Strategic Design Fiction
A Plausible Reality & its Implications

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Abstract

This article aims to discuss the role of the dominant critical tradition of design fiction, as well as defending the merits of a pragmatic and strategic view on design fiction, as potentially real solutions. By adapting one of the most prominently referenced models for speculative design (Auger 2013), and using Ryan's (1980) concepts of factual, non-factual, and fictional statements, we propose a way of clarifying how the 'realness' of a given design fiction places it as a speculative design or an actual pragmatic vision for the future. Our contribution is a differentiation of pragmatic strategic, and speculative critical design fiction, based on their plausibility as well as their realness. This creates a clear agenda for distinguishing between different design research agendas of design fiction, potentially applying it in widely different practices.

Keywords design fiction, critical design, counterfactuals, diegetic prototypes

Introduction

In the recent decade, design fiction has emerged as an intriguing design research approach, using narrative structures exploring possible future scenarios from utopian, dystopian, and realistic points of view. Originally presented by novelist Bruce Sterling in 2005 as the shaping of future technology and technological culture, the term itself first saw deep academic treatment through Bleecker's (2009) thesis on using fictional objects in design as *a creative provocatio*:

> "It is a way of probing, sketching and exploring ideas. Through this practice, one bridges imagination and materialization by modeling, crafting things, telling stories through objects, which are now effectively conversation pieces in a very real sense." (Bleecker 2009:8)

Bleecker argues the link between design and fiction originated as an integration of the paths of *technology, art, and science fictio*n in order to find opportunities – for design – *"to re-imagine how the world may be in the future"* (Bleecker 2009:8). This adds a substantial emphasis on the speculative nature, one that can be argued to be true for all design, which up until the moment of realization or implementation, is essentially all defined as 'what if' questions about the future (Kolko 2009). Design fiction takes this speculation to its extreme, by allowing the designer to actively speculate with prototypes that are not real yet, as well as concepts that are never meant to become real. Prompted for a formal definition of this new emerging design field, Sterling (2013) proposed design fiction as " *[…]the deliberate use of diegetic prototypes to suspend disbeliefs about change."* Here, Sterling draws on Kirby's (2010) notion of the diegetic prototype, as objects, services and scientific breakthroughs, which are only true in their diegetic 'told' narrative form, and not necessarily close to being 'real' in the sense of existing outside the narrative scenario. The use of *'deliberate'* in the quote indicates design fiction is not (just) a story-telling practice; the diegetic prototypes implies instead a changed world, which *might* become real. This underscores the importance of the *'suspending disbelief'*–the ethical responsibility of design fictions is to propose *change*, but not cheat its audience into seeing the change as having become real already. This is a

delicate balance avoiding concepts too futuristic and perceived as implausible, yet not misleading audiences about the realness of the diegetic prototypes. As Pasman (2016) noted, design fictions ultimately are firmly rooted in familiar or logical relations to the here-and-now reality but add a layer of (near) future thus blurring the boundaries between realism and fiction.

The problem–a critical design bias of design fiction

Sterling's 2013 definition, though stemming from the popular journal 'Wired' has become the most quoted definition on design fiction in the academic design research community–being quoted in all top 30 papers indexed in both Scopus and Google Scholar. In the recent ten years, design fiction has established itself as a recognized field within various research communities (Lindley & Coulton 2015) – especially in design research societies (e.g. Scupelli et al 2016), future studies (e.g. Bell et al 2013), and human-computer interaction (e.g. Blythe 2017). The majority of these perspectives consolidated around a *critical design* tradition, using applied critical theory in design to challenge cultural, social, and political concepts through speculative products with neither a commercial nor a utility aim. This view on design fiction has been featured prominently by e.g. Blythe & Wright (2006), Dunne & Raby (2013), Markussen & Knutz, (2013), Auger (2013), and Lindley & Coulton (2015), and represents the vast majority of academic perspectives on design fiction. Dunne & Raby, who popularized the critical design tradition (e.g. Dunne 1999), has recently even described design fiction as one of the central approaches to conduct speculative inquires through design.

