on perception

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Jerry Fodor wrote the following assessment of Danto’s importance in 1993: “Danto has done something I’ve been very much wanting to do: namely, reconsider some hard problems in aesthetics in the light of the past 20 years or so of philosophical work on intentionality and representation” (Fodor 1993, p. 41). Fodor is absolutely right: some of Danto’s work could be thought of as the application of some influential ideas about perception that Fodor also shared.

 The problem is that these ideas have turned out to be false. Both Danto and Fodor are modularist: they both think that perception is an encapsulated process that is in no way influenced by any kind of non-perceptual processing (see, e.g., Fodor 1983, Pylyshyn 1984). Many of Danto’s famous and influential arguments rely very directly on this modularist assumption.

There is now, however, a wealth of evidence against modularism of the strong kind held to by Danto and Fodor. We now know that perceptual experience is not determined entirely by the retinal input: our visual processing is influenced at various point in a top-down manner. What we know and what kinds of visual stimuli we have encountered previously deeply influence how the retinal input is processed. The empirical literature on this is vast and conclusive (for an overview, see Teufel and Nanay 2017 but see also the references in the last section of this paper).

What does this mean for Danto’s views on art and perception? While one of Danto’s premises may turn out to be false, the history and examples he gave are valuable and bear repeating. Even more importantly, Danto’s aesthetics can in part be separated out from his modularism, leading us to draw slightly different but arguably even more interesting conclusions from famous thought experiments such as the Gallery of Indiscernibles.

**Danto on the History of Vision Historicism**

Danto was ‘temperamentally and philosophically’ opposed to the idea that visual perception has a historical dimension, that is to say that vision varies according to the individual’s knowledge about the world, or that perception is ‘plastic’ (Danto 2001b, p. 40). In taking this line, Danto set himself against what he saw as a dominant belief in the historicity of vision within the humanities. Names were not on the whole named in relation to this idea, though Marx Wartofsky’s work was taken as representative (see, e.g., Wartofsky 1981), and the heavy use of art historical example suggests that art historians of the latter half of the twentieth century were on his mind (Carroll 2001, Nanay 2015). Tellingly, in reflecting on his interest in the area Danto recalled his dismay at a conference on the historicity of the eye organized by the German art historian Gottfried Boehm:

I discovered that the belief that the eye is historical appeared so accepted by the other participants that the only thing left to do was illustrate it as a new paradigm for theoretical art history. I, by contrast, could not believe that the visual system was as plastic as at least an extreme statement of the eye’s historicality implied. I was convinced, as I still am, that however various the beliefs with reference to which the visual world is interpreted from one culture to the next, there must be an impenetrable core of perceptual processing so universally distributed that we all live in the same world, visually speaking – in much the same way that we must all metabolize protein for energy, whatever may be the differences among national diets. From the perspective of metabolism, we are siblings under the skin, assuming that we are normal.’ (Danto 2001b, p. 40).

Unusually, Danto’s history of this tendency appealed not to Heinrich Wölfflin, Walter Benjamin or other writers more familiar in art historical accounts of vision historicism. Anti-modularism could in fact be said to be the mainstream in the first half of the 20th century not only in art history, but in psychology (especially Gestalt psychology and the New Look, see Bruner and Goodman 1947, Bruner 1957), and in philosophy, especially the philosophy of science (see, for example, Pierre Duhem’s influence in the latter area, Duhem 1954). So Danto’s insistance on the modularist dominance in the first half of the 20th century is rather problematic. Partly because of this historical inaccuracy, Danto talks about the great rift caused by the influence of Ludwig Wittgenstein’s *Philosophical Investigations*. ‘Up until about 1952’, Danto wrote in the 1990s, ‘perception was regarded as something independent of language, something that furnishes the understanding with its entire content invariantly as to whether that understanding belongs to an intelligence equipped with language or not’ (Danto 1991, p. 201).

What could Danto have meant here? What alternative history of the first half of the 20th century did he have in mind? Presumably, he looked back to British empiricist conceptions of perception, and their twentieth-century reconstruction in linguistic terms by the Logical Positivists. For the British empiricists, according to Danto’s account, words simply name ideas, which are copies or residues of sense impressions. Words are thus merely associated with perceptions, in effect being external to or only contingently connected with them. Higher order concepts such as objects, meanwhile, are really just associations of basic concepts. An apple is defined by terms (‘red’, ‘round’, ‘tart’) which designate basic ideas distributed across a matrix, this being a ‘modular conception of the perceptual array’ in which concepts are independent of each other and so unable to be effected by other concepts or descriptions of the object (Danto 1991, p. 202). An apple is visually perceived as red and round whatever one is told about it, and it would make no sense to say that one can perceive an apple ‘as’, for instance, edible.

