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Perceiving Digital Interactivity — Applying Kendall Walton's 'Categories of Art' to Computer Art

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Abstract. In this paper, it is my aim to explore the relatively young art category called Computer Art. To do this, I will apply Kendall Walton's formative essay, 'Categories of art'[1], which will aid in analysing the perceptual features of works belonging to the category of Computer Art. First, I will summarise Walton's key ideas, from which my interpretation is broadly devised from Brian Laetz's critical commentary. Second, I will describe two typical examples of Computer Art, to consider its features, and if the category 'Computer Art' emphasises their aesthetic features. Finally, I will answer whether or not Computer Art is a Waltonian category of art and address the implications of this.

1. Categories of Art

Categories of art are important, Walton claims, because our aesthetic judgements are broadly influenced by the category we are judging within. In this respect, our judgements are dependent on the perceived category; the artwork in question will be perceived as having certain values, depending on that perceived category. If we look at a work of art within one category, its properties might seem different than if we perceive it within another. By this claim, the aesthetic properties of an artwork are mutable. This is not, however, an implication that an artwork does not have a correct category... In fact, Walton's, 'Categories of Art', sets a framework for perceiving correct categories. But first, what, according to Walton, is an art category?

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[1] Walton, K. L. (1970). Categories of art. *The philosophical review*. pp.334-367.

Categories of art are groups that are perceptually discernable, meaning, the artwork must have perceptual features that are distinguishable, and can be perceived as belonging to that category. A perceptually distinguishable category, that Walton regularly refers to in his essay, is 'painting'. Paintings are readily recognized because its artworks are typically stationary, flat, and with a painted surface. There are also sub-categories that can be perceptually distinguished from this broader one such as abstract painting or impressionist painting, etc. These perceptually distinguishable categories do not require background information or expertise to be perceived as such. Brian Laetz suggests then, that categories such as forgeries or fakes would not qualify as "Waltonian" because these works are not readily distinguishable (from their forged originals).[2] This would also indicate, as Walton claims, that `Rembrandt paintings' is not a category of art but `paintings in the style of Rembrandt' is.

The properties or features of the work that are perceptually distinguishable are either standard, variable or contra-standard, to the category you are perceiving it within.

Standard features are features relative to a category "just in case it is among those in virtue of which works in that category belong to that category" (Walton, 1970). Walton's own example, again, is the category of 'painting'. If an object is perceptually distinguished as a painting, its flatness and immobility would not be surprising features because they are standard within painting.

Variable features have nothing to do with features that qualify it for that category, whether the features are present or absent. So, with a painting it would not matter whether an Impressionist painter used blue or green pigment to render a patch of grass; in this case, the colour makes no difference to its being perceived within "Impressionism". As I stated earlier, all features, including variable features, are relative to the category you perceive it as belonging to. Though colour is a variable feature within some categories of painting, in a category of 'painting-in-the-style-of-Picasso's-blue-period', the colour blue might appear standard, not variable.

Contra-standard features are defined as "the absence of a Standard fea-

[2] Laetz, B. (2010). Kendall Walton's 'Categories of Art': A Critical Commentary. *The British Journal of Aesthetics*, *50*(3). Pp. 287-306.

ture with respect to that category - that is, a feature whose presence tends to *disqualify* works as members of that category". Again, within the category of painting, mobility or three-dimensionality might seem contra-standard. Sometimes, if a contra-standard feature becomes standard, a new category will emerge over time. The contra-standard feature will then be seen as standard. So, paintings with objects fixed to the surface became more readily distinguished as mixed media, assemblage, collage, and the like. Within those categories, any degree of three-dimensionality would seem standard and flatness would, perhaps, appear contra-standard.

Rauschenberg's *Bed* (1955), for example, can be perceived as having both depth *and* lacking depth. Their standard and contra standard properties are dependent on the work's perceived category. If *Bed* appears to either of these features, depth or flatness, both are correct perceptions because, Walton states that, artworks belong within many categories. One criteria that determines the correct category is the one that exploits the aesthetic character of the work. So, while *Bed* might seem sculpture-like to some, sculpture is not the correct category because its depth is not activated within this category--in fact, as a sculpture, it would appear flat and maybe static. Though there are reasons a viewer might perceive it within sculpture, it's not the *best*-suited category. We know this because the work is failing, to some degree. According to Walton, there are five general rules that can indicate the best category.