We argue this created a bias towards considering design fiction primarily as a design research tool for evoking critical discussions about speculative possible futures, and less a pragmatic or strategic approach exploring desirable scenarios aiming at becoming real. The bias, towards critical design, in most of recent design fiction literature is puzzling, since there is no emphasis on such bias in Sterling's original framing, neither in Bleecker's (2009) seminal academic treatment. While promoting speculation and reflections about 'what might be', this was framed as being just as much about finding opportunities, for design, *"to re-imagine how the world may be in the future"* (Bleecker 2009: 9), as putting our ideological and societal structures under scrutiny.

In this article, the aim is discussing the role of the dominant critical tradition of design fiction, as well as defending the merits of a pragmatic and strategic view on design fiction, as something proposing potentially real solutions. We do this, by adapting one of the most prominently referenced models for speculative design (Auger 2013). Using Ryan's (1980) concepts of factual, non-factual, and fictional statements, we propose a basis for assessing a design fiction's degree of departure from our present, revealing its 'realness'.

## Design fiction moving between critical and pragmatic perspectives

With the critical design tradition's adoption of design fiction, scholars and practitioners re-classified examples of previously known critical designs as examples for diegetic prototypes of design fiction, acting as strong persuasive creators of critical discourses. One example, of the persuasiveness of design fiction used for critical design aims, is Loizeau and Auger's Audio Tooth Implant (Loizeau & Auger, 2002). The original project brief was to "examine the implications of implantable technology for human enhancement purposes through proposing possible applications and access points for technology to enter the body" (Auger, 2013:10). The Audio Tooth Implant was explained as a mobile phone implanted in a tooth. The design fiction was supported by an actual model of a tooth with an embedded computer chip. The main point of the project was to disseminate the idea of such an implant to as many people as possible, hoping to induce a contemplation and discussion of the subject. As the project was picked up by magazines like Wired and news papers like The Sun, Loizeau and Auger showed how design fiction is able to create a discourse among a wide range of participants, but also how the persuasiveness of its suspension of disbelief bordered towards actually cheating the public (Auger, 2013; 11).

As per Sterling's (2013) and Pasman's (2016) notions of design fiction, the approach proposes new realities, which do not diverge too far from the ontology of our here-and-now reality. Loizeau's and Auger's example shows how design fiction through the narrative suspension of disbelief, enables the creation of a critical discursive framing of the discussion of contemporary issues. It supports critical reflection on feasible futures and decisions needed to arrive at or avoid the depicted scenario. This requires a narrative naviga-

tion between both past real world events, the emergence of new technologies, as well as forecasting the potential future issues arising from said technologies. Thus, our past experiences and decisions are either to be taken into critical consideration, or will be replicated without much reflection.

Auger (2013) presents this in his oft-referenced timeline grid for crafting the speculative scenarios of design fiction:

Figure 1: Auger's model of speculative futures. Redrawn from (Auger, 2013: 3).
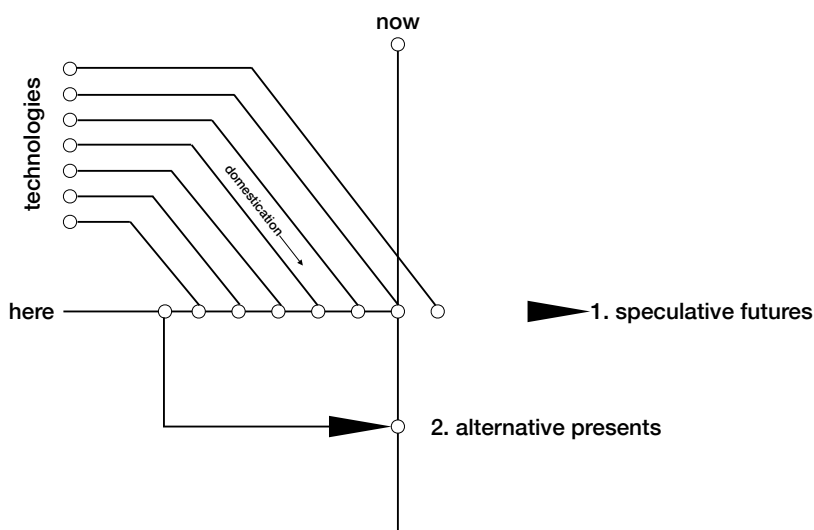
Auger's (2013) model presents a timeline of speculative alternate presents, as well as speculative futures. These categories are all based on the 'technology emergence', which indicates the point in time at which a given technology is actually invented or conceived, and gradually reaches different instances of actual implementation (the dots on the horizontal axis). For each past implementation, Auger argues, the technology becomes gradually domesticated–forming conventions, habits, and opinions amongst various audiences. This also includes announced products belonging on the future right side of the model, but where discourse has reached large enough audiences being an active part of the discussion of the specific technology. Finally, outside the domestication accolade in the model, announced or planned instances of technologies, which despite being released are still not part of the general zeitgeist to inform any meaningful discourse of the technology.

