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The Perceptual Constraints on Pictorial Realism

Jennifer A. McMahon

1. Introduction

I argue in this paper that our concept of pictorial realism should include a reference to perceptual proficiency relative to a cultural context. I argue this by demonstrating the greater explanatory power of such a concept for understanding pictorial realism. The central idea is that gestalt-like mechanisms that are normally involved in object recognition can be deployed at a second order level in picture perception. This means that whole configurations can be perceived as made up of the kind of relations that would normally trigger awareness of a discrete object. Styles of picturing that exploit this second order gestalt-like mechanism are learnable and transferable. Once such a style of picturing is internalised, a picture that exploits this style will be experienced as true and fitting.

2. Depicting Objects Is a Sufficient Condition of Pictorial Realism.

Recognising a series of marks as a form is sufficient for the lowest threshold of realism, even when the form is simply a form in space such as we would find in an [Ives Tanguy painting](#). Furthermore, what counts towards this lowest threshold of realism in one picture may count against it in another. For example, in [Impressionist pictures](#), a differentiation between colour tones counts towards realism while in synthetic cubism this would add to the busyness of the design, obstructing unity and hence working against the grasp of the series of marks as cohesive forms. The recognition of an object in [synthetic cubism](#) relies upon maintaining the dominant axes of the depicted objects even while violating the relation between the dominant and subordinate axes of parts of the object. If this were combined with accurate differentiation between colour tones, the various parts would tend to appear as separate entities rather than a part of a larger composite, and it is upon the latter that our ability to recognise the object depends. Standard experienced resemblance accounts of pictorial realism are unable to account for this variability in what counts towards realism in pictures.

3. Having the Capacity to Perceive a Series of Marks on a Surface as a Unified Whole is a Necessary Condition of Perceiving Objects in a Picture.

The configuration is a key concept in understanding pictorial realism. To explain the role of configuration in judgments of pictorial realism I assume a representational theory of mind and perception that recognises four terms in the perceptual relation: (i) an object of perception, (ii) a visual field (refers to a mediatory level of perception between the world and our consciousness of it), (iii) an intentional object (or object as represented), and (iv) the object interpreted. Most theories of art concentrate on the fourth term. The configuration refers to the relation between the second and third terms; between the visual field and the intentional object.

Normally the second in my terms is ignored as not the concern of philosophy (direct realism ignores it) or given more cognitive

status than is compatible with psychological theory (*sense data* in indirect realism), and in some cases both the second and third terms are ignored (as in naive realism). As I am concerned with the tacit level of perceptual learning, I do not examine the object of the fourth term. The visual field, which is the second term in the perceptual relation, refers to the visual data *before we are conscious of it*. The visual field is not a mental entity (we are not aware of it) because we cannot be aware of the visual data until it is subsumed under a description.^[1] I use the term description to mean a structure which organises the visual data, giving some features of the object more psychological salience than others.

In order to demonstrate how this works consider an experiment reported by Fred Drestke in which subjects are shown an array of nine or more letters. Although subjects can remember only three or four letters under brief exposure, which letters they remember is determined by a stimulus shown them after the letters have been removed. This suggests that the system retains the sensory data but the cognitive system can only utilise a small portion of what is retained. It only has the capacity for accessing a limited number of the items stored in memory. What can be called to consciousness is determined by which structure is brought to bear upon the sensory information. Dretske writes: "We need not . . . think of this as the persistence of an image. What persists is a structure in which incoming information about a pictorial array is coded in preparation for its cognitive utilization." ^[2] I envisage the configuration to be such a structure.

4. Having the Capacity to Grasp Visual Data as a Second Order Gestalt is a Necessary Condition for the Capacity to Perceive a Series of Marks on a Surface as a Unified Whole.

A configuration can be thought of as a higher order description or a description that picks up the accents from the lower order descriptions in such a way that the one unified structure results. When we perceive objects in the world, the set of cells that register between-object relations (view variant) are distinct from the set of cells that register within-object relations (view invariant).^[3] The former are responsible for providing information relevant for judging our position in relation to objects; the latter for object recognition. When we perceive pictures, however, it seems as though we deploy the principles of within-object relations at two levels: first to the marks that unite to form the objects depicted and second to the marks that correspond to the perceived spaces between objects. In this way, we can perceive a scene made up of various objects as a unified structure or a second order gestalt. That is, at the configurational level we can devise the one description for the picture. Once we have a description, we have an intentional or represented object. The visual data afford certain incorrigible visual elements but which of these are most salient within the represented object depends on the way they are configured. One would expect the details of the represented object would vary across people, cultures, and of course species.