The Logical Positivists, in turn, gave a linguistic version of this view of perception as part of their intended logical reconstruction of science, with a hoped-for foundation of science on ‘observation sentences’ verified or falsified via a single perception. Though the sparse elegance of this program needed modification over time, their system remains ‘a piece of logical architecture firmly based on perceptual foundations’. A ‘characteristic’ late statement can be found in C.I. Lewis’s *Analysis of Knowledge and Valuation* (1946), in which the foundation for all knowledge is said by Lewis to be ‘formulations of what is immediately given in experience’. As immediate and intuitively knowable, these are experiences for which the language used to refer to them is no more than a ‘way of handy labelling’ (Danto 1991, pp. 203-4).

 Danto acknowledged that the extreme thesis of perceptual plasticity, that language is entirely responsible for shaping our experience of the world, is more commonly associated with philosophers like Nietzsche and Schopenhauer than Wittgenstein. Nonetheless, he took the influence of Wittgenstein as the key factor in changing views in the humanities, with the discussions of seeing-as and ‘aspect blindness’ in the *Philosophical Investigations* leading philosophers of science such as N.R. Hanson and Thomas Kuhn to the view that observations in science are ‘theory-laden’. By the end of the 1960s the view had reached aesthetics – Danto singled out Nelson Goodman – that ‘perceptual processes’ were in all cases ‘cognitively penetrated by conceptual or descriptive structures’ (Danto 1991, p. 208). The path from this to the widespread take-up of the idea across the humanities was never spelled out, though in art history at least these passages from Wittgenstein and their use by N.R. Hanson exercised a clear influence on art historians associated with the UK’s Open University and their widely-used textbooks of the 1980s (Harrison & Orton 1984). In any case, according to the way Danto paints the history of thought on perception, the new orthodoxy in the second half of the 20th century was that there is no innocent eye free of cognition, and as such that our personal backgrounds lead us to quite literally see the same objects in very different ways from one another.

**Danto against Perceptual Plasticity**

Danto firmly rejects this post-Wittgensteinian turn, offering evidence for his position that perception is neutral to language and cognition of three connected kinds. These are optical illusions, cultural and historical variation in pictorial representation, and the perception and cognition of animals.

 Wittgenstein and those who took up his views in order to advocate perceptual plasticity often appealed to simple optical illusions such as the Necker Cube and the Muller-Lyer illusion. For Danto, by contrast, these are straightforward cases of why perception is not plastic. Take the Muller-Lyer illusion. Looking at two lines of equal length, one with inward facing arrows and the other with outward facing arrows appended, we perceive the lines with inward facing arrows to be longer. Even after we discover that the lines are of equal length, we still see one as longer than the other. ‘In such cases’, Danto cites Jerry Fodor’s *Modularity of Mind* as saying in support, ‘it is hard to see an alternative to the view that at least *some* of the background information at the subject’s disposal is inaccessible to at least some of his perceptual mechanisms’ (Danto 2001a, p. 8 quoting Fodor 1983, p. 60).

 For Danto this illusion and its belief-insensitivity applies across cultures, as does the related ability – said to explain the illusion – to perceive fictive or pictorial depth.[[1]](#footnote-2) If true, this suggests that the basic features of picture perception are universal, a view that would directly contradict the conventionalism about pictorial representation popular in art history.

 Art historians have at times thought of the various notational systems employed by artists across times and cultures as down to the plasticity of the visual system, a view that amounts at its most extreme to the thesis that all pictures are direct windows onto past perceptions of the world. The landscape of China, for instance, would be one perceived as ‘populated by calligraphic horses galloping past dotted and blotted trees’. This, for Danto, is a false extrapolation from the ‘Renaissance model’ of ‘visual fidelity’, in which the ultimate aim is the production of pictures that ‘cannot be told visually from the things they depict’ (Danto 2001a, pp. 3-4).