While the models axis' of past, present, and future seemingly open up for a narrative scenario building, it is evident from Auger's descriptions, that the speculative nature of speculative alternate presents, as well as speculative and lost futures, is aimed towards primarily provoking a critical stance on our domestication of technology. The emphasis is so to speak put on negatively questioning 'do we really want this reality?' rather than positively exploring questions of 'what might actually work in our reality?'.

Despite its primary use for critical inquiry, Auger's model enables pragmatic and strategic perspectives on design fiction, adhering to the more general outline set by Sterling's original description. These types of design fiction, actually aiming at a possible realization, can be seen as being another pragmatic and strategic, deliberate use of diegetic prototypes to suspend disbelief about change. The intention is to plant the seed for the domestication of the idea of 'what might happen' if the diegetic prototype became real. The role of design fiction here is not to show a final design vision from its most favorable side and potentially hiding the less desirable aspects, like the so-called vaporware (Sterling 2013), but rather to invite future users to reflect upon how the proposed design might affect their contexts. Thus, Zeller (2011) argues that design fiction should not be seen as an approach to actual design making, but rather as an approach to constructive design research.

Lately, we have seen an increase in corporations using design fiction as a way to present their corporate visions of the future, especially regarding consumer technology and policy. Companies as diverse as e.g. Microsoft, Nokia, Land Rover, Fischer-Price, and IKEA have experimented with narrative vision videos utilizing diegetic prototypes, speculating on the companies future product and service concepts.

The common denominator among this growing portfolio is its employment of a speculative scenario containing existing technology, but which has not yet realized its potential on either a consumer or enterprise domain –it is so to speak not yet fully domesticated. They are, in Auger's terms, not real in the present, but are still undergoing an initial domestication through research and development showcases, by contextualizing the diegetic prototypes and technology in speculative use cases. The baseline of technology exists, just not in a realized instantiation. Instead, the speculative sce-

nario is purposefully directed towards an actual realization, rather than a vehicle for creating critical discourse for the sake of discourse.

This moves the role of design fiction from critically questioning what reality should become, to strategically promoting corporate interests. The challenge of this strategic use of design fiction is to help develop and understand the discourse surrounding a diegetic prototype. The different futures are determined by the choices, first by the designer, and subsequently by the user's domestication of a given technology, which can provide early and valuable input from said users without the need to develop costly prototypes or tests as shown by e.g. Vistisen & Jensen (2018), and Wong & Mulligan (2016).

The strategic use of design fiction, in which corporations utilize narrative storytelling with diegetic prototypes of possible future products has seen substantially less research than the critical perspective. One possible explanation might be that the tradition of critical design already existed prior to the emergence of design fiction, and thus could easily migrate into the domain. Another possible explanation might be that pragmatic and strategic uses of design fiction are more complex in how they must relate to reality, since they are not 'just' vehicles for speculation and critical theory discussion, but future scenarios proposed by real corporations, with the capacity to actually implement the scenario. Thus, strategic design fiction need to accept certain obligations, towards e.g. the existing users and customers of the corporation, as well as how potential user and media misinterpretations (as we saw with the Audio Tooth concept) might affect the corporation's image.