The correct category is usually one that:

(a) has the least amount of contra-standard features and has the most number of standard features;
(b) that work is better within that category;
(c) is most recognized by society;
(d) was intended by the artist;
(e) sometimes can be discerned by the mechanical process used.

A viewer will not use these five rules to determine a category because he or she will have already perceived an object within a certain category. These guidelines do, however, indicate the correct category because the category that includes these five guidelines will typically highlight a work's aesthetic

properties, as a natural consequence of perception, more than other categories.[3] For Walton, this is something a viewer can perceptually discern.

2. The Perceptual Features of Computer Art

I am interested in the above with respect to Computer Art, as defined by Dominic Lopes. The proliferation of digital systems within the arts makes it a critical category to analyse; however, before applying Walton's theory to Computer Art, I should first defend my reasons for analysing Computer Art, opposed to other categories associated with technology.

The challenge with digital works is in part due to the nomenclature involved. 'Digital Art' is an umbrella term that signifies a wide array of styles and methods of art production and display.[4] Its inclusion in art history and philosophy texts has taken on many different forms and meanings. For this reason, the inclusive phrase 'New Media' has often been referenced but it is problematic since the term ambiguously refers to a wide range of possible media used in a given work. 'Systems Art' was coined in the 1960s because of cybernetics' influence on art, a term used within the field of engineering to describe a closed loop system, which was then applied to many social artworks involving a control source and communication.[5] This too grew to include any art process having a systematic approach, including non-digital painters like Frank Stella. 'Digital Art' is misleading as well because digital technologies can be utilized as a means of production or as a medium within the traditional categories of sculpture, photography, film, drawing, etc. Lopes claims that digital art is an art kind but it is not an *appreciative* art kind.[6] *Non-appreciative* art kinds can be any grouping based on similar characteristics. Art kinds such as paintings organised by the date they were created, songs whose lyrics have the word 'seventeen' in them, or films directed by a single person can all be useful categories to use for analysis. However, with these art kinds, the appreciative art kind

[3] Ibid. pp.296.

[4] Paul, C. (2008). *New media in the white cube and beyond: Curatorial models for digital art*. University of California Press. pp.53.

[5] Ibid. pp.19.

[6] Lopes, D. (2009). *A philosophy of computer art*. Routledge. pp.17.

is painting, music and film, respectively. Lopes claims that the digital medium is similar to acrylic paint in the sense that acrylics did not create a new appreciative art kind, rather, paint did.[7] Instead, digital works are better suited within subcategories under their traditional parent categories, therefore, digital films belong to the broader appreciative art kind of 'film', digital photographs belong to the appreciative art kind of' 'photography', 'digital installations', and so on.[8] If digital works belong within other categories, then I agree that the *computer* is responsible for the appreciative art kind and, therefore, computer art is worthy of the 'Walton treatment'.

Defining the computer and its basic ontology is not necessary for Walton's process of categorisation but integral to determining those features which are perceivable in Computer Art. A computer is simply anything that runs a calculation, or computational process. According to Lopes, this needs fleshing out or, by this definition, the human brain would qualify as a computer, which would falsely lead to placing some works like Conceptual art, literary works, and musical compositions into the category of Computer Art.[9] A distinctive requirement of Computer Art is that a computational process must follow a set of prescribed rules to generate the perceivable features of the artwork (its output).[10] A device is needed to input information and a display is needed for that system's output, be it an image, text, sound, etc. The input and output must relate in such a way that the input (by a user or viewer) causes the output; this relationship is known as a transfer function. For my argument here, this excludes analogue works or works whereby the human brain acts as a computer.

Interactive Computer Art is a recent art category. However, Lopes developed the conditions of Computer Art under his definition of an appreciative art kind:

> a kind is an appreciative art kind just in case we normally appreciate a work in the kind by comparison with arbitrarily any other works in that kind.[11]

[7] Ibid. pp.19.
[8] Ibid. pp. 18-19.
[9] Ibid. pp.16-19.
[10] Ibid. pp. 29-35.
[11] Ibid. pp.17.