The twentieth-century Chinese artist Chiang Yee famously painted cows at Derwentwater ‘entirely in the Chinese manner’ (Danto 2001a, p. 3). Ernst Gombrich wrote about the work as a case of how habits and expectations condition our seeing of the world. But as a friend of Chiang Yee, Danto was well placed to know exactly how little this use of a Chinese-like notational system was down to seeing, instead being a carefully thought out strategy that aimed (and very successfully managed) to charm his audience through a self-conscious contrast of ‘English’ scene and ‘Chinese’ mode.

Perspective, a key ground of debates about the historicity of the eye, is likewise said by Danto to be at once ‘invented’ as a pictorial device and ‘genetically defined’ (Danto 2001a, p. 4). When in the early eighteenth century the artist and Jesuit missionary Giuseppe Castiglione came to China, it was widely reported that local viewers acknowledged his illusionistic works to more successfully ape natural vision than Chinese paintings. This, however, had no relation to the artistic success of his works, as the Renaissance model would suggest. Castiglione’s ‘Occidental’ perspective mode was criticized as failing to achieve more than mere resemblance; in the end even Castiglione himself took up a Chinese mode of picturing.

In the late formulation that Danto developed in relation to such examples, we all *see* the world the same way; artistic variations are down to the intention to *show* that identically seen world differently (Danto 2001b). To assume a direct link between *seeing* and picturing is to be blind to the particular habits and expectations that condition artists’ ways of *showing* (not seeing) the world. It is the ‘cultural decision about how to picture’ that is at the heart of the interest offered by art in its manifold forms.

A final set of examples revolved around the pictorial competency of animals. Pigeons for instance, have been trained in experiments to recognize pictures of objects and scenes such as trees, bodies of water, and even individual people. Leaving aside the fact that the pigeons had to be trained to recognize the pictures,[[2]](#footnote-3) the conclusion drawn by Danto is that they perceive the photograph and world in much the same way. That the pigeons are dealing with ‘*pictures* plays no role in their perception’. Pigeons perceive ‘that which is invariant between photographs and visual reality’ (Danto 2001b). And to this extent, which Danto calls ‘minimal visual experience’, we in effect ‘see what the pigeon sees’.

In this way the pictorial competency of animals provides evidence against any causal role of human picturing in the development of natural human vision. If we see what the pigeon sees, it must be independent of changes in art history, unless we had some reason to suspect that pigeon vision had, too, been developed in interaction with human picturing.[[3]](#footnote-4)

In addition, in Danto’s words, it is evidence for the theory-neutrality of the phenomenology of picture perception, ‘so far as there are relevant isomorphisms between pictures of things and the things themselves’ (Danto 2000b, pp. 42-3). Animal pictorial competency suggests that at the level of ‘minimal visual experience’ lies an invariant core of picture perception. This is a kind of experience for which we can likewise postulate a minimal visual description. Each predicate would here be ‘one-case’, belonging to the minimal visual description ‘in case its application does not depend for its truth on something outside the experience’. In the example of a tree, its shape, for instance, would be part of the minimal visual description, but its larger set of meanings that engage our existence as cultural beings would, in as much as this takes us beyond minimal visual experience, be subject to ‘extended visual description’. An extended visual description of this kind would consist largely of relational predicates, irreducible to conjunctions of the non-relational predicates of minimal description, and leaving the latter impenetrable by the former.

**Extended Perception**

Despite his avowed rejection of perceptual plasticity, some doubts might arise here about the actual extent of Danto’s modularism. Part of the goal of staking out a minimal pictorial competence shared between humans and animals was to stress how *different* human engagements with works of art must be. Our minimal competency for pictorial perception might be work of the ‘pigeon within us all’, a ‘primitive capacity’ prior to the human world of culture, meaning, and interpretation. In this Danto appealed to ideas beyond ‘minimal perception’ such as ‘artistic perception’ and ‘extended perception’ (Danto 1991, 1992, 2001a, 2001b; see also Goehr 2012). ‘Extended perception’ here engages the ‘dense network of beliefs, associations, and attitudes we have acquired in the course of a life’.

Why, we might ask, do these perceived differences not conflict with Danto’s modularism. Certainly there is some ambiguity, as when he counters the implication of his views that we do not in fact ‘perceive’ works of art at all:

That depends on whether we use “perceive” minimally or extendedly. If we say a pigeon perceives a work of art, *we* are using a concept unavailable to pigeons, since what the pigeon sees we know (however we know) is a work of art. The pigeon perceives something invariant between a work of art and something that looks exactly like a work of art but is not. The capacity to have a minimal visual experience derives from the genetic code for the optical system. The rest is *Menschenwerk*. (Danto 2001b, p. 43).

