SURREALIST AESTHETICS

Using Surrealist Aesthetics to Explore a Personal Visual Narrative about Air Pollution

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Abstract

"Using Surrealist Aesthetics to Explore a Personal Visual Narrative about Air Pollution", is a practice-based research project focusing on the production of a poetic short film that incorporates surrealist aesthetics with motion capture and digital simulation effects. The project explores surrealist aesthetics using visual effects combined with motion capture techniques to portray the creator's personal experiences of air pollution within a poetic short film form. This research explicitly portrays this narrative through the filter of the filmmaker's personal experience, deploying an autoethnographic methodological approach in the process of its creation. The primary thematic contexts situated within this research are surrealist aesthetics, personal experiences and air pollution. The approach adopted for this research was inspired by the author's personal experiences of feeling trapped in an air-polluted environment, and converting these unpleasant memories using a range of materials, memories, imagination, and the subconscious mind to portray the negative effects of air pollution. The overall aim of this process was to express my experiences poetically using a surrealist aesthetic, applied through the medium of an animated short film.

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Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge, it includes no materials previously published or written by another person (except where explicitly defined in the acknowledgements), nor material that to a substantial extent had been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

Peggy Li _____ 2nd October 2020

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Finally, I wish to thank my family and friends, who has been extra supportive and encouraged me throughout this research journey.

I. INTRODUCTION

This study, titled "Using Surrealist Aesthetics to Explore a Personal Visual Narrative about Air Pollution", is an exploration of the theme and issue of air pollution and employs an autoethnographic methodology to conduct a practice-based research and action research. The fundamental themes and message of this research are incorporated using my personal childhood experiences of air pollution, which I employ to express sensations poetically using surrealist aesthetics. The core question of this research, "How can I combine motion-capture and digitally simulated effects in a short film to portray a personal experience of air pollution using surrealist aesthetics?". This project employs visual effects (VFX) with motion capture (mocap) and animation, incorporated within a moving image medium. The non-linear narrative is inspired by my personal experience with air pollution from childhood. Through this project, I aim to express the issue of air pollution by visualising the feeling of "being trapped in an air-polluted environment". The overarching purpose of this research is to instil awareness of the current global air pollution issue among members of the public as a means for spurring them into action on the issue.

This practice-based study centres on researching critical contexts related to my digital animation short film, titled *Surreal Air*. These contexts include surrealist aesthetics, the topic of air pollution and personal experiences. Furthermore, these perspectives reflect lesser concepts, each of which are linked to my research topic. In summary, my short film adopts a surrealist aesthetic within an abstract approach, based on my childhood personal experiences with air pollution.

The contextual review method applied in this study was designed to undertake comprehensive research and analysis of the relevant areas of enquiry, which, in turn, enabled me as a researcher to link these contexts to the process of producing my short film. The knowledge gained from the contextual review provided me with an in-depth understanding of the thematic background of the research. Additionally, it also assisted me in experimenting with methods,

which, in turn, helped me to familiarise myself with the methodology I subsequently adopted. This process enabled me to successfully express my surrealist aesthetic approach to unpleasant childhood experiences.

The methodological framework presented in this project comprises the use of autoethnography as part of a practice and action research approach. The difference between autoethnography and action research is that autoethnography focuses primarily on using the researcher's personal experience to conduct the study. This involves the researcher to describe and analyse personal experiences to form a self-narrative within the topic and linking it within a broader social context. Meanwhile, action research is a study conducted by practitioners within their specific field and constantly producing work to gain evaluation on their work to allow further enhancements by responding to feedbacks with appropriate methods and actions. Autoethnographic researchers have typically adopted self-reflection methods that involve writing. Carolyn Ellis, who is a well-known communication scholar that focuses her research in autoethnography and how she connects research, writing and story methods to link autobiographical and personal approach to cultural, social and political aspects. In 'The Ethnographic I: A Methodological Novel about Autoethnography', she states that "The story is set in a class on autoethnography. I showcase the process of doing and writing autoethnography as I teach students about it, thus making pedagogy a part of this book."[1] On the other hand, "The Self as Subject: Autoethnographic Research into Identity, Culture, and Academic Librarianship", Anne-Marie Deitering specifically talked about why writing is important to autoethnography research and the purpose of using writing to better express these feelings from our memories and even generate new ideas. As Deitering stated "Writing can generate new connections and ideas. Writing through an experience can help us make sense of that

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[1] Carolyn Ellis, *The Ethnographic I: A Methodological Novel About Autoethnography* (Walnut Creek: AltaMira Press, 2004), https://books.google.co.nz/books?id=gw0bhi3AlDAC.

experience. Writing can clarify our memories and help us generate new ones. Rewriting can bring new details and juxtapositions forward."[2]

However, as an artist and designer, I focus on using practical methods to enhance my expression of personal experience. It is essentially the same approach to a writing method, as described by Deitering, "To do our work we need to understand and think critically about research, and sometimes that means thinking creatively about doing research differently."[3] This mean I need to employ an approach that creates practical work and revises it using the framework of action research. In this way, I was able to refine the work until I was satisfied with the outcome. My practical methods predominantly included digital tools because my animated short film was designed to be a digital presentation on a television screen. The methods I adopted for this research included a contextual review and pre-production of drawing and sketching, specifically, concept art and storyboarding. I also conducted digital tests that involved producing an animatic (a video sequence that is created using storyboard images that are animated using motion and sound) and running three-dimensional (3D) simulation tests in 3D programs such as Autodesk Maya (2019) and Houdini (v18.0.426). The digital tools I employed to produce my film were all computer software programs, including two-dimensional (2D) and 3D programs such as Adobe After Effects (2019), which allowed me to composite and add VFX and motion graphics. Autodesk Maya and Houdini are both 3D animation software programs that can be used to simulate smoke and nCloth (dynamic cloth solution) effects, and can also create 3D scene composition and rendering. Cortex was used for mocap data cleaning and Autodesk MotionBuilder (2020) for baking the mocap data into rigs. Moreover, Autodesk Character Generator and MakeHuman (v1.1.1) can generate 3D photorealistic humanoids that

