Aesthetic Experience by Proxy: Science Description and Science Fiction in New Art Practices

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Abstract
The claim of the paper is that in many cases new artforms that make use of new, advanced science and technology, paradoxically, prompt aesthetic experience by means of simple text. The paper investigates the difference between the technical media of, for instance, works of bio-art, and the concrete material that the audience of such works encounter in the gallery. In relation to new artforms, the ‘simple’ paratextual descriptions of the works’ technical media take on a significantly different role compared to the paratexts accompanying traditional artforms. While the paratexts’ primary purpose is one of simply conveying information on the works’ technical media (such as DNA-material, brain cells, digital software etc.), which are often hidden from the human sensory apparatus, in reality the paratexts simultaneously take on a second, but more important function: that of being the prime catalyst of aesthetic experience – thus substituting the work itself. The paper analyses the mechanisms of this new role of the paratexts accompanying scientifically advanced art and concludes that an important component is the conceptual character of allographic, informational paratexts. Curiously, this conceptual character is also a key feature of the advanced science at work in the new artforms.

Keywords
Aesthetic experience, paratext, bio-art, new media art, science, conceptual art, fiction, narration.

Introduction
How is aesthetic experience prompted by works of art that make use of advanced technology? What is it that makes such works aesthetically intriguing? One explanation that is often offered is that – compared to traditional art media – recently developed, advanced scientific procedures and technologies provide the works with new possibilities and dimensions, and as a result the new technologies themselves are at the focus of attention when critics and theorists analyse works said to belong to new genres like, for instance, bio-art, computer art, or nano-art. While fully acknowledging the importance of new technologies in works of art, this paper demonstrates a different approach: Instead of investigating technology and science in itself as the hotbed for the aesthetic potential of such works, the paper claims that what really acts as a catalyst for aesthetic experience in the audience encountering such works is good, old-fashioned text. Specifically, the texts that give rise to aesthetic experience are the paratexts that accompany and guide the reading of the ‘real’ texts. In this paper the texts are the works of art that make use of advanced science, and the paratexts investigated are wall labels, captions, or catalogue listings that describe the material of these works of art.

How this aesthetic experience arises is demonstrated by analysing the role of paratexts with the help of theory deriving from classic aesthetics (Immanuel Kant), literary theory (Gérard Genette), and art theory (Nelson Goodman, Dominic McIver Lopes, and Diarmuid Costello).

The two overall claims of this paper are: That simple, descriptive paratexts play a different role when they describe works of art that make use of advanced technology – these paratexts simply function differently than paratexts that describe more traditional artforms. And second: that, because of that different role, the paratexts in question actually take the place of the physical work of art as catalyst of the viewer’s potential aesthetic experience.

The (new) role of paratextual description

In his book on paratexts from 1987 Gérard Genette made a thorough analysis of the diverse functions of paratexts. Working in the field of literary theory Genette’s primary examples of ‘texts’ are novels, and the concrete paratexts he takes under consideration are: prefaces, covers, title pages, postscripts, critics’ reviews, etc. The purpose of the book was to investigate paratextual messages according to their:
“[S]patial, temporal, substantial, pragmatic, and functional characteristics. More concretely: defining a paratextual element consists of determining its location (the question where?); the date of appearance, and if need be, its disappearance (when?); its mode of existence, verbal or other (how?); the characteristics of its situation of communication – its sender and addressee (from whom? to whom?); and the functions that its message aims to fulfil (to do what?).” (Genette 1997a, 4)

Out of the very elaborate system that Genette presents in his book, this paper focuses on the relationship between the two latter – the ‘pragmatic’ and the ‘functional’ – aspects of the paratextual messages.