For Walton, the perceived features of a work are the indicators for the category that it will be perceived within. Comparison classes are also used to perceive a work of art within Walton's definition because we see a work as belonging to a certain category, or comparison class, because we see certain features as standard. Consequently, the burden of proof as to whether or not Computer Art is a bona fide *Waltonian* category rests on its features being perceptually distinguishable.

Lopes definition claims that, an item is a computer artwork just in case:

> (1) it's art, (2) it's run on a computer, (3) it's interactive, and (4) it's interactive because it's run on a computer.

This final condition is important to my research here. Let's consider two prototypical works of Computer Art to analyse.

Dear Esther, developed by The Chinese Room, sometimes labelled as a game and sometimes as a work of literature, allows users to navigate through environments and create different narratives on the computer. According to its description on the website,

> "*Dear Esther* is a ghost story, told using first-person gaming technologies. Rather than traditional game-play the focus here is on exploration, uncovering the mystery of the island, of who you are and why you are here. Fragments of the story are randomly uncovered when exploring the various locations of the island, making each journey a unique experience."[12]

The next example is, *Looking at a Horse*, created in 2013 by Evan Boehm:

> "You walk into a dark room and projected on the wall in front of you is a frenzied mass of dots. A friend walks in and the dots are connected by a wireframe body-the thing you're watching, you realize, is a galloping horse. As more viewers trickle in, the horse continues to evolve, adding polygonal musculature and a shimmering skin. Eventually, when enough people are watching, the beast transcends its earthly form and transforms into some other ghostly, ethereal thing entirely. Then, as people filter out of the room, it goes through the

[12] `http://dear-esther.com/?page_id=2`

> same process in reverse, dissolving back to the elemental cloud of points."[13]

Computer Art includes vastly different styles and kinds and this is obviously a limited list. I chose these two examples because, broadly speaking, Computer Art are works that are either run directly on a recognizable computer system (usually videogames or those like *Dear Esther*) or those in gallery spaces that do not usually include obvious systems for the user to interactive with (such as *Looking at a Horse*). Though I am sure there are exceptions that could be mentioned in the following analysis, it will be as inclusive to all works of Computer Art as possible.

A typical feature that seems standard in many categories is the medium used (e.g. paint, bronze, wood, etc.). This is more complicated with Computer Art because not all of these works, as with the earlier examples, use a literal monitor, mouse, and keyboard. For works like *Dear Esther*, the computational device would be seen as standard. The absence of a perceivable device might seem contra-standard with *Looking at a Horse*. Furthermore, the digital medium (or the code) is not perceived in the same way that paint or marble or wood are perceived. In the case of digital systems, the code is one thing and its instantiations, or the perceived features, are another. Though the disguised medium is a particular feature of Computer Art, it is not necessarily contrary to its effects being perceivable. The one feature that all of these works have in common, because of the computational device, is interactivity. According to Lopes' definition of Computer Art, it is a condition of this category that the works be interactive. In fact, Lopes considers the interactivity in Computer art as a medium.[14] (For this paper, I am happy to consider interactivity as a medium of Computer Art). Margaret Boden claims something similar and stresses the valuable difference between various interactive works. She states:

> In computer-based interactive art, the aesthetic interest is not only, or not even primarily, in the intrinsic quality of the results (images

[13] `http://www.creativeapplications.net/openframeworks/looking-at-a-horse-by-evan-boehm/`.

[14] Atencia-Linares, P. (2011). Pictures, Bytes and Values: An Interview with Dominic McIver Lopes. *Postgraduate Journal of Aesthetics*, *8*(2).

> and sounds). Rather, it is in the nature of the interaction between computer and human beings.[15]

The interactivity in each comes from the transfer function of the digital system. A device is needed for the user to input information and another device is needed for an output, or number of outputs. *Dear Esther* is interactive because it requires a user to interact with a digital system to instantiate the work itself. *Looking at a Horse* is interactive because the viewer is also needed to instantiate different successive states of the work. Though a typical monitor and mouse are not used for the interaction, a sensor or counter receives the input from the person entering the gallery space and a transfer function generates different stages of a horse, or its outputs.