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[2] Anne-Marie Deitering, Richard A. Stoddart and Robert Schroeder, The Self as Subject: Autoethnographic Research into Identity, Culture, and Academic Librarianship (Chicago: Association of College and Research Libraries, a division of the American Library Association, 2017), 16.

[3] Deitering, Stoddart, and Schroeder, 16.

can be used as rigs. Finally, Adobe Premiere Pro (2019) is a video editing software program that I used to edit the video and sound of my animatic and film sequence. Self-exploration of my experiences activated my methods to produce practical applications, which further familiarised me with my subconscious memories and assisted me to visualise them by using a surrealist aesthetic form of animation.

2. CONTEXTUAL REVIEW

Surrealist aesthetics

I have situated my research within three main critical and creative contexts: surrealist aesthetics, air pollution and personal experiences. In the current context, a surrealist aesthetic serves as an abstract and poetic approach to surrealism. In other words, surrealism is significantly linked to drawings and the subconscious to create works of art, and this process is engaged during the surrealist expression process as part of the research. Accordingly, to support the use of surrealist aesthetics, I will use the images that are produced directly from engagement with my subconscious mind.

Eric Sellin notes that "The surrealist [seeks] to unite art and method in such a way as to make both the creative process and the resultant object remedial and enlightening. [The surrealist] seeks to express the subconscious order of things, to delineate the point of intersection of the planes of the conscious and the unconscious".[4] In conducting the current research, I aspired to convey a surrealist aesthetic by activating the subconscious mind to recall feelings and memories linked to my childhood experiences of pollution. I also aimed to clearly express these

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[4] Eric Sellin, "Aspects of Surrealism Surrealist Aesthetics and the Theatrical Event," *Books Abroad* 43, no. 2 (1969): 167, https://doi.org/10.2307/40123297.

experiences in their truest form, using surrealism, animation and visual effect techniques alongside moving images. Sellin's theory helped me to reflect on memories and experiences of air pollution during my childhood, for which I employed surrealist aesthetics as a tool for expressing my subconscious feelings. To achieve this, I need to personally draw these sensations out to create a narrative from within and communicate these expressions in an abstract and non-linear narrative form. Sellin notes that words tend to be the best form of expression for achieving aesthetics within surrealism; however, I believe this can be applied in a case-by-case manner, as individual research differs in terms of subject and characteristics. "The surrealist [emphasises] the word as the best means [for] achieving the desired aesthetic result, followed by painting, sculpture, and amalgams of the plastic arts [such as] collage".[5] Sellin compares practical tools to literacy, which I disagree with to some extent because it depends on the research in question (in my case, digital design). That is, we cannot highlight one tool as being better than another if we are using both. I documented the specific tools I incorporated alongside my methodologies throughout the stages of my research and despite finding the writing form of expression as not being the most suitable in the context of surrealism, I did use simple words to set up certain scenes and aspects of my film, as I found doing so helped me to keep track of the goals and aim of the research, and what I wished to achieve for the artefacts of my research.

The concepts I investigated within the context of surrealist aesthetics include symbolism, creativity, illusion, and imagination. Charles E. Gauss claims that "The mental world of veridical data and the world of the imagination, of dreams and illusions, are both absorbed by a deeper mental realm [known as] the surreal".[6] This research article from Gauss proves that, based on

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[5] Sellin, 167.

[6] Charles E. Gauss, "The Theoretical Backgrounds of Surrealism," *The Journal of Aesthetics and Art Criticism* 2, no. 8 (1943): 38, http://dx.doi.org/10.2307/425943.

the context of surrealist aesthetics, all concepts are interrelated. The subconscious nature of dreams, and the use of my imagination and illusions enabled me to creatively unfold a surrealist aesthetic in a digital form.

Surrealist aesthetics also serve as an expression of the subconscious by using surrealism as an approach for illustrating the memories and imagination of the artist's subconscious mind as a means to express specific feelings and ideas. Accordingly, for the literature evaluation, I reviewed different types of media to help me gain a better understanding of surrealist aesthetics. *Up&Up* (2016) is a music video by British rock band Coldplay, directed by Vania Heymann and Gal Muggia, and serves as a perfect reference example in this regard as it relates to using a surrealist aesthetic form (music video) to engage an audience with the context of the music. The video comprises montages that combine objects and people using VFX. Though the music video footage does not entirely relate to the lyrics of the song, it possesses a vintage aesthetic and employs surrealism to attract the audience's attention. The incorporation of surrealist aesthetics with juxtaposition can be observed throughout the video when two non-relevant items are combined. Since 3D animation is not particularly employed in the video, realism is indicated by using real-life footage. The song lyrics address the process of growing up and developing as an individual and emphasises how we should all approach life positively. *Up&Up* uses the freedom and creativity provided by a surrealist approach to express aesthetics via VFX. Concurrently, the use of juxtaposition via VFX composition techniques and animation can symbolically convey a specific theme. For example, a shot of a miniature-sized Golden Gate Bridge and a young girl holding a twig beside a puddle (see Figure 1.1) utilises juxtaposition to create the illusion of a girl fishing in a pond. Here, footage of two different types is merged to form a size variation, which is achieved using scene design and VFX composition techniques, thereby creating an example of surrealist aesthetics. Although the majority of scenes in *Up&Up* do not include 3D animation, it is clear that the use of juxtaposition conveys a

surrealist aesthetic; this arises, e.g. by the size differences between the girl and the bridge in

the aforementioned scene. This illustrates how a juxtaposition is created through various

aspects such as size and/or placement differences, which disengages viewers from the real

world to illustrate a contrast between two objects.