5. Only Those Pictures Whose Configuration Can Give Rise to a Second Order Gestalt Can Be Readily

Internalised, That Is, Can Be Naturally Generative.

The necessity of postulating the second term in the perceptual relation is that, given any object, the visual field is such that there might be a number of ways to configure the data to accommodate an intentional object. The nature of the resulting configuration will depend on the perceptual principles or structures brought to bear upon the data. Perceptual structures can be the result of perceptual learning. Once you have recognised an impressionist picture, for example, you can recognise this style in unfamiliar examples.

Once a particular configuration is grasped as a second order gestalt, it is internalised and this means it is naturally generative. Internalisation means that the structure is tacitly remembered, that it can be recognised and brought to bear upon other visual arrays by certain triggers in the visual field.^[4] This constraint, rather than resemblance, would constitute the key feature of pictorial realism, even though resemblance is a corollary of naturally generative pictorial systems. It would explain variations in judgments of pictorial realism across cultures, and slow dawning realism.

For example, someone brought up in a traditional Japanese culture might configure a Victorian lounge room quite differently from a Westerner. They might have receptors for certain key configurational features that are not there: flat and empty spaces, dominant verticals, and uncluttered horizontal surfaces with understated and brief curves incorporated into, and integral to, the overall effect. Without the corresponding configuration for Victorian decor they might just perceive clutter and a confusion of contrasts and patterns that resist a unified configuration. The Westerner, by contrast, would tend to organize the elements of Victorian decor into a less poignant configuration of many contrasts and would be more comfortable with a number of less dominating and overlapping linear elements, with flourishes happily accommodated as accents rather than integral to the dominant forms. We might all see the same thing but perceive different configurations. Our judgments of realism will differ accordingly.

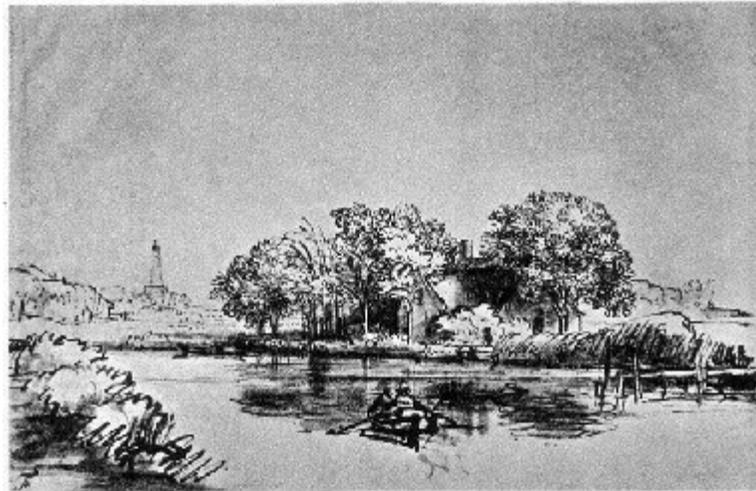
Regarding slow dawning realism, if this approach is on the right track we would expect novel configurations to confuse those with a limited number of configurations to draw upon. For example, what might appear jumbled and inchoate on first viewing, might, on viewing a series of works by the same artist or designer, or works that have been influenced by that artist or designer, begin to reveal a global unity. This would involve being trained, through looking at a naturally generative configuration, to select certain features from the environment, ignoring others. Depending on one's sensitivities and the time and effort put into perceiving pictures and other human artefacts, one would begin to perceive the visual elements of the picture that initially seemed incoherent or disunified as unified and correct. This is in fact what happened in a very public way after the first exposure of the public to Impressionism in the 1870s in Paris. What at first seemed incoherent later appeared realistic.

6. Therefore, a Criterion of Pictorial Realism Is That It Gives Rise to a Style of Configuration That Is Naturally Generative.