This raises the question of whether the suspension of disbelief, and thus the relation to 'reality' is the same in strategic design fiction, as it is in the more critical oriented design fictions? The next section will seek to address the narrative structures of the storytelling about diegetic prototypes in regard to their relation to 'reality'. We argue this is an issue of presenting a world which differs as little as possible from the real world, giving the diegetic prototype a plausible anchor within the real world, enabling a reflective and engaging reception by the audience.

Plausability and Realness of Strategic Design Fiction

This section will introduce Ryan's (1980) concept of minimal departure to address the different notions of plausibility and real-

ness of design fictions–namely instances where the intent is not solely to form critical discourse, but to explore the conditions for actually working towards implementing the diegetic prototype(s) of the narrative.

Ryan's offers the following interpretation of Lewis' analysis of counterfactuals (Lewis, 1973) and possible worlds:

> There is a world a where the antecedent holds and the consequent holds.
>
> There is a world b where the antecedent holds, but the consequent does not.
>
> If world a differs less than world b from the real world, the counterfactual is true. If world b differs less, the counterfactual is false.
>
> <div align="right">Ryan (1980: 405)</div>

Lewis' analysis is concerned with the truth value of counterfactuals and subsequently possible worlds. Counterfactual conditions being of the type 'if a has not occurred then neither will b'. Ryan takes the analysis to the realm of narratives and how the reader explores the world created within the narrative. To do so, she distinguishes between factuals, non-factuals, and fiction (Ryan, 1980:410). For the first two of them to be understandable for a reader the principle of minimal departure has to be applied. The third can deviate from the principle but would consequently need a more thorough explanation of the ontology of the world. Ryan's definition of this principle reads as the following:

> "This principle states that whenever we interpret a message concerning an alternative world, we reconstrue this world as being the closest possible to the reality we know." (Ryan, 1980:403)

Together with the plausibility given to a possible world, Ryan now constructs three basic statements about narrative worlds (Ryan, 1980:410-411). First, the factual statement, in which the speaker speaks about the real world from an inside viewpoint (1a in figure

1a

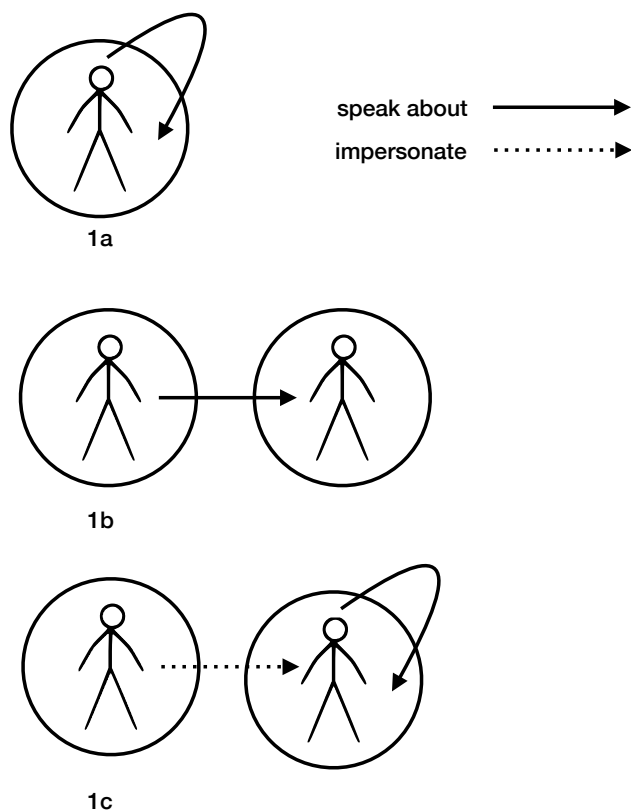speak about ⟶

impersonate ┈┈┈▶

1b

1c

Figure 2: Ryan's model on factual, non-factual, and fictional statements. Redrawn from (Ryan, 1980:411).