At this stage it is of relevance to look at and compare three different paratexts that each describe the technical medium of different works of art. The term ‘technical medium’ here refers to the way Lars Elleström uses the notion to describe ‘the actual material medium, the “form”, that realizes and manifests the latent properties of media, the “content”’ – regardless of what that content might be (Elleström 2010, 17). The first paratextual example accompanies a work by David Hockney, Mr and Mrs Clark and Percy (illustration 1), and reads: “acrylic paint on canvas” (tate.org.uk). The technical medium of the second work, Pancreas (illustration 2), created by Thomas Feuerstein and Thomas Seppi, is communicated by this text: “glass, metal, plastic, technical equipment, brain cells, bacteria” (Wipplinger 2012, 224). Finally, the text that describes the technical medium of a work by Charlotte Jarvis, Music of the Spheres, (partly represented in illustration 3, next page) goes like this:

“1. Jarvis enlists British composer Mira Calix to write an original piece of music – she does this, inspired by the hum of the huge data storage machines in the server room at EMBL–EBI [European Molecular Biology Laboratory – European Bioinformatics Institute].
2. The music is recorded and encoded in a form that could be represented by the letters of DNA. That DNA was then synthesised and infused into liquid soap.
3. Calix’s music is performed on stage by an orchestra. Bubbles of the DNA-infused soap will be blown about during the performance, filling the air with miniscule copies of the original composition.
4. As the bubbles float through the air, the musicians fall silent. The bubbles become the only physical manifestation of the music.
5. After the performance, the soap mixture is offered to audience members as they leave. Theoretically, they could have the soap sequenced, whereupon a digital file detailing the sequence of the DNA fragments would be sent to them.

6. Then, using instructions online and some smart computer programming, they can decode the fragments to recreate the music file.” (Brownell 2014, 13)

The fact that the last paratext – even though it still only describes the technical media of a work of art – is considerably longer than the first two is understandable insofar as, in this case, the scientific procedures that make up the technical media are much more complicated and inaccessible to layman, and therefore in need of much more description.

The claim in the following, however, is that the paratexts above illustrate a tendency: Whereas traditionally there is a difference between what Genette terms informational and interpretative paratexts, these two types merge in the texts that accompany new works of art (like Pancreas and Music of the Spheres).

**Informational and Interpretative Paratexts**

Despite the different length of the three paratexts, and the fact that they describe the technical media of three very different works of art, they are of a similar pragmatic character insofar as they are all of the same type of, with Genette’s term, illocutionary force. According to Genette, the illocutionary force, or the purpose, of paratexts may be that of communicating, for instance, ‘sheer information’, ‘intention’, ‘interpretation’, ‘a decision’, ‘a command’ of a work/text. (Genette, 1997a, p. 11). The illocutionary force of all three paratexts quoted above is that of conveying information on the technical medium of the works in question. In most traditional art forms, such information on the technical media is of little, if any, relevance to a hermeneutic interpretation of the work in the sense that to most viewers (experts or conservators excepted) it would not alter their aesthetic experience of *Mr and Mrs Clark and Percy*, if the textual information on the technical media read, for instance, ‘oil paint on plywood’ instead of ‘acrylic paint on canvas’.

An example of a paratext that is not of informational but of interpretative illocutionary force could be this one, which invites us to consider the subject matter of David Hockney’s painting in more detail:

Illustration 3 (right). Charlotte Jarvis and Nick Goldman: *Music of the Spheres*, 2013-. Photo: James Read
“Close to her and therefore, perhaps, associated with her are the lilies, traditionally a symbol of the Annunciation and feminine purity. Likewise, the cat on Ozzie’s lap carries symbolic resonances of the libertine and somebody who disregards rules and does as they please. Viewed in this way, Mr and Mrs Clark and Percy recalls the famous portrait of a married couple, The Arnolfini Marriage 1434 (National Gallery, London) by Flemish renaissance painter Jan van Eyck.” (excerpt from longer text at tate.org.uk)

What this text offers is a different look at the scene depicted in the painting that transforms what we see from being merely an everyday interior with two figures to a symbolically loaded scene of tension in the relationship between two different characters – a scene that possesses numerous potential narratives on what is going on in the marriage, what happened earlier and what will happen in the future. Compared to the informational paratexts, “acrylic paint on canvas”, it seems that interpretative paratexts like this one are much more hermeneutically relevant and carry a greater potential to directly affect viewers’ aesthetic experience of the work. In other words: whereas the informational paratexts on the technical media reveal only what we can already see and/or expect, ‘this is paint on a flat surface’, the interpretive paratext above, to most viewers, reveals a surprisingly new (but not exhaustive) interpretation, which sparks our imagination and expands the scope of the work beyond its technical material.