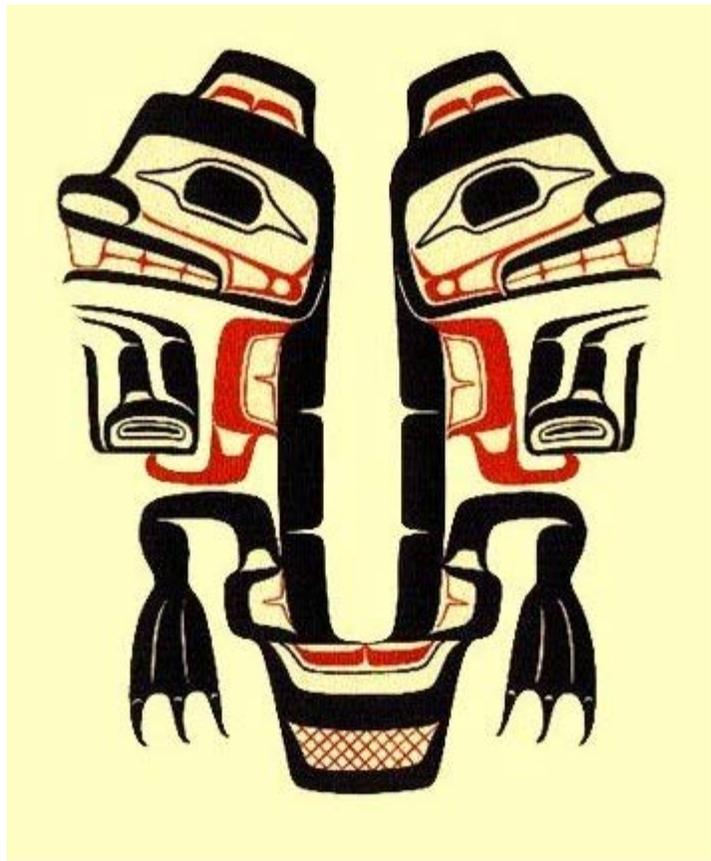
When separate visual elements are perceived as cohering within a unified structure as opposed to constituting separate entities, a configuration results. We are able to create numerous styles of configuration compatible with relevant principles of perception (principles of within-object relations), some of which push these principles to their limit but which nonetheless result in a naturally generative style. Once internalised, such configurations can be brought to bear upon other visual arrays.

The internalised configurations that we have stored in visual memory determine what we notice and hence what we learn. The application of such a configuration in the course of perception would make some features of the environment salient, while others would drop out of consciousness. Not only painters' styles but any style of configuring that one has absorbed through interior design or architecture might be equally effective.

Resemblance theories of depiction conceive of pictorial realism as a more or less monolithic, stable and objective matter. However, the variety of styles that serve the purposes of depiction in non-Western cultures suggests that realism (when conceived as determining the degree to which an object is visually recognised in a depiction) even when understood as determined by a natural generative system^[5] is far more multifaceted than the standing "resemblance" theories would allow. Compare the split style of Haida Art with the Rembrandt pen and ink drawing provided below.



Rembrandt, *A Canal with a Rowing Boat*, pen and ink drawing. This image is used with the permission of Chatsworth Photo Library. Any form of reproduction, transmission, performance, display, rental, lending or storage in any retrieval system without the written consent of the copyright holders is prohibited.



Robert Davidson's *Split Beaver* (1975) This is an example of the Split Style of the Haida people, indigenous to Canada. Used by permission of Robert Davidson.

A theory whose key concept is the configuration can provide an explanation as to how various styles of depiction can be experienced as equally realistic. Any experienced resemblance is experienced relative to one's stored catalogue of possible configurations. An example of a prediction would be that while it may be true that indigenous Canadians traditionally raised will eventually come to recognise certain Western art styles as realistic if continually exposed to them, this would not mean that they necessarily cease to perceive their traditional split style pictures as realistic. It just means that they have added a new style of configuration to their repertoire. The same would apply (conversely) for Westerners. Contrary to the standing resemblance theories, pictorial realism is a matter of the degree to which underlying perceptual principles are deployed in ways compatible with recognition and there are numerous candidates for this.

7. Lopes Presents a Hybrid Theory of Pictorial Realism.

According to Lopes,[\[6\]](#) a necessary condition of experienced resemblance in picture perception is that the roles and purposes of the depiction are known by the perceiver and satisfied from the perceiver's point of view. This is not a conventionalist theory of depiction because, as Lopes points out after David Lewis,[\[7\]](#) a convention needs to have by definition an equally satisfactory alternative such that a choice between the two is arbitrary. Lopes' notion is that the choices between alternatives of style are determined by the roles and purposes of the depiction and are hence not arbitrary and in turn, not conventional.

Lopes advances on the standard experienced resemblance theories by explicitly recognising the fact that pictorial realism is relative to style, and this is the work that intentionality does in his theory. He also draws upon entrenchment to explain how a style which satisfies the required roles and purposes comes to be perceived as realistic. Satisfying roles and entrenchment together would seem to be sufficient for pictorial realism, according to Lopes. On Lopes's account, a style is formed in response to artistic intention and through entrenchment comes to be perceived as realistic to the extent that it serves its intentionality (roles and purposes). While I accept that learning about artistic intentions can influence how one directs one's attention to certain aspects of a picture and hence can influence the resulting perceived configuration, intentions and entrenchment have limited explanatory power. Lopes' theory cannot accommodate the fact that pictorial configurations that once may have been experienced as unrealistic, can over time and with continued exposure, come to be experienced as resembling their object, even *without* the spectator's knowledge of the roles and purposes for which the depiction was designed.