2). The speaker speaks about the world as it is presented around him and the audience. Second, the non-factual statement, in which the speaker speaks about an alternate world from an outside point of view (1b in figure 2). Third, in fiction, in which the speaker impersonates a member of an alternate world, which said member speaks about from an inside point of view (1c in figure 2). The three statements can be nested into each other, creating narratives within narratives about possible worlds and alternate endings.

Ryan continues to explain how the audiences' knowledge of the world helps creating an understanding of the possible or alternate worlds as they are described in fictional settings. By the principle of minimal departure, a reader of a story would infer his knowledge, experiences, even ideals into the actual story world. While this minimizes the author's need to explain in detail how e.g. a Unicorn looks like – a horse with a single straight horn in the forehead–it gives the reader the possibility to create and unfold the world in his imagination. Depending on the reader's knowledge about horses and horns, he can use his insights to expand the idea of the Unicorn with further details.

Both Ryan and Lewis (1978) search for the truth value of statements and narratives emphasizing the author's responsibilities in telling a story the audience can relate to. The truth value of a given story and its artefacts, its ontology, must be seen as one of the main elements when developing a design fiction. The initial citation shows how the antecedent and consequent of a given counterfactual–that is the diegetic prototype–within two given worlds gives rise to the basic truth value of said counterfactual. This truth value is the foundation for a possible suspension of disbelief by the reader. If the counterfactual ties in with the reader's knowledge of the real world, the reader is able to imagine the diegetic prototype by applying the principle of minimal departure. Strategic design fic-

tion, especially designed corporate fiction, is concerned with creating a possible, believable use case scenario which the audience can transform to their imaginings and needs. This means diegetic prototypes must have a certain plausibility for the audience to engage with them in the ongoing domestication of the concept.

Taking an ethical stance, Booth (1988:134ff) points out, how readers of fictional narratives do have a responsibility to engage with the presented material. The authors should "*give [themselves] generously" and in response the readers should* "enter into serious dialogue with the author about how his or her values join or conflict with [theirs]" (Booth, 1988:135). While Booth is researching fictional texts, the same responsibilities should be applied for the corporation developing the design fiction. Creating a believable and engaging narrative involving the diegetic prototype at its fulcrum is one part of the corporation's responsibility. The other is to make sure that the audience is able to engage with and transform the material in order to actually both support the domestication of the idea, as well as form the basis of critical reflection upon the proposed diegetic prototype in the design fiction (Vistisen & Jensen, 2017).

A third requirement is the realness, the factuality of the narrative itself. As Ryan points out, a narrative can be a tale about the factual world, a non-factual world, or a wholly fictional world. Strategic design fiction should be a tale about the factual world, relying on Ryan's principle of minimal departure to give the audience a chance to participate in the design process by commenting on the possible and probable use of a given diegetic prototype.

To extend Sterling's definition, a design fiction is factual storytelling from an inside view point of the real world. The fiction itself relies heavily on the principle of minimal departure which has to apply on every aspect of the story told. The only counterfactual in this story world would be the diegetic prototype, posing as a materialized 'what if' as was shown in the example of the Audio Tooth Implant.

The ontology of the strategic design fiction should be easily accessible for the audience, its starting point being in the *here* and *now* of everyday life. Design fiction should be seen as a constructive and potentially participatory design thinking strategy opposed to the poetic use of critical design (e.g. Dunne & Raby, 2013). The realness of critical design fiction is defined by Ryan's factual fiction, in

which "*the speaker [here, the designer] impersonates a member of a certain [alternate] world who describes this world from an inside point of view.*" (Ryan, 1980: 410; figure 2, 1c) As for plausibility, both antecedent and consequent in the critical design fiction must be seen as not holding, rendering it as improbable, while still possible. In Dunne & Raby's (2013) spectrum, between possible, plausible, probable, and preferable, critical design fiction can thus be seen as belonging primarily to the possible and plausible end of the spectrum, where strategic design fiction needs to address the probable and preferable dimensions too. Especially the aspect of the preferability of the portrayed fiction is important in corporate fictions, in which the ethical responsibility prompts for addressing not just 'what' the scenario is, but also 'why' it might be preferable.