For advocates of perceptual plasticity, and indeed neural plasticity more generally, the appeal to what is human here could just as well be taken to support their views. Human culture is, after all, what the vision historicist art historians have all along claimed to penetrate perception.[[4]](#footnote-5) It is entirely conceivable to imagine a two-stage position, following Danto, where basic perception (or ‘minimal visual experience’) to do with aspects such as shape recognition is modular, while cultural information added to this (in ‘extended visual experience’) does involve perceptual change. Here it is not that visual experience is modular as such, merely that minimal visual experience is modular while extended visual experience is not.

This remains a matter for debate (see Davis 2011). Yet ultimately the hint of plasticity in the phrase ‘extended’ may be misleading, and this leads us back to Danto’s anti-Wittgensteinianism. To see a painting of a dove that through a description of its artistic properties is understood to be a symbol of the Holy Spirit – to see the world of human meaning in a work of art – is to have an extended perception of that painting. The capacity to identify things under descriptions of this kind, however, ‘is modular through the fact that relations do not penetrate their terms. We have organs through which we identify things under minimal descriptions. It requires language to identify things under maximal descriptions’ (Danto 2001b, p. 43).

Extended perception, in other words, involves ‘associations’ that ‘have reference to things that lie outside the minimal visual experience’. Seeing the bird in the knowledge that it means the Holy Spirit ‘may not be phenomenologically distinct from seeing the bird *tout court*, for the difference lies ‘not at the level of perception but at the level of interpretation and connotation’ (Danto 1991, p. 211). Such meanings are, in a phrase of Mark Rollins that Danto adopts, the ‘invisible content of visual art’.

**Modularism and the gallery of indiscernibles**

This leads to a key sense in which moving past modularism might give a new perspective on Danto’s views. Danto seemed to place much weight on there being no necessary phenomenological difference between minimal and extended perception. But if there *is* a perceptual difference in such cases, a number of new conclusions need to be drawn. We can see this by examining the thought experiment at the heart of much of Danto’s aesthetics.

Modularism is the crucial premise in a major conclusion Danto drew from his celebrated gallery of indiscernibles, his thought experiment (Danto 1981, p.1) – a thought experiment that radically transformed the kind of questions aesthetics and the philosophy of art asks today. Imagine a gallery of indiscernible canvases that are all monochrome red of the same shade and of the same size. While the observable properties of all these artworks are the same, their ‘meaning’ and aesthetic value can be very different: if one of the paintings, made by a counterrevolutionary Russian émigré is called ‘Red Square’ and the other one is called ‘The Israelites crossing the Red Sea’, then these two paintings, in spite of being indistinguishable, will have very different aesthetic value. Thus, aesthetic value is only loosely (if at all) related to perception.

 Danto never mentioned that there was an actual real-life gallery of indiscernibles. From 2-12 January 1957 (years before the publication of Danto’s Artworld paper)[[5]](#footnote-6), Yves Klein had an important exhibition at Galleria Apollinaire (on Via Brera), in Milan (see Banai 2014). The title of the exhibition was Proposte monochrome epoca blu and the exhibited objects were eleven identical blue monochromes, all unframed, all 30 by 22 inches. But they were differently priced. In spite of Klein’s claim that all were sold immediately, in fact only three was sold during the exhibition (Lucio Fontana purchased one of the three).[[6]](#footnote-7)

As one of us argued at length elsewhere (Nanay 2015), in presenting the gallery of indiscernibles, Danto oscillates between two arguments, one simpler and somewhat obvious, the other more complicated and more problematic. The simple one is this: the observable properties of the canvases are the same: they are perceptually and even physically indistinguishable. But the aesthetically relevant properties of the canvases are very different. So there is a disconnect between the observable properties and the aesthetically relevant properties. This is not a very surprising conclusion in the light of Duchamp’s work or, to get closer to aesthetics, since Walton’s paper ‘Categories of art’ (Walton 1970). Danto presumably meant to establish a stronger claim.

And here is the stronger claim that he seems to be arguing for: when we are looking at these canvases, we have the very same perceptual experience. But the aesthetically relevant properties we attribute to them are different. So there is a disconnect between perceptual experience and the attribution of aesthetically relevant properties.