Lopes's theory needs the added constraint of natural generativity. Conversely, his theory does not explain the fact that there are pictorial styles of whose artistic intentions we are aware, yet that are never experienced as realistic or resembling anything except in a trivial way. For example, [analytical cubism](#) always draws attention to its surface through its attention to changes in surface orientation relative to the picture plane. In many of these pictures we can barely recognise an object. When we can, it is usually through those parts of the image that deviate from the principles of analytical cubism, such as when eyes are given an outline or a nose is provided with a continual surface so that we are able to perceive volume. An habituation or entrenchment theory even when coupled with artistic or community intentions will not do because it does not explain the fact that not just any style which satisfies intentions will end up being experienced as realistic. By contrast, pictorial realism according to an account that includes the naturally generative principles of configuration can explain this peculiarity.

8. An Implication

According to Kendall Walton[8], knowing and understanding the context of an artwork and artistic intentions is normally a condition of gaining the optimal in pleasure and significance from an artwork.[9] One might interpret this to mean that the relevant categories of evaluation are all top down theoretical categories. This would place the act of interpretation relevant to his categories as pertaining to the relation between the third and fourth terms in the perceptual relation identified above, that is, between mental representation and interpretation. If, on the other hand, the categories include varieties of configuration, which pertain to the relation between the second and third terms of the perceptual relation, a different conclusion can be reached. That is, there are ways of perceiving artworks such that the greatest pleasure and significance they can afford is due to perceiving a configuration in them that need not have been one which could have been recognised by the artist. The structures that we have

internalised over a lifetime will influence the way we configure the art from the past, and may in some cases optimise our enjoyment of it. An example is the effect of familiarisation with [Jackson Pollack's oeuvre](#) and those influenced by him on the perception of traditional Australian indigenous works.[\[10\]](#)

9. Conclusion

By incorporating the characteristics of a configurational structure as set out above into our concept of pictorial realism, we can account for:

- i) greater flexibility in our perceptions of pictorial realism than the standard resemblance theories would allow;
- ii) the possibility of discovery and revelation in the development of pictorial realism, which convention and entrenchment theories cannot account for;
- iii) slow dawning realism (only entrenchment theories explain this but they require the aid of artistic intentions);
- iv) the fact that some styles, even when they fulfil purposes and are habitually experienced, fail to become naturally generative. This is a problem for convention, entrenchment and information theories of pictorial realism, but not for a configurational account of pictorial realism.

Endnotes

[\[1\]](#) F. Dretske, "Sensation and Perception" in *Perceptual Knowledge*, ed. J. Dancy (Oxford: Oxford University Press, 1988), pp. 145-63.

[\[2\]](#) *Ibid.*, p.159.

[\[3\]](#) G. W. Humphreys and D. Heinke, "Spatial Representation and Selection in the Brain: Neuropsychological and Computational Constraints," *Visual Cognition*, 5 (1998), 9-47.

[\[4\]](#) Adapted from D. Lewis (1990) on capacities for *qualia* (can be remembered, imagined, recognised); discussed in Michael Tye "Phenomenal Consciousness: the Explanatory Gap", *Mind*, 108 (1999), 705-25.

[\[5\]](#) F. Schier, *Deeper into Pictures*, (Cambridge: Cambridge University Press, 1986).

[\[6\]](#) D. Lopes, "Pictorial Realism" *Journal of Aesthetics and Art Criticism* 53, 3 (1995), 277-85 and "Pictures, Styles and Purposes", *British Journal of Aesthetics*, 32, 4 (1992), 330-41.

[\[7\]](#) D. Lewis, *Convention*, (Cambridge, MA: Harvard University Press, 1969).

[\[8\]](#) K. Walton, "Categories of Art", *The Philosophical Review*, 79, 3 (1970), 334-67.

[\[9\]](#) *Ibid.*, pp.357-58.

[\[10\]](#) I take it that this is the kind of thing that Arthur Danto has in mind when he differentiates between what constitutes style as opposed to what makes something art. See A. Danto, *Beyond the Brillo Box: The Visual Arts in Post-historical Perspective* (New York: Farrar, Straus, Giroux, 1992).



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