As Genette himself points out, however, even if the illocutionary force of a paratext in theory is informational (like an unknown author’s name) it may have an interpretive function. If, for instance, the name reveals the author’s sex it “may have crucial thematic relevance”. (Genette 1997a, 40). And it is exactly the function of the, in theory, purely descriptive and informational paratext accompanying new art forms that differs from its presumable function. Traditionally, as in the case of the two paratexts quoted that relate to the Hockney painting, concurrence exists between the implied illocutionary force and the function of each paratext: ‘Acrylic paint on canvas’ is meant to account for the technical medium and this is what it does – nothing more, nothing less – whereas the implied illocutionary force of the paratext that compares Hockney’s painting with that of Jan van Eyck is one of hermeneutic interpretation and that is also its actual function. As we shall see in a moment, a similar neat distribution of roles between different types of paratexts is not at work in relation to Music of the Spheres.

The paratext describing Pancreas, however, holds a position between those of Mr and Mrs Clark and Percy and Music of the Spheres, insofar as the informational paratext comes in two versions in the catalogue in which the work is described: The short text (“glass, metal, plastic, technical equipment, brain cells, bacteria”) is immediately followed by a longer text that elaborates on the items listed in the short one:

“The processual sculpture Pancreas transforms books into sugar (glucose) that feeds human brain cells. The books’ paper is shredded, soaked in water, and pressed into an artificial intestine (fermenter), in which bacteria break the cellulose down into glucose. After filtering and purifying, the glucose is fed to the cells growing inside a glass tank (brain in a vat). The feeding of the artificial brain follows a strict diet: the brain food consists exclusively of Hegel’s ‘Phenomenology of Spirit’. Pancreas is a pataphysical machine that uses biotechnologies in order to translate language and books, that is symbols and data, into matter and flesh. Glucose, as a universal fuel of life, which all cells, especially brain cells, feed from, becomes the artistic material for Pancreas (Gr. pánkreas, pán = “all”, krēas = “flesh”).” (Wipplinger 2012, 224)

The short text briefly hints at the fact that ‘invisible’ material (“brain cells, bacteria”) plays an artistic role. By elaborating on the technical medium briefly listed in the short text, the longer text reveals information on the technical medium that bears significant relevance to the aesthetic potential of the work, and which we will never be able to learn by use of the human sensory apparatus – no matter how much time we spend looking, smelling, listing to, touching or tasting the technical media – and which, most importantly, surprises us: the paratext mentions Hegel’s philosophical masterpiece, The Phenomenology of Spirit, which argues for a teleological, historical move towards the conscious self-realization of the absolute spirit transcending material matter. Learning, from the paratext, that Hegel’s work is used as simple, material fodder for brain cells (and thus fulfils a kind of homecoming that Hegel himself most likely did not anticipate) potentially prompts intriguing, yet undetermined and disinterested, activity – aesthetic experience – in the mind of the viewer/reader.

Thus, a difference is at work in the long Pancreas text between its illocutionary force (of conveying information of the work’s technical media) and its function (of potentially prompting aesthetic experience, because the information conveyed about the technical media is so unexpected and surprising). The long informational paratext, which reveals the details of Pancreas’ technical media, does not have the same illocutionary force as the interpretative paratext accompanying Mr and Mrs Clark and Percy even though it, in reality, may have an interpretative function. Instead, Pancreas’ paratexts equivalent to the Hockney painting’s interpretative paratext are the catalogue texts, written by different scholars and curators, that elaborate, for instance, on the meaning of recurring motifs in Thomas Feuerstein’s oeuvre. Despite its length, the long informational paratext is ‘only’ a descriptive caption and not a reading of Pancreas.