Figure 1.1. Coldplay, Up & Up (dir. Vania Heymann and Gal Muggia, 2016, music video), https://www.youtube.com/watch?v=BPNTC7uZYrI.

Up&Up is a music video that adopts surrealism as its focal style while incorporating montage as

a sequencing method. The video primarily reflects on contemporary issues within human

society. It overlays numerous VFX in the compositions for individual shots, each of which is

completed by a high level of precision. Although *Up&Up* is only a four-minute music video, it

makes clever use of 64 shots to illustrate 64 different story scenes. Each shot appears to have

been designed to capture a view into human history through eminent past events. These events

include those related to science and technology, war, social phenomena, environmental issues,

and sport. I believe Vania Heymann and Gal Muggia used a surrealist approach to emphasise

the relation between surrealist imagery and the themes of the video, which in turn serves to

engage viewers in an in-depth consideration of the unusual juxtaposition of 3D objects, digital effects, animation, and live-action footage. For example, in Figure 1.2, the juxtaposition of two matte painted live-action shots are digitally combined to create an illusion of a turtle swimming in the air between subway trains. Yet the turtle is swimming in the air through a subway space almost like it is swimming within its own water habitat. This provides viewers with a surreal illusion (a turtle floating in mid-air) as if moving in a swimming motion similar to how it would behave in its water habitat, despite the obvious lack of water. This is a perfect example of the aesthetic concept I aimed to achieve by applying surrealist aesthetic standards, and by using digital techniques to create surrealist aesthetics through juxtaposition to reflect symbolism and metaphors.

This image has been removed by the author due to copyright reasons.

Figure 1.2. Coldplay, Up & Up (dir. Vania Heymann and Gal Muggia, 2016, music video), https://www.youtube.com/watch?v=BPNTC7uZYrI.

The use of juxtaposition in Figure 1.1 and Figure 1.4 encouraged me to employ a surrealist approach to moving images in the most creative way possible since doing so would enhance the degree of freedom I would have for effecting expression within the project. That is, the use of moving images would not be bound to the realistic rendering of 3D objects; concurrently, I would not be bounded by a need for realism in my filmmaking process. For example, in Figure 1.3 (another scene from *Up&Up*), the planets are 3D objects that were rendered and composited into live-action footage. However, these objects do not entirely realistically complement the scene. The colour grade composition of the objects recalls a vintage style, which assists in establishing a sense of the surreal. Once this dreamlike effect had been established, the shot is edited to a level of realism. The surreal aesthetics of the scene are supported by juxtaposition, and the style of realism was already introduced from the beginning as it is using real footage combined using juxtaposition to achieve surrealism. Another example from the music video involves 3D ship models integrated with live-action footage (see Figure 1.4). The 'city in a bowl' shot (see Figure 2) in the animation for *Surreal Air* was inspired by this scene during the pre-production stage of generating concept arts, storyboard and animatic for my film. I believe that surrealism is an effective tool for expressing thoughts and ideas within art and design, and can be achieved using juxtaposition. I found such an approach to be useful in producing practical work for this thesis, which was not entirely bound by realism because I employed motion capture techniques in my film. The connection between surrealist imagery and themes within the *Up&Up* music video enables viewers to consider the purpose of the work employing surrealist expressions, thereby directing them to the juxtaposition of its content. Karinna Alves Gulias notes that juxtapositions read as "two things being seen or placed close together [to create a] contrasting effect".[7] By directing an audience's attention to the content in

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[7] Karinna Alves Gulias, "Differences between juxtaposition in Surrealism and superposition in Imagisme" (master's essay, Goldsmiths College – University of London, 2014), https://www.academia.edu/20388174/Difference_between_juxtaposition_in_Surrealism_and_in_Imagisme.

question, this contrasting effect is created. This content can include 3D objects, digital effects, and live-action footage, among others. This contrasting effect enables subconscious ideas to be successfully expressed communicatively through juxtaposition and the use of digital tools. To give an illustration, in Figure 1.1, we can differentiate the size difference between the young girl and the bridge in this composition as the bridge has been intentionally resized to a miniature status to create an illusion of a mini bridge and an enormous sized human playing beside it. In "Understanding Hybrid Media", Lev Manovich notes that "Once all types of media met within the same digital environment – and this was accomplished in the second part of the 1990s – they started interacting in ways that could never have been predicted or even imagined previously".[8] I believe the use of mixed media alongside digital tools became familiar to all of us in 2020. However, 30 years ago, in the 1990s, it was only just being discovered by artists and designers as a technique. I did not employ any live-action footage in the final production of *Surreal Air*; however, a blend of 3D rendering with 2D elements, smoke simulations created using the Houdini (v.18.0.426) software program and motion capture helped me to create a film that evidences the use of surrealist aesthetics, and expresses these successfully through mixed media in a digital space, with juxtaposition effects further enhancing a sense of the surreal. "In Surrealism [these] words or images should be experienced and sensed rather than dialectically understood. There is a necessity [for] experiencing a state of constant distraction, caused by the juxtaposed images' disarming paradox".[9] This quote emphasises the significance of using juxtaposition to create an experience for the audience that is either sensed or felt through observation of the content itself, and where said content is manipulated through juxtaposition.

