

# DRIZZLE: a comic for covert climate action influence

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Misinformation and rhetoric in current public discourse make climate change denial a difficult viewpoint to argue against by policy and scientific arguments alone. The public is more persuaded by personal stories of influence rather than sound logic. Instead of traditional arguments, we created covert visual narratives that communicate the values espoused by climate action without framing it as an argument for climate action. Such implicit influences are designed for particular goals of climate action, such as individual responsibility, long-term vision, and collective conservation strategies, utilizing design fiction to narratively engage even antagonistic viewpoints like climate change denial. The comic tabloid *Drizzle* seeks to engage audiences visually with personal virtues that align with climate action without policy-based, overt arguments.

**Keywords:** *design fiction; climate fiction; comics design; climate communication.*

## 1 Introduction

Climate change has the potential to negatively affect global populations. However, people often regard climate change as distant and impersonal (Leiserowitz, 2006; Weber, 2006). Although climate awareness as an issue has been raised recently, engaging the attention of disparate populations like the non scientifically minded and climate change skeptics remains difficult. Thus, creative forms of climate communication strategies are needed to develop pro-environmental behaviors and attitudes (Boykoff, 2019). Indeed, developing long-term behaviors for social good requires intrinsic motivation, which can develop by experiencing narratives designed for particular social purposes (LC and Mizuno, 2021). We apply a socially engaged form of speculative story design (Dunne and Raby, 2013) to create a visually appealing and narratively persuasive artifact that accomplishes the goal of communicating climate change without explicitly persuading readers.

On the physical level, climate change involves a set of phenomena like over-consumption, disregard for natural resources, population increases, lack of preparation for the future, and lack of sustainability. Our work does *not* address these policy-related issues. In particular, directly imposing evidence and science on the public is not effective at behavioral change (Pawlik, 1991). Instead, this design object intends work on the human level, tackling phenomena like immediate gratification, myopia in regards to future consequences, comfort in ignorance, lack of belief in individual influence, selfishness, and desensitization of negative outcomes. Considering the growing urgency of climate change, we decided to promote long-term behaviors that align with climate awareness using the medium of the comic, which can capture even climate skeptic's attention and promote nudging influence while avoiding the contentiousness of climate change argumentation.

## 2 Background

### 2.1 Design fiction as climate communication

Design fiction is a strategy for narrating potential futures by varying a particular premise (Blythe, 2017), considering potential futures within social and cultural narratives (Bleecker, 2009). Design fiction can provide a narrative strategy for social influence by showing the effects of alternative visions (Moezzi, Janda and Rotmann, 2017). Evidence suggests that narratives can strengthen the attitude-behavior relationship (Rhodes, Toole and Arpan, 2016), so reading climate fiction may help activate pro-environmental behavior in individuals who already have strong pro-environmental attitudes. Moser (2016) showed that climate fiction leads to greater public comprehension of negative consequences caused by climate changes compared with reading about research. However, unlike Moser, Jones (2014) pointed that there is no strong evidence to show climate storytelling is more persuasive than communicating evidences in real life. They do not account, however, for fiction purposely designed for *positive* persuasion for actions that can contribute to positive climate action as opposed to seeing negative effects of climate change.

### 2.2 Comics and visualisation in climate communication

In scientific communication, illustrations play significant roles as visual explanations (Schreiner, 1997) that reflect the structure of the concept presented (Farinella, 2018). Such visual communication, reflected in the comic, has the potential to convey the complexity of reality despite being accessible to the public (Darnhofer, 2018). Comics can engage wider audiences with its visual and character-driven approaches (Farinella, 2018). Moreover they support contextual storytelling based on aspect transitions that convey mood and sense of place, allowing for implicit influence through environmental design as opposed to explicit forms of narrative influence (McCloud, 1994). Influence through contextual and graphical means avoids the explicit argumentation that doom climate change discussions to failure.

