artist's stylistic repertoire" (Noordhof 2008: 348–9). Pieces of knowledge such as an awareness of Mondrian's interest in jazz and/or, as Gombrich stresses, acquaintance with other, much more severe, works of his such as *Composition with Red, Black, Blue, Yellow and Grey* (1920) and *Painting I* (1926) are key to grasping the sensuous idea expressed by *Broadway Boogie-Woogie*.

Thus, the expressive character of genuinely abstract images that are expressive of sensuous ideas does not shine through the images themselves but requires appropriate contextual knowledge to be grasped. The same, however, might not be true of genuinely abstract images that are expressive of emotions, I believe. Psychological studies on the emotional perception of color abound, and they show significant regularity and similarity in the way subjects emotionally react to colors (see, e.g., Jonauskaite et al. 2020; Valdez and Mehrabian 1994). It seems, then, that to grasp the expressive character of, e.g., Richter's gray monochromes, one might just need to rely on their cognitive abilities, with no need of additional contextual knowledge.

Expressivity, I submit, is often key to grasping the aboutness of genuinely abstract images in the art realm. Let us briefly consider a few more examples. The configurations Pollock put together by quickly dripping paint on a very large canvas make *Autumn Rhythm* expressive of a feeling of angst and restlessness, in line with the changes the environment undergoes in autumn in the Northern Hemisphere (leaves fall, wind blows, and rain pours). Clyfford Still's *1953*, which presents a canvas painted

mostly in deep blue, with a yellow edge at the top right, is expressive of a humanist, anti-authoritarian attitude, as the artist himself suggested.[20] Similar remarks apply to James Welling's *Fluid Dynamics* works.[21] Those are photograms that are reminiscent of watercolors and that result from exposing wet photographic paper to light from a color enlarger. Neither the photograms encourage the viewer to see them as depictions, or parasitic on depictions (importantly, as Costello 2018 explains, they are not causally linked to a three-dimensional scene captured by a photographic event), nor are they presented as conventional images, nor do they function as indexes – although they are the result of a causal process, there is no evidence that the artist presents them to be understood as signposts for the objects that produced them, or that they would acquire more artistic value if thus interpreted. The watercolor-like configurations in the *Fluid Dynamics* series of photograms are, however, expressive of a sense of malleability and changeability. This is (in part, at least) what they are about.

Let us now consider a case of expressive genuinely abstract image from the realm of scientific practice: the images produced via the ALICE detector at the CERN's Large Hadron Collider, Geneva, which *conventionally* represent different kinds of particles and collisions among them, aiming at understanding the state of the matter shortly after the Big Bang.[22] To each kind of particle there corresponds a different, fluorescent color, so that the various particle trajectories and collisions are shown as a pleasant bundle of effervescent lines. This is expressive of liveliness, and with Noordhof we can claim that our grasping the expressive character of the image consists in imagining the act of producing the image as guided by a feeling of liveliness. More specifically, it seems to me that, since we tend to mistakenly see the image as some kind of abstract photographic image *causally* produced by the particles, we grasp its expressive character by imagining anthropomorphized particles feeling lively as they have just, so to speak, sprung into the universe after the Big Bang. To my knowledge, the expressive character of these images does not convey relevant scientific information but is rhetorically effective: not only the fluorescent colors make the images more appealing, but they also evoke a "beginning of new opportunities" narrative that makes more approachable the topic of the state of the matter shortly after the Big Bang.

Importantly, the same genuinely abstract image can exhibit more than one non-depictive mode of aboutness. The ALICE images are both conventional and expressive, as I have just shown. Ryman's *Twin* exemplifies the brushstrokes on its surface, as we have seen, but is also an index of the painstaking gestures performed by Ryman while painting it. Yves Klein's International Klein Blue (IKB) monochromes, such as *Blue Monochrome* (1961), exemplify that particular shade of pure ultramarine but are also expressive of a feeling of boundlessness, thanks to the fact that his

trademark shade of blue is made of pure color powder in an almost invisible resin solution: this allows individual grains of the powder to look autonomous, rather than bound together, when the paint is applied on surfaces.[23] When we look at the Klein monochromes, I submit, we are prompted to imagine the act of producing them as being guided by a feeling of boundlessness, because of the particular way the grains of IKB powder look on those pictorial surfaces.

Finally, note that expressive genuinely abstract images abstain from depicting and, being about emotions, feelings, and sensuous ideas, also abstract entirely from what is visible: although they are images, they are never *about* visible objects.

2.4 Conclusion

To conclude this overview, I shall briefly mention three general lessons about genuinely abstract images that, it seems to me, emerge from the analysis I have put forward. I hope they can be a starting point for further research.

In the first place, I have shown that, while all genuinely abstract images abstain from depicting, they do not always abstain from being about visible aspects of the world. To begin with, if developing on Greenberg's (2021) view we include quasi-depictive images within the realm of genuinely abstract images, it follows that there are genuinely abstract images which are always about visual scenes. Furthermore, genuinely abstract images that have exemplificatory character are always about the visible aspects they exemplify.[24] Conventional and indexical genuine abstract images, on the other hand, may or may not present visual aspects of visible objects. And expressive genuine abstract images, on the contrary, are always about non-visible objects – the emotions, feelings, and sensuous ideas they are expressive of.