Returning to Auger's model on speculative futures, the difference between critical and strategic design fiction can be made explicit by placing Ryan's narrative statements as shown in figure 5. As can be seen, the strategic design fictions are placed within the reach of domestication, presenting the prototype in a way the audience might experience as a 'this could be now'. The three markings on the timeline can be described by their probable realness. The first mark in the future, still within domestication, can be seen as an announced product (e.g. a company announcing a new smartphone). The second mark, just outside of domestication, but still within the reach of emerging technology, denotes an announced concept (e.g. a company announces the effort to solve a given design problem, but with nothing specific to launch yet). Finally, the third mark, now outside both emerging technology and domestication, yet still within the reach of existing technology, is a proposed vision (e.g. a company proposing a bold vision for where they see their product evolve towards in the next 10+ years). The first mark can hardly be described as design fiction since the announced product actually does exist outside a diegetic structure. The latter two marks both describe different variants of what we label strategic design fictions–they just differ in probable realness.
Critical design fiction on the other hand is placed in a speculative future and clearly intended to be so. Meaning, the audience is never in doubt that the fiction is told from an impersonation of a person in said future.
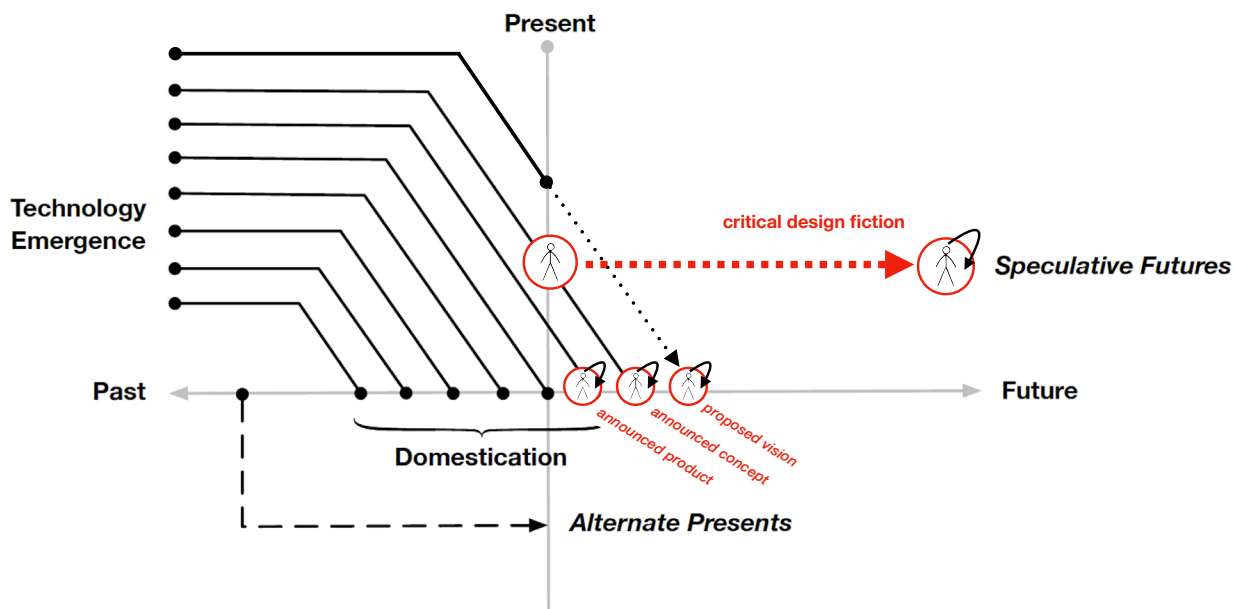
Figure 3: Auger's model on speculative futures revised to include strategic and critical design fictions, distinguished through Ryan's degrees of minimal departure. The dotted red line marks Ryan's impersonator (figure 2, 1c); the black dotted line denotes the emerging technology as a counterfactual fiction, but which is told from an inside viewpoint of our present here and now (figure 2, 1a). This puts the proposed vision in near proximity to what is already domesticated, and thus balances the strategic design fiction between a factual and non-factual setting.