## 3 Designed Object

### 3.1 Story and headline writing

We begin by specifying particular design purposes for climate change action. These are not physical resource arguments like overconsumption or resource destruction, but rather human phenomena that we believe are the central cause of the climate catastrophe. These include immediate gratification, myopia, the idea that an individual's effect doesn't matter, comfort in ignorance, etc. Since this research aims to reach general audiences and audiences who may be climate change skeptics, climate issues are not directly mentioned in the stories. The work may be read covertly as simple a comic rather than a form of climate fiction. The titles of the stories also reflect subtle cues such as *Redemption Park*, *New Revolia*, and *Every Flash of Light Is the Sun of Another World*, all of which evoke themes of rebirth, community responsibility, and learning from an experience.

### 3.2 Comic design

We designed five stories to address different human phenomena propagating climate change. For example, one story is *Sonia McDougal*, based on the story structure of "Rebirth" (Booker, 2004) and designed to dispel the idea of maximizing immediate gains over future considerations. It tells the

story of a shoe business entrepreneur named Sonia who must make a decision about her company, whether to invest in long term research and development, or to push the product widely to the general public. In her personal life she takes the approach of immediate needs and gratification, as opposed to settling down. Then after choosing to maximize profit in her professional life, the business fails, teaching Sonia an important lesson in the “Rebirth” theme. She realizes she should consider a long-term plan and decides to take action in her personal life, to finally settle down with her boyfriend. The illustration uses a science fiction comic book style which is more to show the story theme: the yet-to-be-produced shoe which works in any weather and can predict the rain using electronics. The science fiction look subtly points out a future-directed theme in the designed object, which is espousing future-directed over immediate-directed lifestyles.