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[8] Lev Manovich, "Understanding Hybrid Media." 9, http://manovich.net/index.php/projects/understanding-hybrid-media.

[9] Gulias, 3.

Similarly, the recognition of such a surrealist aesthetic can be effected using juxtaposition, which in turn can emphasise the significance of using digital tools and mixed media.

Figure 1.3. Up & Up (2016). https://www.youtube.com/watch?v=BPNTC7uZYrl.

Figure 1.4. Coldplay, Up & Up (dir. Vania Heymann and Gal Muggia, 2016, music video), https://www.youtube.com/watch?v=BPNTC7uZYrl.
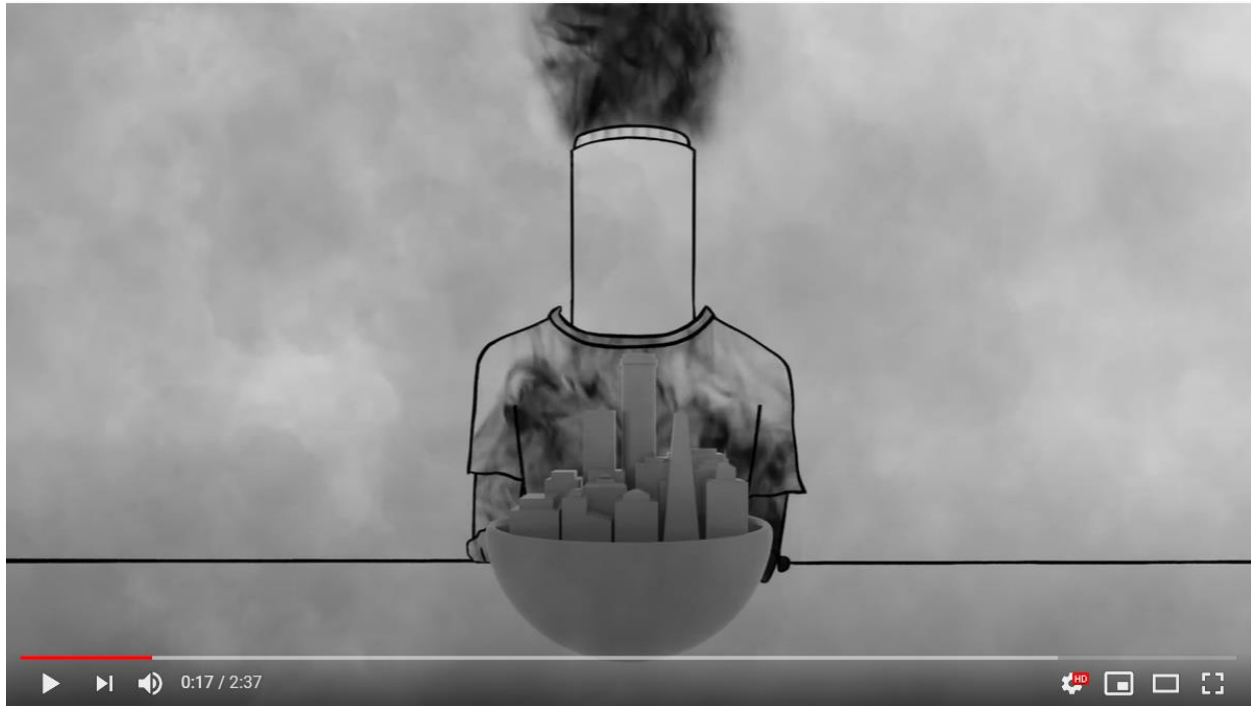
Figure 2. Surreal Air animatic (Peggy Li, 2019).

Defamiliarization

The notion of 'defamiliarization' was also considered during this research. It is a concept that

was first presented by Viktor Shklovsky in *Art as Technique* (1917), which centres on the theory

of defamiliarization as an artistic technique for presenting art in a strange or unfamiliar way to

affect an audience's perception of an object or imagery. According to Shklovsky, the purpose of

doing this "is not to make us perceive meaning, but to create a special perception of the object –

it creates a vision of the object instead of serving as a means for knowing it".[10] I was inspired to

use this as a technique in 'Surreal Air'. To explore this concept, I experimented with using an

object in the form of a hairdryer in scenes in my film to transform its meaning (and the

audience's perception of it) into the function of a gun, as opposed to the function it physically

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[10] Viktor Shklovsky, "Art as Technique." 5,
https://warwick.ac.uk/fac/arts/english/currentstudents/undergraduate/modules/fulllist/first/en122/lecturelist-2015-16-2/shklovsky.pdf.

signifies ('to dry hair'). In the *Earth with Mask* concept art (Figure 3), I replaced a person's head with an Earth-like object wearing a mask. The image infers air pollution's impact on the planet and, by having someone pointing a hairdryer ('gun') at it, emphasises that Earth is dying. A gun's purpose is associated with the act of killing; as such, *Earth with Mask* metaphorically symbolises that Earth is being killed by air pollution. Furthermore, I believe that personifying the Earth-like object further increases the degree of defamiliarization and impacts the audience's perception further, instilling in them with cognitive dissonance. I believe that once objects become strange or unfamiliar to us, and take on an unusual form, the perception of surrealist aesthetics will significantly increase the sensations we experience in our conscious and subconscious minds when observing artwork. My approach was to defamiliarise the function of specific objects within my film. I achieved this by instilling the functionalities of everyday objects with a level of surrealism as part of my aesthetic style. "The purpose of art is to impart the sensation of things as they are perceived and not as they are known".[11] That is, I altered the literal meaning of the objects themselves and created a new interpretation of the object itself. By doing this, I rendered my film more memorable to audiences and clearly emphasised the message of air pollution by applying a surrealist aesthetic to everyday objects through defamiliarization.