In the second place, "abstract" in "genuine abstract images" tends to be synonymous with "general". Firstly, if we admit for quasi-depictive genuine abstract images, then we have genuine abstract images that are about the generic scenes they suggest. Secondly, expressive genuine abstract images are about kinds of states of mind that can, in principle, be experienced by many individuals. Thirdly, exemplificatory genuine abstract images are samples which refer to visual properties usually possessed by a variety of objects, thus achieving a high degree of generality. Conventional genuine abstract images, on the other hand, may or may not be about both generic and specific objects and events (a conventional genuine abstract image may stand for a particular building or for a generic one, for instance). On the opposite side of the spectrum, indexical genuine abstract images are indexes of specific objects or events, and thus they are always about something specific.

Finally, the degree to which we can understand what a genuinely abstract image is about merely based on the information we can gather while looking at the image is variable. Conventional and indexical genuine abstract images, as we have seen, require external information to be interpreted correctly. Quasi-depictive genuine abstract images, on the other hand, do not necessarily require external information to be interpreted correctly: it might be sufficient to look at them to see that they allude to generic visual scenes. Similarly, exemplificatory and expressive genuine abstract images, as we have seen, can sometimes be interpreted correctly without relying on external information.

Notes

1 My warmest thanks to Chiara Ambrosio and Julia Sánchez-Dorado for their helpful comments and suggestions on a draft of this paper, and to Leopoldo Benacchio and Piero Antonio Posocco for their insights on spectrographic images and on conventional didactic images in contemporary particle physics.

2 For an image of the painting, see www.nationalgallery.org.uk/paintings/giovanni-bellini-doge-leonardo-loredan

3 See Neander (1987), Peacocke (1987), Budd (1996), Hopkins (1998), Abell (2009), and Blumson (2014).

4 See, e.g., Schier (1986), Wollheim (1987), Lopes (1996), and Newall (2011).

5 See Hyman (2006, 2012), Kulvicki (2006, 2020), and Greenberg (2013, 2021).

6 Greenberg (2021: 877–8) also criticizes the *perceived* resemblance theory of depiction put forward by Hopkins (1998).

7 For an image of the painting, see www.museodelprado.es/coleccion/obra-de-arte/las-hilanderas-o-la-fabula-de-aracne/3d8e510d-2acf-4efb-af0c-8ffd665acd8d.

8 For the first lengthy discussion of the bare-bones content of depictive images, see Kulvicki (2006): chapter 6.

9 Thanks to an anonymous referee for suggesting this objection to me.

10 For a discussion of the notion of authorial sanction, see Irvin (2005).

11 For an image of the painting, see www.piet-mondrian.org/oval-composition-trees.jsp.

12 For images of Pollock's *Autumn Rhythm*, see www.metmuseum.org/art/collection/search/488978. For an influential account of Pollock's work, see Ellen G. Landau (1989).

13 For an image of one of the paintings in the series, see www.tate.org.uk/art/artworks/fontana-spatial-concept-waiting-t00694.

14 As Catherine Z. Elgin explains:

> Exemplification is the referential relation by means of which a sample, example, or other exemplar refers to some of its properties […] An exemplar highlights, displays or makes manifest some of its properties by both instantiating and referring to those properties. Indeed, it refers via its instantiation of those properties. A swatch of herringbone tweed can be used as a

> sample of herringbone tweed. It is an instance of the pattern that refers to that pattern. A swatch of seersucker, not being herringbone tweed, cannot serve as a sample of herringbone tweed. A sample does not exemplify all of its properties. It can highlight some of its properties only by marginalizing or downplaying others. In its standard use, a fabric sample does not exemplify its shape, age, or origin. Exemplification is selective. In different contexts, the same object can exemplify different properties. Although they are not exemplified in a tailor's shop, the size and shape of the tweed sample might be exemplified in a marketing seminar, where the focus is on what features make a commercial sample effective.
>
> (Elgin 2018: 29)

Goodman remarked that abstract pictures exemplify some of their properties (Goodman 1978: 65). On exemplification and abstraction see also Elgin's chapter in this volume.

15 For an image of *Twin*, see www.moma.org/collection/works/80266. For an image of *Arrow*, see www.gregcolson.org/single-post/2016/02/28/robert-ryman-arrow-1976. For a critical reading of Ryman's work, see Hudson (2009).

16 Here, I am leaving aside metaphorical exemplification which, according to Goodman (1976), allows for exemplifying non-visible properties – such as being sad or happy, for instance – via visual objects, by means of the metaphorical meanings attached to their visible properties.