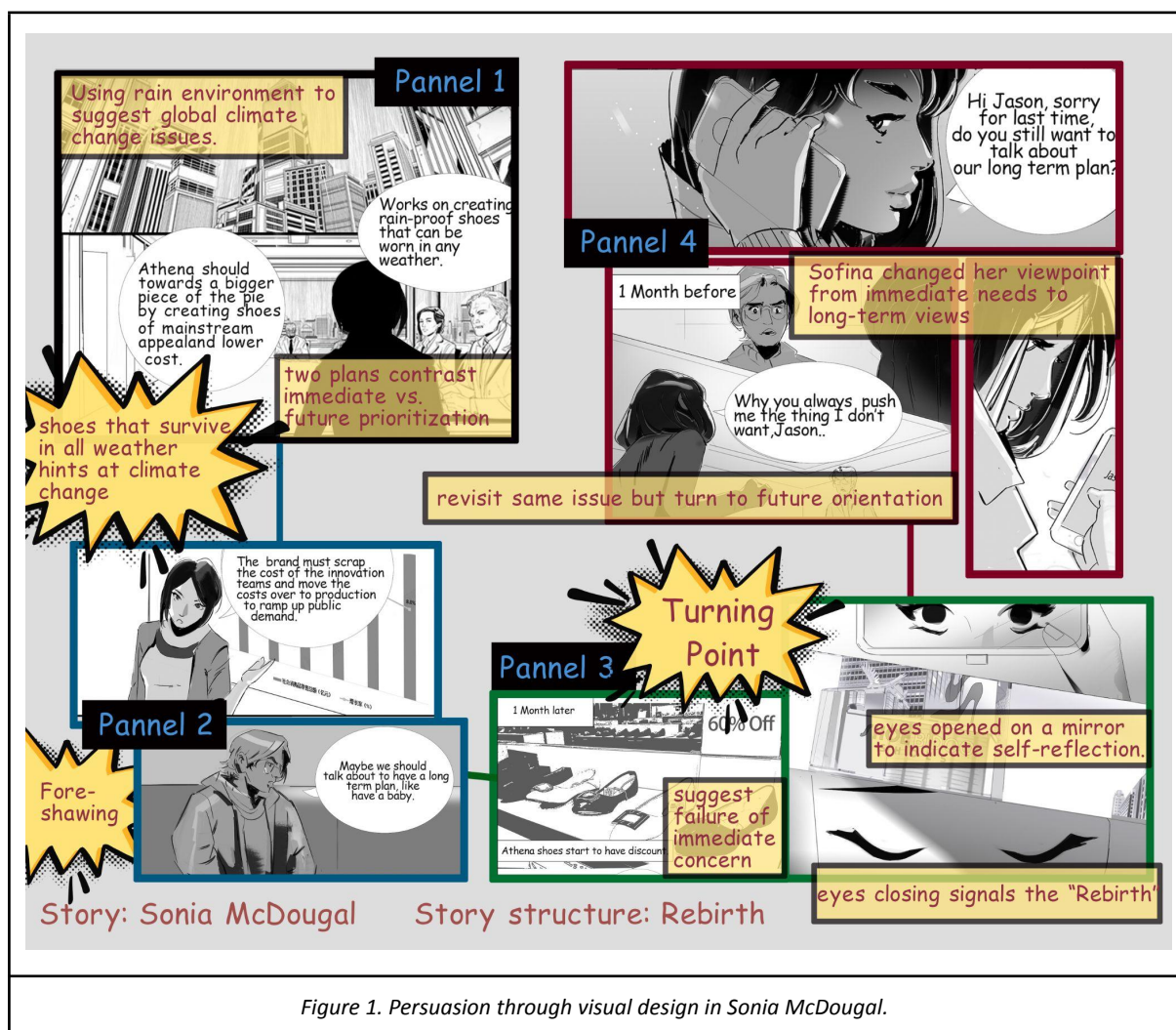


Figure 1. Persuasion through visual design in Sonia McDougal.

Other subtle cues abound in the visual comic. For example, to show the research and development that involves experimental shoes that survive in all weather, we designed a rain motif found in several scenes in the story. To show the the turning point in Sonia’s life after the business failure, we showed eyes opened on a mirror to indicate self-reflection, then the shoe business building in a diagonal position to indicate failing, followed by eyes closing, which signals the “Rebirth” structure that also hope to change the audience’s own viewpoint from immediate needs to long-term views.

These moments establish the change undergone by the character using aspect transitions as a way to apply environmental storytelling to the work (McCloud, 1994). The “Rebirth” theme is emphasized in the recurrent scene structures during Sonia’s two encounters with her boyfriend.



Figure 2. Contextual storytelling by visual design in New Revolia.

### 3.3 Magazine layout

Since this design object intends to have subtle influence on climate change skeptics, it is presented as a magazine-formatted tabloid, to design for the idea that climate change skeptics tend to read sensational newsmagazines. The comic is printed on A4 size (210mm×297mm) newsprint and full-page layout, including 12 pages and 5 stories (*Sonia McDougal, Redemption Park, VO, Every Flash of Light Is the Sun of Another World, New Revolia*). All the fronts of text and elements follow



comic-drawing style. In order to help readers easily understand the content and panels, the designers set the layout according to the "Z-path", from left to right and downward, which is preferred by new comic readers (Cohn, 2013). Since the different visual emphases to page layout and panel composition have the potential to improve the dramatic effects of a story or plot, the character panels in every story are zoomed out and emphasized to help the development of storytelling.