If interactivity is a standard feature in each of these works, *how* they are interactive is variable. Again, variable features do not pose challenges because they do not prevent a work from being perceived within a category. A variable feature of interest to interactivity is the type of system that creates the results of the interaction. Digital systems have the potential for interactivity via either deterministic or stochastic systems. Works of Computer Art will be deterministic in the way they are programmed but have the potential to *appear* as deterministic or stochastic. Arguably, these terms are superfluous to Walton's conditions, however, since a general understanding of the computer is still new to the arts, a brief background may lead to a more accurate recognition of interactivity as a perceivable feature. Deterministic systems have set and predictable outcomes and stochastic systems have known possible inputs but the outputs are random. For example, a car has gas and brake pedals. There are two possible inputs-- to accelerate or brake. Assuming the car works properly, if you press the accelerator, the vehicle will always speed up. If you press the brake, the vehicle will always slow to a stop. That is a deterministic example with a known outcome, dependent on the input. An example of stochastic interactivity is the popular arcade game, *Whack-A-Mole*. The user stands in front of a cabinet, the top of which is covered in holes, with the goal of hitting a mole with a mallet, each time it pops up. Once the user whacks the mole on the head (the input), the mole will pop-up again (its output) but in a random fashion. There is no determining where it will pop out.

[15] Boden, M. A. (2009). Computer models of creativity. *AI Magazine*, *30*(3), pp.23.

As just described, deterministic or stochastic systems are not an interactive feature exclusive to Computer Art but, one appearance or the other, is a required feature (for Lopes' condition of Computer Art). In some cases, it is possible for a user to perceive whether the interactivity is perceptually deterministic or stochastic, however, and more importantly, general interactivity would certainly be perceivable. Other variable features could include the range of sounds, sights and instances of the work. Like interactivity, they could take on different forms and it would not be dependent on the perceived category of Computer Art.

Before moving on to an analysis of these features, it seems appropriate to mention at least one contra-standard within the category of Computer Art. In most categories of art 'distance' serves as an important characteristic. Distance between an object and viewer allows time and space for the viewer to contemplate and appreciate the work. Interactivity requires a certain immediacy in a user's response to the artwork, meaning that computer art leaves very little time for the viewer to reflect. This poses a serious problem for some philosophers and, in fact, disqualifies some works that have been generated from the computer as 'art', however, assuming Lopes' condition that Computer Art is an appreciative art kind, a lack of distance is an important feature to consider, particularly as it relates to interactivity. While the transfer function guarantees there will be some loss of distance between the viewer and the artwork, an increased distance might render an artwork to be perceived as Computer Art but with features that resemble works from other categories, such as, a tableau, installation, video and so on. *Looking at a Horse* responds immediately to the people in the room. However, while the responses are immediate, the lack of perceivable tech-looking input devices would be disconcerting, in a contra-standard sense.

3. Implications

So, is Computer Art a category of art in a Waltonian sense? Walton suggests the category must have members whose features are perceptually distinguishable.[16] Certainly, a computer (with a monitor, mouse, keyboard)

[16] Thank you to Aaron Meskin for pointing out that a loose reading of Walton does

is perceptually distinguishable. However, with the above examples, only *Dear Esther* utilises a perceptually distinguishable device. *Looking at a Horse* does not have any perceivable devices, save for the video screen.

Similarly, though *Dear Esther* is run on a computer, its user might perceive the work within 'literature' or 'game'. Now, according to Walton, there is not just one category a work could belong to, so there should be no problem with either categorisation. But, the correct category exploits the aesthetic character of the work more than any other category. Let's consider the guidelines that Walton framed for this. His first guideline states that the category that decreases the number of contra-standards and increases the number of standards will heighten the aesthetic value of the work's properties. For a game, *Dear Esther* lacks standard gaming features, yet, for those perceiving it within literature, the literary features can only be accessed with some traditional gameplay. For literature, it would seem incredibly open-ended and interactive. For gamers, it would seem less interactive than other games such as *Skyrim* or *Mass Effect*.