17 For an image, see www.vangoghmuseum.nl/en/collection/s0149V1962

18 For images, see https://gerhard-richter.com/en/art/paintings/abstracts/grey-paintings-13. For Richter's statements about his gray paintings, see https://gerhard-richter.com/en/quotes/subjects-2/grey-paintings-9

19 For an image, see www.moma.org/collection/works/78682

20 For an image of the work, see www.tate.org.uk/art/artworks/still-1953-t01498

21 For an image of one of the photograms in the series, see https://artmuseum.princeton.edu/collections/objects/85715

22 For images and more information, see https://home.cern/news/series/lhc-physics-ten/recreating-big-bang-matter-earth

23 For an image of Klein's work, see www.moma.org/collection/works/80103

24 As remarked above (note 16), I have set aside the issue of metaphorical exemplification in this chapter.

References

Catharine Abell (2009), "Canny Resemblance", *Philosophical Review* 118(2): 183–223.

Ben Blumson (2014), *Resemblance and Representation: An Essay in the Philosophy of Pictures*, Open Book Publishers, Cambridge.

Malcom Budd (1996), *Values of Art: Pictures, Poetry, and Music*, Blackwell, Oxford.

Diarmuid Costello (2018), "What Is Abstraction in Photography?", *British Journal of Aesthetics* 58(4): 385–400.

Paul Crowther (2021), "Abstraction and Transperceptual Space", in *The Iconology of Abstraction. Non-Figurative Images and the Modern World*, ed. K. Purgar, Routledge, New York and London: 104–113.
Catherine Z. Elgin (2018), "Nature Handmaid's, Art", in *Thinking about Science, Reflecting on Art*, eds. O. Bueno et al., Routledge, London: 27–40.
Ernst H. Gombrich (1960, 6th edition 2002), *Art & Illusion. A Study in the Psychology of Pictorial Representation*, Phaidon, London.
Nelson Goodman (1976), *Languages of Art*, 2nd edition, Hackett, Indianapolis.
Nelson Goodman (1978), *Ways of Worldmaking*, Hackett, Indianapolis.
Gabriel Greenberg (2013), "Beyond Resemblance", *Philosophical Review* 122(2): 215–287.
Gabriel Greenberg (2021), "Semantics of Pictorial Space", *Review of Philosophy and Psychology* 1(4): 847–887.
Robert Hopkins (1998), *Picture, Image and Experience: A Philosophical Inquiry*, Cambridge University Press, Cambridge.
Suzanne Hudson (2009), *Robert Ryman: Used Paint*, MIT Press, Boston.
John Hyman (2006), *The Objective Eye: Color, Form, and Reality in the Theory of Art*, Chicago University Press, Chicago.
John Hyman (2012), "Depiction", *Royal Institute of Philosophy Supplement* 71: 129–150.
Sherri Irvin (2005), "The Artist's Sanction in Contemporary Art", *Journal of Aesthetics and Art Criticism* 63(4): 315–326.
Domicele Jonauskaite, C. Alejandro Parraga, Michael Quiblier, and Christine Mohr (2020), "Feeling Blue or Seeing Red? Similar Patterns of Emotion Associations with Color Patches and Color Terms", *I-Perception* 11(1): n.p.
John Kulvicki (2006), *On Images: Their Structure and Content*, Clarendon, Oxford.
John Kulvicki (2020), *Modeling the Meanings of Pictures: Depiction and the Philosophy of Language*, Oxford University Press, Oxford.
Ellen Landau (1989), *Jackson Pollock*, Thames and Hudson, London and New York.
Jerrold Levinson (1985), "Titles", *Journal of Aesthetics and Art Criticism* 44(1): 29–39.
Dominic McIver Lopes (1996), *Understanding Pictures*, Oxford University Press, Oxford.
Karen Neander (1987), "Pictorial Representation: A Matter of Resemblance", *British Journal of Aesthetics* 27(3): 213–226.
Michael Newall (2011), *What is a Picture? Depiction, Realism, Abstraction*, Palgrave Macmillan, London.
Paul Noordhof (2008), "Expressive Perception as Projective Imagining", *Mind & Language* 23(3): 329–358.
Christopher Peacocke (1987), "Depiction", *Philosophical Review* 96(3): 383–410.
Ian U. Roederer et al. (2016), "Detection of Phosphorous, Sulphur, and Zinc in the Carbon-Enhanced Metal-Poor Star BD+44 493*", *The Astrophysical Journal Letters* 824(2): n.p.
Flint Schier (1986), *Deeper Into Pictures: An Essay on Pictorial Representation*, Cambridge University Press, Cambridge.

Patricia Valdez and Albert Mehrabian (1994), "Effects of Color on Emotions", *Journal of Experimental Psychology: General* 123: 394–409.
Kendall Walton (1970), "Categories of Art", *Philosophical Review* 79(3): 334–367.
Kendall Walton (1988), "What Is Abstract about the Art of Music?", *Journal of Aesthetics and Art Criticism* 46(3): 351–364.
Richard Wollheim (1987), *Painting as an Art*, Thames and Hudson, London and New York.
Richard Wollheim (2001), "On Formalism and Pictorial Organization", *Journal of Aesthetics and Art Criticism* 59(2): 127–137.