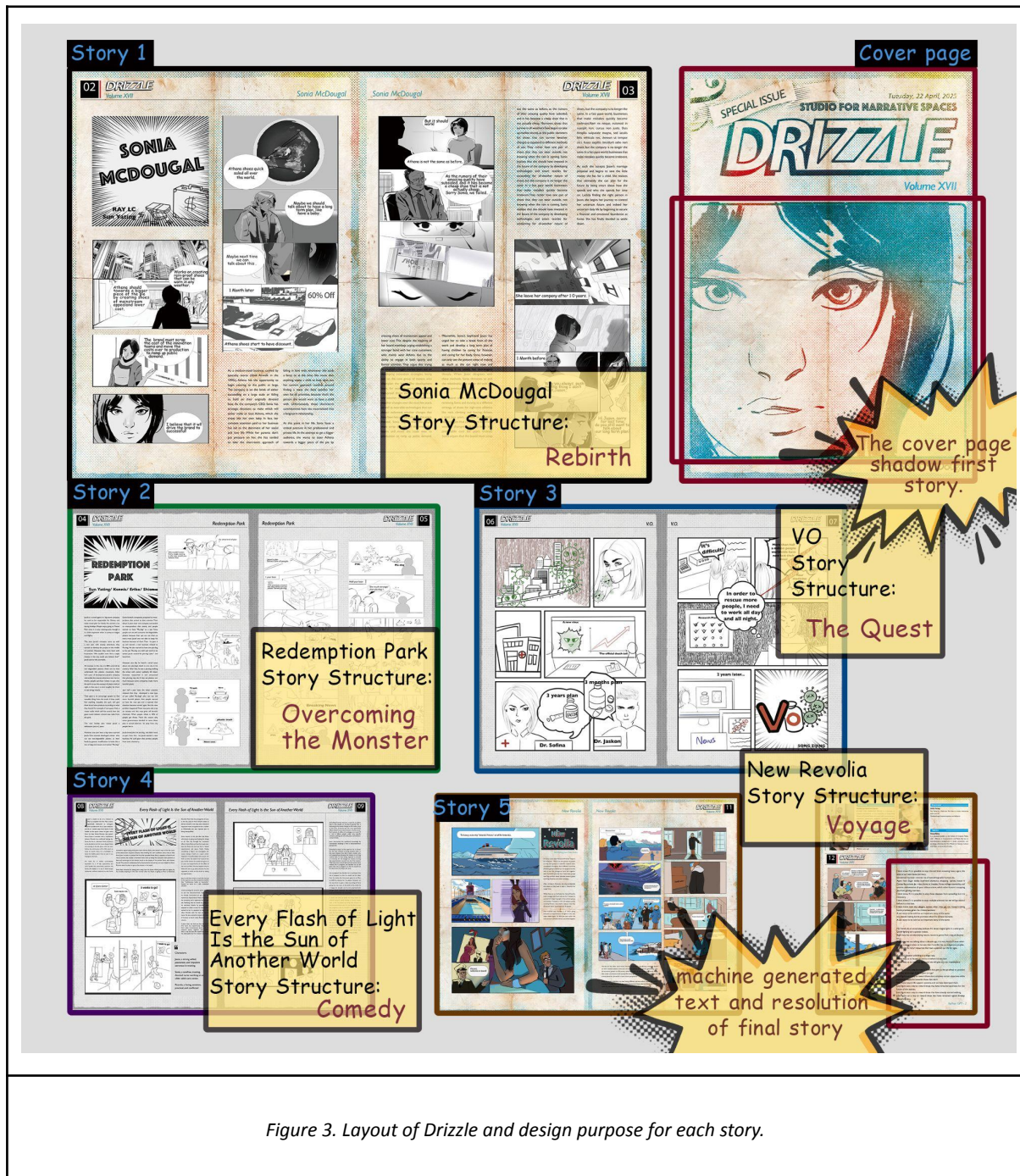


Figure 3. Layout of Drizzle and design purpose for each story.

### 3.4 Exhibition

In addition to being presented as a magazine-formatted tabloid, the comic can also be exhibited for wall viewing with potential for augmented reality-based mobile device viewing. For the wall view, it's also possible to present the work either as paper print or as a projection.



Figure 4. Exhibition Plan Strategies. (Top) Printed book for dissemination on a podium. (Bottom) Exhibit for wall viewing.

## 4 Conclusions

We have presented a design object intended as a work of implicit influence to change the minds of climate change skeptics and deniers without using explicit arguments regarding policy and governance. We design for the human psychology of climate change denial, leveraging the ability for nudging to affect change in the mindset of the reader, producing an environmentally driven storytelling approach using easy-to-comprehend visual metaphors accessible to the general public. Showing this work in exhibition form allows us to further investigate whether these design fiction strategies can affect behavioral change of public audiences.

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