In the case of Music of the Spheres, the merging between descriptive and interpretative paratexts goes even further, insofar as very little is (yet) written on the more traditional symbolic dimensions of the work (for instance references in the work’s title to Pythagoras or other com-
positions bearing the same title). Instead, the technical dimensions of the work are often thoroughly explained while, to my knowledge, there is no official equivalent to the short texts of purely informational function, which accompany the other two works (see Higgins 2013, Brownell 2014).

Just like the aesthetic potential of the interpretive paratext related to the Hockney painting arose from the suggestion of elements that reaches beyond the scope of what is strictly visibly in the painting, the description of *Music of the Spheres* tells us that there is much more to the work, than what we (can possibly) see. Now, we are used to interpretative readings of works – whether they stem from art critics or children – and in that sense the possibility of adding new interpretations of a work of art never comes to an end. What is different in the case of *Music of the Spheres* is the fact that the paratext does not add a new symbolic reading to the work; instead it alters the character of the *physical material* in front of us in a very surprising manner. By means only of simple informational paratext, a container of childish soap bubbles is magically transformed into a DNA-material that contains a MP3-code with a piece of music. A fictive equivalent would be if the informational paratext describing the technical media of *Mr and Mrs Clark and Percy* did not read ‘acrylic paint on canvas’ but instead: ‘all red colours in the painting consist of blood from a dead cat.’

Hence the first claim of this paper: The paratexts related to contemporary art that makes use of advanced science often take on a different, additional role in which seemingly simple descriptions in reality function as radical revelation in the minds of the audience. To some extent art has always incorporated science and new technology – from mathematical calculations of the linear perspective in a renaissance painting to Nam June Paik’s experiments with magnetic manipulation of electronic TV-signals to music in DNA or brain cells in an installation – and since all these works of art presumably have informational paratexts describing their technical medium, neither the paratexts or the role they play are really new. But they play a different role from the presumed, simple, descriptive one. What I hope to have demonstrated is that such paratexts also play a paramount role in the aesthetic experience of the works. The remaining part of the paper analyses a peculiar implication of this fact: that the paratexts in question take the place traditionally occupied by the ‘text’ (the physical work of art), and become the actual catalysts of potential aesthetic experience in the viewer.

**From Science Description to Science Fiction**

As demonstrated above the paratext describing the technical medium of *Music of the Spheres* holds a greater aesthetic potential than the physical work that we can approach by use of our sensorium. One significant reason for this is that *Music of the Spheres* does not exist as one physically coherent work – and not just because many of the elements are so small or abstract that we humans cannot sense them; after all, even DNA very much exists. More importantly, the elaborate technical and scientific mechanisms of the work (made known to us only through the informational paratext) are combined in ways that are new, not only to the artworld but also to the field of science (see Goldman et al. 2013), not to speak of the perspective of the layman. It is for this reason that, throughout this paper, I have made use of the unidiomatic notion ‘works of art that make use of science and new technology’, and refrained from using terms like ‘digital art’, ‘bio-art’, or ‘new media art’.

Admittedly, it would be easier to refer to a work like *Pancreas* as, for instance, ‘bio-art’ in order to quickly give a rough hint to readers or potential viewers about what to expect when experiencing the work (see Lopes on appreciation in art and aesthetics (2010, chapter 4; 2014, chapter 9)). However, as the description above indicates, *Pancreas* could also be considered ‘sculpture’ (Feuerstein’s own words), ‘performance’ (due to the processing of paper and the ‘live-ness’ of the brain cells), ‘installation’ (as suggested by the way it is exhibited in the gallery), ‘scientific experiment’ (what kind of paper is best suited?), ‘critical reading/reverse engineering of Hegel’, just to mention some of the more or less established categories that would fit such a work. None of these different labels fully capture all aspects of *Pancreas*, but they each suggest different ways of categorizing and hence interpreting the work, at the same time as they preclude the others.