By placing the strategic design fiction within the realm of domestication, the designer and corporation producing the fiction have the aforementioned ethical obligation toward the audience. Especially, if people start to interact with and participate in an emerging discourse about the diegetic prototype. The strategic design fiction has as such a higher plausibility and gives a sense of reality which the audience might except as being actually true. This was true for Google, when they in 2012 released a short video narrative depicting the use of the not-yet released 'Google Glass'. A pair of augmented reality glasses, which were able to put a digital overlay on the users peripheral vision, e.g. social media updates, way finding and video recording (Youtube 2012). The video was released six months before any technical prototypes were revealed. Thus, all of the technology elements in the video were purely diegetic, and

not depicting the actual product in use. In fact, the interfaces and interactions with the technology were not representative of how the later prototype actually functioned.

While the Google Glass video is an elaborate narrative, creating suspension of disbelief around a use case of high plausibility, the video also shows the pitfalls of not supporting the viewers return to the actual present. The video made no clear statement of the status of the Google Glass concept as being diegetic, or at least that the technology might be realized in another form than depicted–that it was an announced concept, rather than the specific announced product. As a consequence, the video was interpreted as the exact features and interactions to be released by Google, and soon an opposing discourse of the undesirable outcomes of interacting with people with head-mounted camera glasses began to flourish. Shortly after the release of the video the negative nick name of 'glass holes' was coined as a definition of using Google Glasses to engage in inappropriate behavior with people without them knowing (Lawler 2013). Six months later, when Google launched the first developer prototypes to the public, the product was met with huge mistrust, and was in fact banned from several public events. The 'glass hole' discourse became the dominating discourse of how actual users of the hardware were perceived.

Google chose a discourse not clearly articulating the state of the emerging technology depicted as what it was–a design fiction of a concept developing, but aiming at a product release within a short time period. Instead of promoting this speculative aspect, inviting the viewers to give feedback and discuss the potentials of the technology, Google showed the diegetic prototype from what can best be described as a marketing-oriented discourse. The video showed a desirable and polished daily use case of the technology, with a high authenticity that not only suspended disbelief, but also kept many users in the speculated narrative, without ever realizing the state of technology in the present. As such, the plausibility of the design fiction became more real than the actual reality. It fostered an undesirable outcome for both the users and for Google, who faced a public backslash, and missed an opportunity to learn from the users about the potential pitfalls of this type of emerging technology.

Conclusion

This article has discussed the issue of realness when using design fiction outside the domain of critical discourse, instead aiming for a strategic use for corporations to explore future concepts through narrative speculation. Strategic design fiction puts the emphasis on the designer's obligation to remind the audience of the diegetic prototype, while both possible and plausible, in fact being non-existent. Design fiction is able to function as a strategic vehicle for exploring near future value propositions, aimed at becoming real. For the critical design fiction, this responsibility is less severe since the very premise of such a fiction is its fictionality and clear 'what if'-ness. Also, the critical design fiction takes its vantage point from a utopian and dystopian point of view, wanting to explore, provoke, and discuss speculative futures with the audience. In conclusion, our adaption of Auger's (2013) model, through Ryan's (1980) narrative theories contributes to making the discourse on design fiction clearer, recognizing the original definition's underlying inclusion of not only critical reflection, but also a strategic component for a corporation's ability to make their speculative and tentative future propositions available for debate and reflection. This broadens the scope of design fiction and frames the issue as one of determining and managing the plausibility of the narrative created around the diegetic prototypes–promoting a scenario of what 'might be' real, but which is not yet part of reality.

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