For users who prefer works like *Dear Esther*, the category 'art game' or 'interactive literature' is sometimes used, in which case, these categories both seem to fulfil guidelines one and two because they highlight the properties their given users would regard as important. Walton's third guideline states that the category that is most recognized in society is also more likely to increase the perceptual effect, than categories less recognized. 'Literature' has been firmly established as a category and 'Interactive Literature', though mostly associated with children's game books and detective stories, is also somewhat familiar. 'Interactive *Electronic* Literature' is probably less so. 'Games', including videogames, have been established in society as a popular entertainment category but less so as an art kind. In both cases, the broader categories are more established and, while they are correct categories, they do not fully exploit the unique features of *Dear Esther*. Fourthly, Walton states that the artist's intended category is more likely to be a correct category. This, too, is going to cause some challenges with *Dear Esther* because, though it was originally advertised as a game, it was created "by Dan Pinchbeck, a researcher based at the Uni-

not require such stringent requirements for perceptual properties (as with Stacy Friend and her work on fiction).

versity of Portsmouth (UK) in 2007, *as part of a project funded by the Arts & Humanities Research Council to explore experimental game play and storytelling*" [italics are my own]. In this quote, we can see that the intention was for both categories. When it was first released, there was significant backlash from gamers for its minimal game-like qualities. For those interested in interactive literature, the game-like features were unfamiliar. Now, it seems to have found its niche with 'art game' associations, which seems to activate the perceivable features. The final guideline states that the mechanical production, or method used to make the work of art, will typically highlight a work's important features. In the case of *Dear Esther*, the computer is the method of production and, one that suggests 'videogame' or 'art game' as the category with the most impact.

But would a user typically perceive these works as Computer Art? While they might be associated with the computer, or maybe even as Computer Art in an ontological sense, my initial thought is that they would more readily be perceived within other categories. Walton's guidelines highlight categories that emphasise the interactive feature of these works but Computer Art does not seem to be one of the perceptual categories. To be fair, Computer Art, as a category, is relatively new. *Dear Esther* is, in one sense, an easy case because it is run on a computer. In another sense, it is a hard case because videogames are more widely appreciated by gamers. These users would not typically discern this work as Computer Art but would instead perceive its category as 'interactive literature' or 'game'. Certainly, Computer Art includes a much wider range of works beyond works like *Dear Esther*. *Looking at Horse* is more typical of museum-related works but it may not be any less problematic for discerning its category as Computer Art. For one, it does not have a perceivable computer and the video screen might cause the viewer to perceive the work within film or video installation. However, its responsiveness to the user's presence and movement is contra-standard to those categories. Instead, the viewer might intuit its category as both 'interactive installation' and 'interactive video'. The fact that certain works belonging to a category are not always perceived within that category, does not mean that the category is not a legitimate (perceptually distinguishable) category. My observation is simply that Computer Art has the potential to be perceived (and operate) as 'interactive' forms of Waltonian categories. If perceived within

other categories such as film, literature and music, the strong degree of user control, the free-form (non-linear) narratives and optional outcomes would seem contradictory to those categories.

Walton claims that if certain features which are Contra-Standard to the perceived category become expected, or no longer disconcerting, they sometimes create new categories of their own. It could be the case that Computer Art, as that new category, will become more established in society and, at that point, it would be the perceptually distinguishable category. It might also be the case that certain works such as those described are readily perceived as 'interactive' categories, more than they are perceptually distinguished as `Computer Art'. This research points to the significance that interactivity has within all the arts, particularly Computer Art. Though all these works could appropriately be categorised under the genre of `interactive', in one manner or another, the categorical name loses all meaning if the categorical description ends there. It would be unfair to compare these interactive works and claim that a traditional installation is not as interactively responsive as works like *Looking at a Horse.* They are interactive in a categorically different way. So, though the works themselves can be categorized in a Waltonian sense, whether it is perceived and categorized as Computer Art, in a Waltonian sense, remains to be seen. Regardless, this importantly emphasises the significance of the interactivity within all appreciative art kinds and categories. It also emphasises the overuse of the interactive term and suggests interactivity needs further defining in order to be more informative.

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