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[11] Shklovsky, 2.
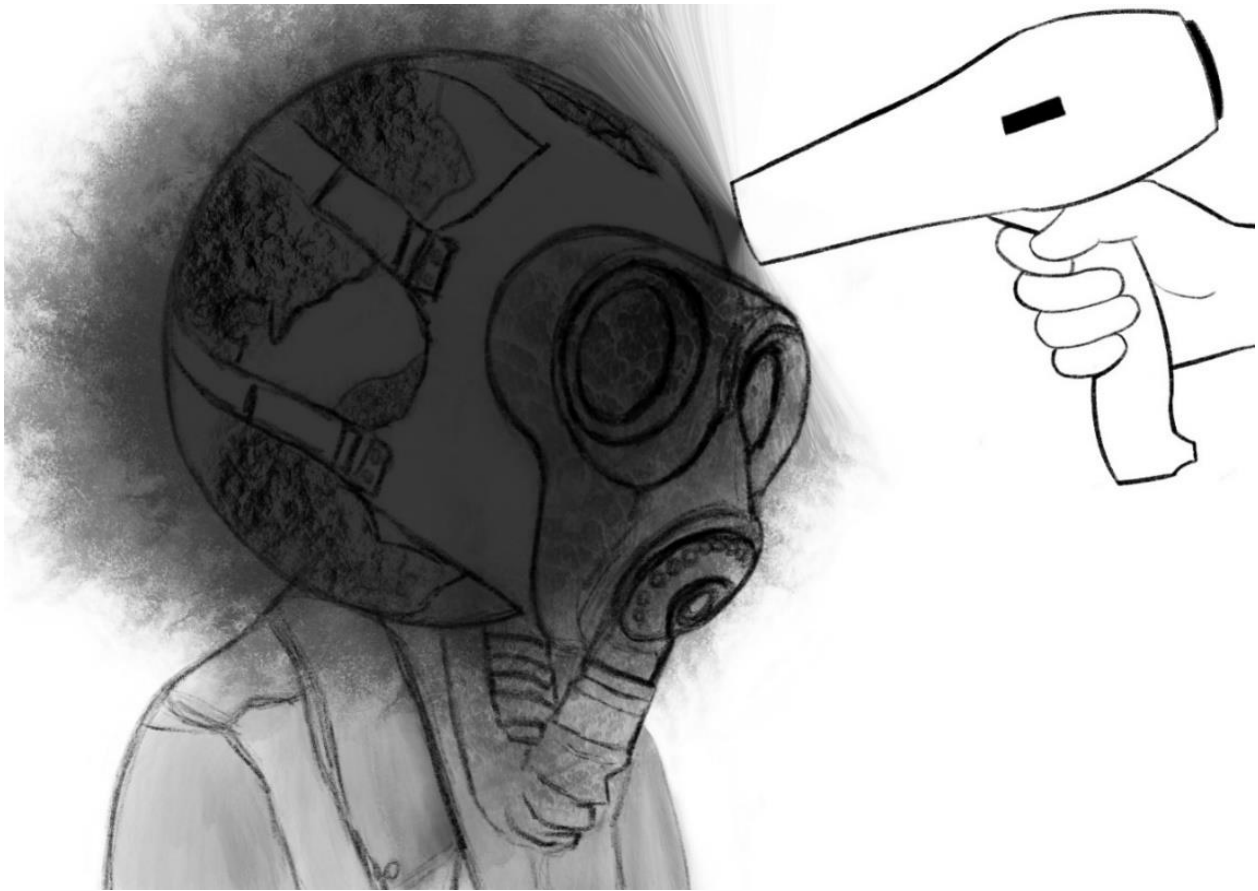
Figure 3. Earth with Mask (Peggy Li, 2019).

Symbolism and metaphors

Ideas and emotions can be expressed using symbols, a technique frequently used in animation, films, traditional and digital art, as well as writing. This can be effected either on purpose or subconsciously. "Symbolism, in any aesthetic system complicates narrative structure because a symbol may be consciously used [as] a part of the image vocabulary to suggest specific meanings, but equally, a symbol may be unconsciously deployed".[12] A symbol can perhaps be better viewed as a physical representation of an object that may, in fact, emphasise a different idea. Symbols do not express an idea directly to an audience; rather, they encourage thinking

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[12] Paul Wells, *Understanding Animation* (London: Routledge, 1998), 83, ProQuest Ebook Central.