Similarly, it would seem reductive to label *Music of the Spheres* according to a specific artform label. It can be considered ‘music’ (composition/performance), ‘bio-art’ (DNA-encoded material), ‘software-art’ (the music is embedded in the DNA in MP3-format), ‘multiples’ (the audience each gets a soap bubble container), ‘scientific experiment’ (new method in molecular biology is applied to the field of art), etc. None of the suggested categories, however, would be able to grasp the trans-categorial character of the work, just like none of the physical dimensions or stages of the work could represent all the work’s technical media.

The soap bubble device depicted in illustration 3 represents only the visual dimension of a fragment of the technical media accounted for in the informational paratext. The photo is taken from Charlotte Jarvis’ website’s description of *Music of the Spheres*, which also contains photos that depict the server room at EMBL and people with protective rubber gloves who handle pipettes and fluids (‘Art for eating’ website). No single photo represents the work better than the others. Even if we were present at the live concert, mentioned in point 3-4 of the paratext, would we have a clue about the work, had we not read the informational paratext. Instead of a physical entity or object, *Music of the Spheres* is an abstract idea consisting of numerous different concrete, physical objects and actions that cannot be physically combined in the same space. In fact, the only thing that provides the audience/viewers with a
sense of the work’s form (that is, its spatial and temporal extensions and limits) is the informational paratext.

**Allographic, conceptual reduction**

A significant feature of the informational paratext is that it is, what Nelson Goodman terms ‘allographic’ which means that it cannot be forged because it consists in a ‘numeric’ score. Literature is an allographic art because, in the case of, for instance, Thomas Grey’s poem *Elegy* “any sequence — even a forgery of the author’s manuscript or of a given edition — that corresponds to a correct copy is itself correct, and nothing is more the original work than is such a correct copy.” (Goodman 1976, 115-116). *Elegy* is *Elegy* regardless of whether it is printed in a hardback or handwritten on paper napkins, as long as the words and syntax are combined so that they spell Grey’s *Elegy*.

In the case of the informational paratexts accompanying works of art that make use of advanced science and technology, the allographic character, contrary to the one of a poem or a novel, consists not in correct spelling or grammar, or even in the use of a certain syntax or language. What must be conveyed very precisely is not letters or words but the essential content of what makes up the technical media of a work. The aesthetic potential arises from the so-called ‘raw’ information (on the technical media) that the paratext reveals. The exact manner in which this raw information is delivered is not crucial as long as the essential message is received. Hence, a traditional equivalent to the informational paratext would be the oral narrative, which relates to the (unwritten) tale in the same way as the paratext relates to the inaccessible work of art. Or, to be more precise, the written informational paratext functions as a physical manifestation of the work, which in itself is what Genette refers to as “an ideal object of immanence” (Genette 1997b).

In his elaboration on Goodman, Genette states that:

“The allographic work […] exhibits the paradox (and practical inconvenience) of being entirely itself only in the ideal object it immanates in; but this object, because it is ideal, is physically imperceptible, so that there exists, even for the mind, nothing more than a vanishing point that can be defined but not observed.” (Genette 1997b, 125)

The fact that some of the most important material dimensions of a work like *Music of the Spheres* are inaccessible to human perception poses some interesting questions to our understanding of the mechanisms of aesthetic experience. Immanuel Kant’s distinction between cognitive faculties and sensory experience seems to be challenged here, since, traditionally, sensory experience is considered to be a necessary foundation for aesthetic experience in art. However, the reading of Kant’s aesthetic judgement as governed by perceptual or formalist dimensions in a narrow ‘Greenbergian’ sense has been convincingly contested by professor of philosophy Diarmuid Costello, who suggests that

“the default understanding of Kant’s formalism should be the ‘expansive’ formalism that Kant operates with throughout the *Critique*. […] it is the unified organization of aesthetic attributes required to present an idea that constitutes the work’s form” (Costello 2013, 294).