The problematic assumption of this stronger claim is the first one: that our perceptual experience of these canvases is the same. And this is where Danto’s modularism becomes very important. This claim would be true if perception were modular. If perception were modular, then the retinal input would determine our perceptual experience. And as the retinal input when looking at these canvases would be the same, our perceptual experience would also be the same.

One standard way of questioning Danto’s conclusion about the gallery of indiscernibles is exactly to deny that our perceptual experience of these canvases would be the same (Wollheim 1993, Margolis 1998, 2000, Lamarque 2010, Rose 2017). Our aim here is to point out how Danto’s claim about the sameness of our perceptual experiences follows from his modularism. And given that modularism turns out to be false, we should reject the claim that the perceptual experience of these canvases would be the same.

 Here is a simple way of seeing the empirical inadequacy of Danto’s conclusion. In a recent and influential experiment, two pictures of identical (mixed race) faces were shown to subjects – the only difference between them was that under one the subjects read the word ‘white’ and under the other they read ‘black’ (Levin and Banaji 2006). When subjects had to match the color of the face, subjects chose a significantly darker color for the face with the label ‘black’. This experiment has the exact same structure as Danto’s thought experiment: the two visual stimuli share all their observable properties – just like the canvases in the gallery of indiscernibles. But, crucially, our experience of the two stimuli are different – we see one as being darker than the other. We should expect the same results in the gallery of indiscernibles.

If perceptual experience is partly determined by top-down influences, then we have no reason to think that our perceptual experience of the canvases in the gallery of indiscernibles would be the same. In fact, we have strong reasons to conclude that our perceptual experience of them would be very different as the top-down influences (cued by the titles of the artworks) on our perceptual processing are very different. So in the light of what we know about vision, we should conclude that our perceptual experience of the canvases are very different. So it’s no surprise that the aesthetically relevant properties we attribute to them are also different.

The Gallery of Indiscernibles thought experiment does not establish what Danto wanted to establish. It is not the case that we have the same perceptual experience in front of these indistinguishable canvases. But this does not mean that the thought experiment of the Gallery of Indiscernibles is pointless. Given what we now know about top-down influences on perception, it becomes all the more useful in thinking about the practices of art history and criticism (Rose 2017), and it helps us to raise more nuanced and more interesting questions about perception in aesthetics.

The issue is not whether our perceptual experiences are different, but rather how they are different and what explains this difference. If there are top-down influences on our perceptual experience of these canvases, what is the mechanism of these influences? Is it some form of mental imagery that colors our perceptual experience? Or does what we know about the painting guide our attention differently in front of different pictures? Disposing of Danto’s false premise of modularism does not make the Gallery of Indiscernibles outdated. Rather, it opens up new and exciting ways of using the Gallery of Indiscernibles in order to ask questions about our perception of artworks.

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1. In the current empirical literature on the Muller-Lyer illusion, both of these claims are taken to be very controversial (see Glennerster and Rogers 1993, Weidner and Gereon 2006, Nanay 2009 for summaries). [↑](#footnote-ref-2)
2. From the point of view of cognitive ethology, Danto’s argument is very naïve – see Fagot 2000 and Fagot 2013 for a summary of what would constitute picture perception in animals. His use of empirical findings is also very cherry-picked (of the vast quantity of experiments he picked out those very few that seem to support his conclusion). For a more conceptual critique of Danto’s use of these experiments see Davis 2011, 11-42 and esp 187-192, who draws the very different conclusions that the precise point of importance is the *becoming present* of pictures in a form of life. [↑](#footnote-ref-3)
3. See again Davis 2011, ibid. for criticism. [↑](#footnote-ref-4)
4. Danto at once point strikingly posited ‘that the experience of art description really does penetrate perception, but that is because perception itself is given the structure of thought’ (Danto 1992, p. 214), a view that on one reading at least could leave little between Danto and the anti-modularists. Danto nonetheless rejected the idea that this might involve ‘neural pathways or the phenomenology of perception’, and gave no suggestion in his later work on the subject that this view might modify his modularism. [↑](#footnote-ref-5)
5. Danto 1964. This is the paper where Danto first presented a version of the argument that he later popularized with the help of the Gallery of Indiscernibles thought experiment. [↑](#footnote-ref-6)
6. It is not clear whether Danto knew about this exhibition. If he did, one wonders why he did not acknowledge that his celebrated thought experiment is in fact just a description of a real-life event – something that borders on plagiarism. If he did not, one may wonder why not, given the art historical importance of the Klein exhibition. [↑](#footnote-ref-7)