and imagination among individuals to evoke observation of *the meaning of the object itself*, and thus specifically links the presented object against its real meaning that was intended. As noted by Wells, symbols can be deployed unconsciously in art to create a significant bond between symbolism and surrealism. The primary aim of my research was to express my personal experiences using a surrealist aesthetic. In the process of generating concept art (see Figures 3, 4, 5, 6, 7, and 8), I subconsciously employed symbols in the digital design process and slowly developed the generated images into a moving format to produce the animation. This process provided me with significant encouragement and helped me to successfully develop ideas linked to my memories into a surrealist film of my own. Here, the purpose of using symbols was for them to serve as guides for expressing my conscious and subconscious memories using a surrealist aesthetic.
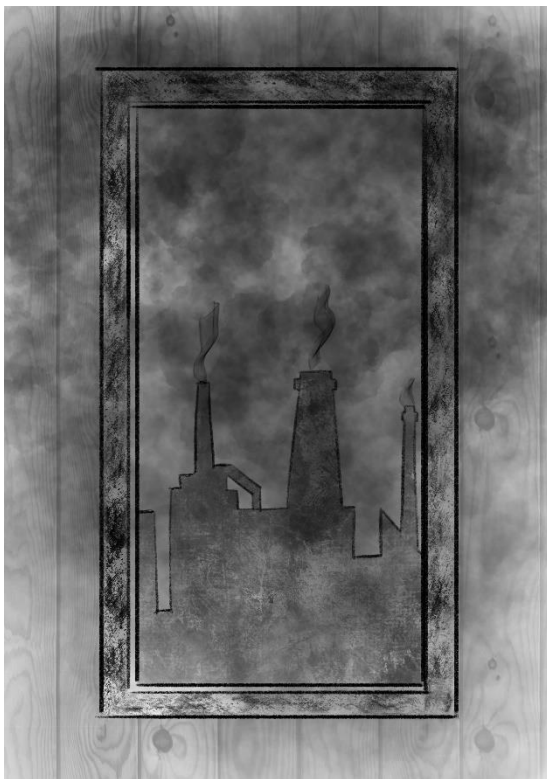
Figure 4. *Window* (Peggy Li, 2019).
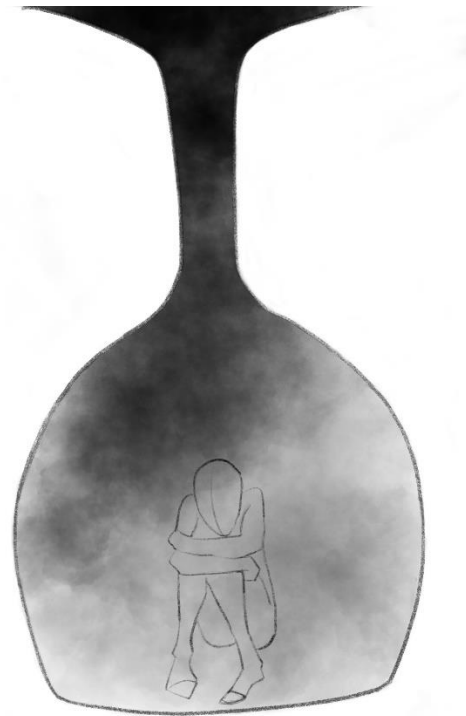
Figure 5. *Trapped Figure* (Peggy Li, 2019).
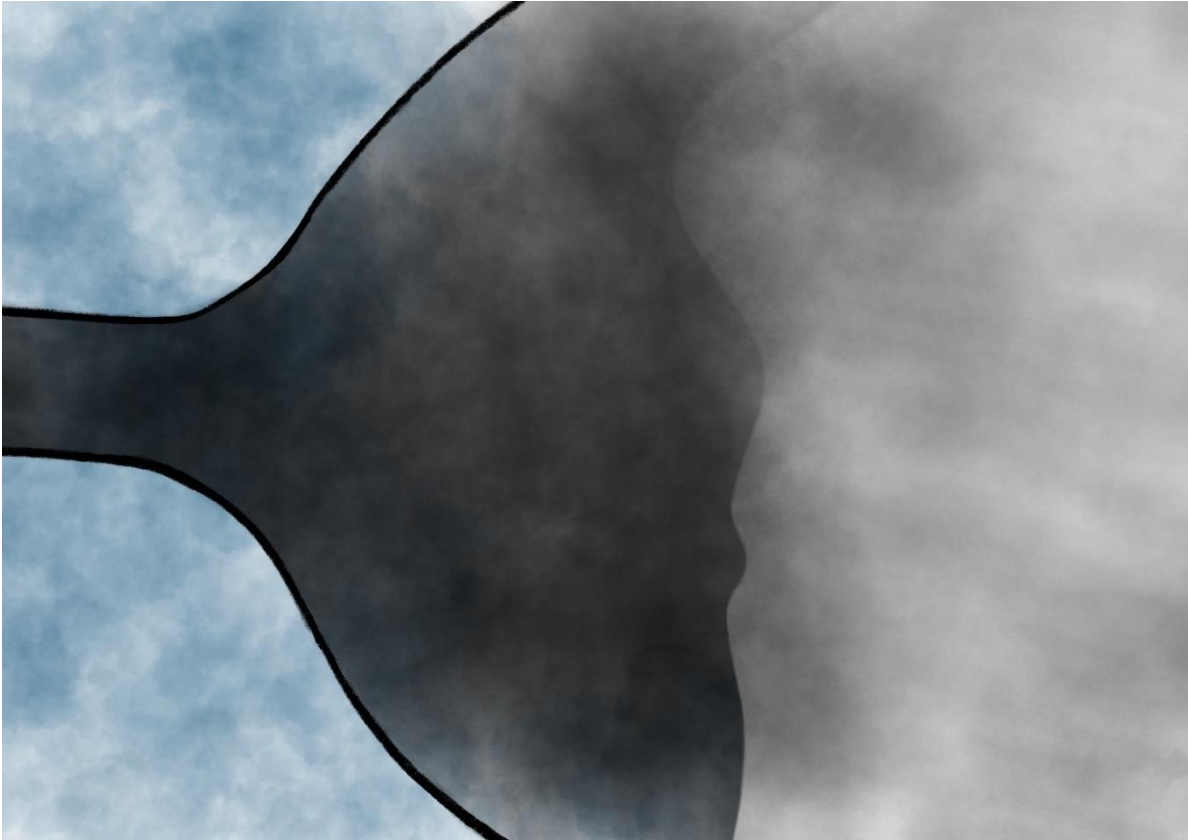
Figure 6. *Face in Glass* (Peggy Li, 2019).
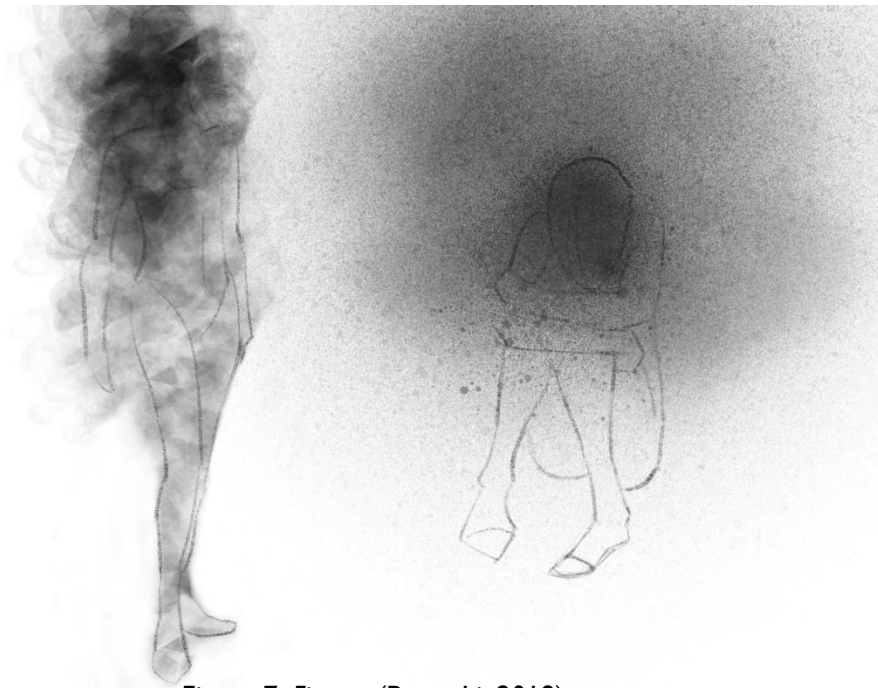
Figure 7. *Figures* (Peggy Li, 2019).
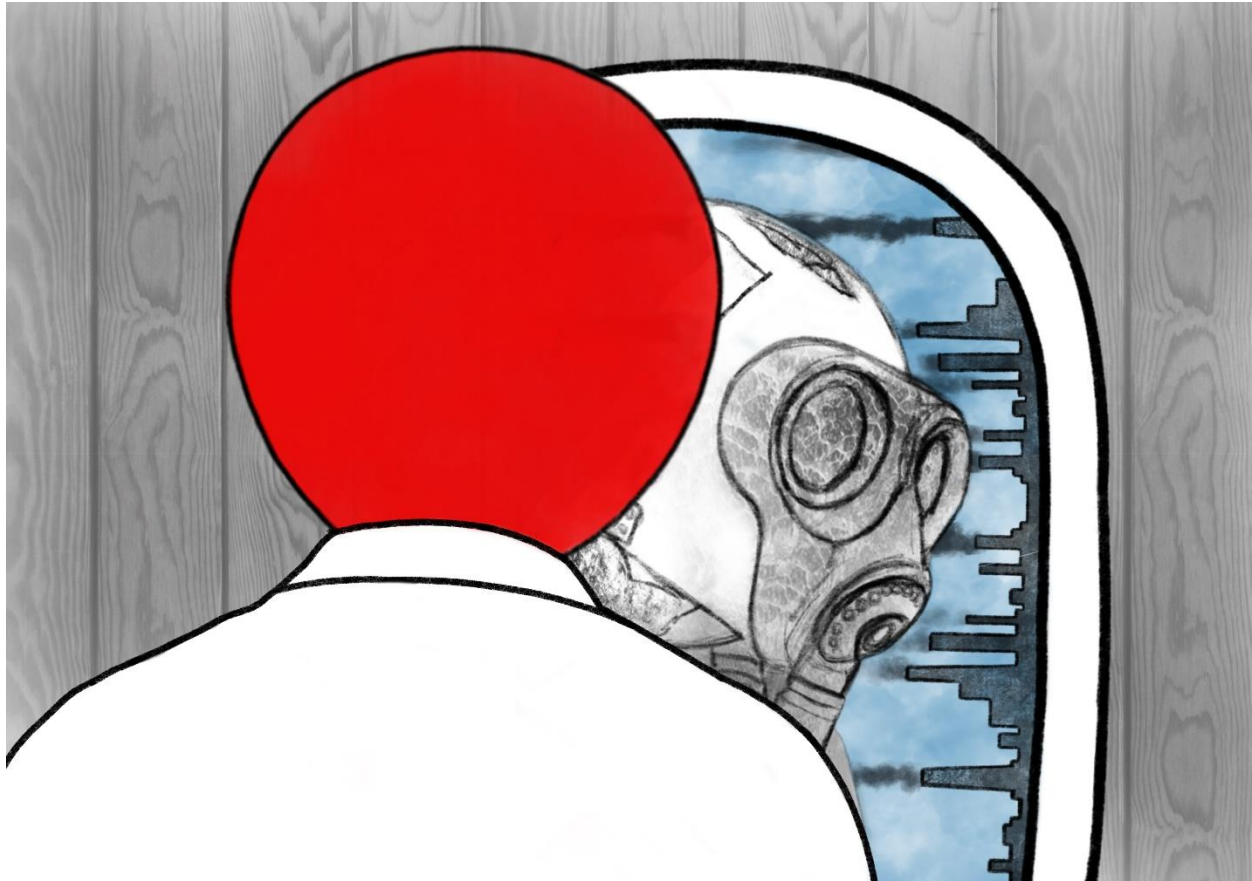
Figure 8. *Reflection* (Peggy Li, 2019).