Costello specifically investigates how Kantian theory allows aesthetic judgement to arise on the basis of conceptual art in the strong sense — that is works of art that belong to the institutionalised domain of visual art but which have no perceptual features at all. His core example is Robert Berry’s work *All the things I know of but of which I am not at the moment thinking*: June 15, 1969, which consists ‘only’ in the title that is perceptually allographic in the sense that it does not matter which font, size or colour is used when writing the title. The reason that such works are still able to evoke aesthetic judgement in the subject is that they refer to an idea rather than to a concept, and hence they are judged freely. With reference to Kant, Costello argues that the aesthetic idea in the work of conceptual art does not depend on perceptible features, in the same manner as the aesthetic idea of a literary work does not rely on perceptible features like words or syntax which is proved by the fact that the aesthetic idea of the literary work remains unchanged even if the work is judged by reading it in a translation to a different language (Costello 2013, 296).

Does this mean that *Music of the Spheres* is to be considered a conceptual work of art? One thing that could, wrongly, lead to such a conclusion is that Genette — with reference to Husserl’s phenomenology — accounts for the mechanism of conceptual reduction as a characteristic of allographic works of art (Genette 1997a). Transferred to the context of this paper: If we have ten different informational paratexts describing the technical media of a work — some handwritten, some narrated orally, some in German, some using a higher readability index than others — the reduction consists in studying the different versions (of which none can ever be ‘complete’) so as to subtract all insignificant features, to condensate the paratexts, in order to value only their essential elements. This allographic reduction strips the work to its conceptual core, and this is actually the function of the informational paratexts accompanying *Music of the Spheres*.

The paratexts related to *Music of the Spheres*, however, despite being just as allographic as *All the things I know of but of which I am not at the moment thinking*: June 15, 1969, are not meant to evoke the work’s aesthetic idea – ‘only’ its technical media. In principle the informational paratexts under scrutiny in this paper serve merely as a communicative service that conveys practical information on the advanced technical media of work; they are meant to evoke judgement of the work’s aesthetic idea no
more that ‘acrylic on canvas’ is meant to when applied to a Hockney-painting. Similarities have been suggested between conceptual art and technologically advanced art, for instance due to the fact that both “interrogate the conventional materiality and semiotic complexity of art objects” (Shanken 2002, 438), but the focus of this paper has been on the effect of the informational paratexts, and not the works of art – conceptual or not – in themselves. And this investigation has shown that the actual function of these paratexts is potentially highly aesthetic. In effect these paratexts – which, due to their informational character, tend to fly below the radar of new media art scholars – play a performative role that is similar to the role played by conceptual art paratexts that constitute the aesthetic idea of a work.

The traditional roles of text and paratext are potentially reversed: A consequence of the aesthetic function of the informational paratexts is that the physical objects that we encounter in the gallery – the objects that we think of as the work of art itself – are not necessarily the primary source of aesthetic experience. Instead the work – which we traditionally presume to be the text in Genette’s sense – in effect functions like the paratexts, while the informational wall label or trivial caption, functions as the very text. The physical objects and acts in the exhibition space serve as mere exchangeable props that do not in themselves act as catalysts for aesthetic valuation of the overall work, but strongly depend on informational paratexts to reveal to the audience what the work consists of. The work of art – even if it is a huge installation like, for instance, Wim Delvoye’s Cloaca (2000-2010) – is invisible without the descriptive paratexts. We are thus dealing with aesthetic experience by proxy. This may sound rather depressing, but the aesthetic experience of conceptual works of art may be every bit as rewarding as that which is prompted by an autographic, sensuously accessible work of art.

An even more ultimate, and theoretical, consequence is that the work’s advanced technical media, pointed to by the paratext, does not even exist in order to generate aesthetic experience. Instead of highly advanced soap bubbles with DNA-code/MP3-file there need only be ordinary soap bubbles. If the informational paratexts are able to convincingly persuade the audience that the phenomenon in front of them is soap bubbles containing MP3-files encoded in synthetic DNA-material, then the aesthetic implications are the same whether this is actually true or not. Even if the paratext was science fiction instead of science description, it would possess the performative power of evoking aesthetic experience – as long as the audience reads it as a simple, valid description of a highly advanced and intriguing work of art.

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