Expressing ideas from my childhood memories using a surrealist approach is the primary focus

of my research. I employed several symbols and metaphors in my moving images project

alongside objects such as a balloon and human faces. I employed these carefully, however, as I

realise that it can be difficult for viewers to interpret meanings and ideas directly. The balloon is

only represented in a few significant colours, i.e. red, grey and black. In my research, the colour

black is associated with pollution, as pollutants are often seen as darker colours and specific

object like the balloon specifically in my film are contaminated with air pollutants and so are

portrayed as a black smoky balloon. This is visualised in the form of text by Delang in *China's*

Air Pollution Problems, in which he presents evidence of what it is like to live in an air-polluted

environment in China: "At the local industrial primary school, everything from windowsills to the

leaves on the trees was coated in fine black dust".[13] This description helps us to imagine what it would be like to live in an environment where almost everything is covered in the black dust of pollutants. Consequently, we can also imagine what it would be like for the people who inhabit this environment to breathe in the polluted air that they are compelled to interact with each day. I specifically address these visuals from Delang's experience, as doing so helped me to recall aspects of my memories from my subconscious mind, and to visualise them as authentically as possible.

The balloon served as a symbol and representation of my childhood. It is also an object that holds air inside it, and air served as a focal part of my research as a signifier of pollution. I believe I successfully illustrated the experience of air pollution using symbolism throughout my film. I also imbued the balloon with personal characteristics; it was designed to serve as a narrative character and accompanied the main character in the film as shown in Figure 9, 10, 11, and 12. The state of the balloon varies between scenes, from positive to negative, and finally, to positive again by the film's end. I personified the balloon to some extent, thus enabling it to serve as a character in its own right and to signify the theme of air pollution.

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[13] Claudio O. Delang, *China's Air Pollution Problems* (London: Routledge, 2016), 46, ProQuest Ebook Central.

Figure 9. *Hand and Balloon* (Peggy Li, 2019).
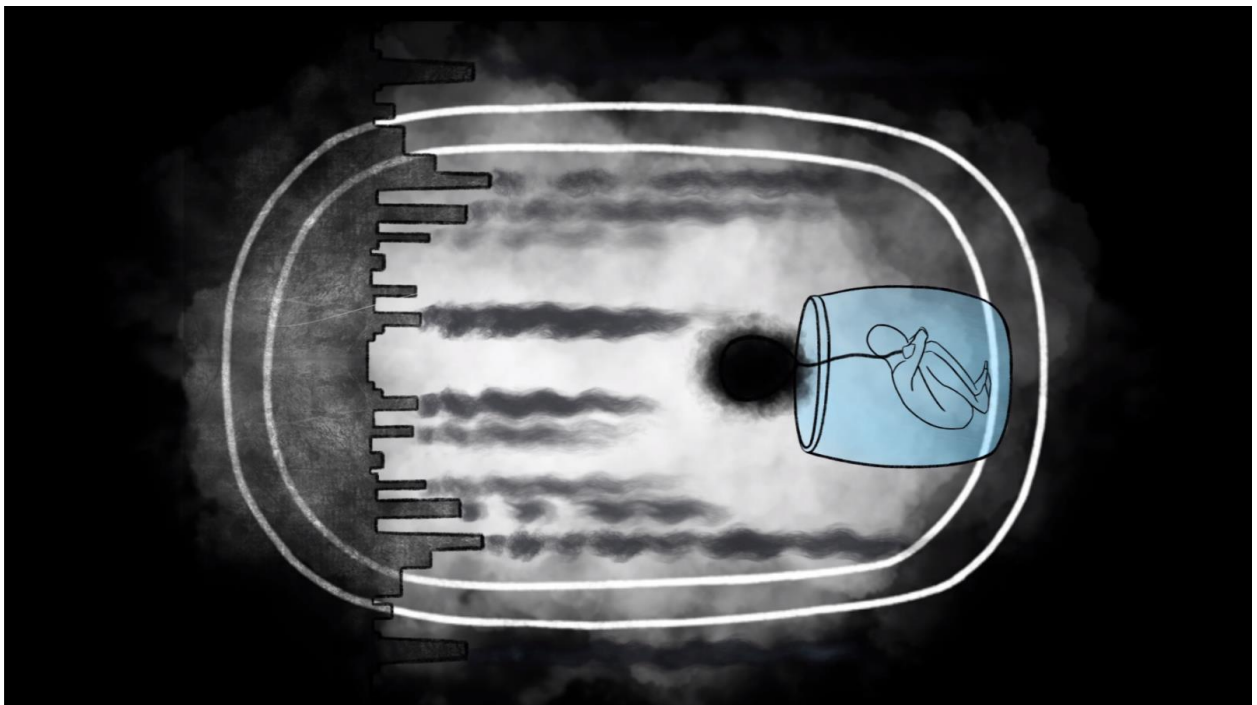
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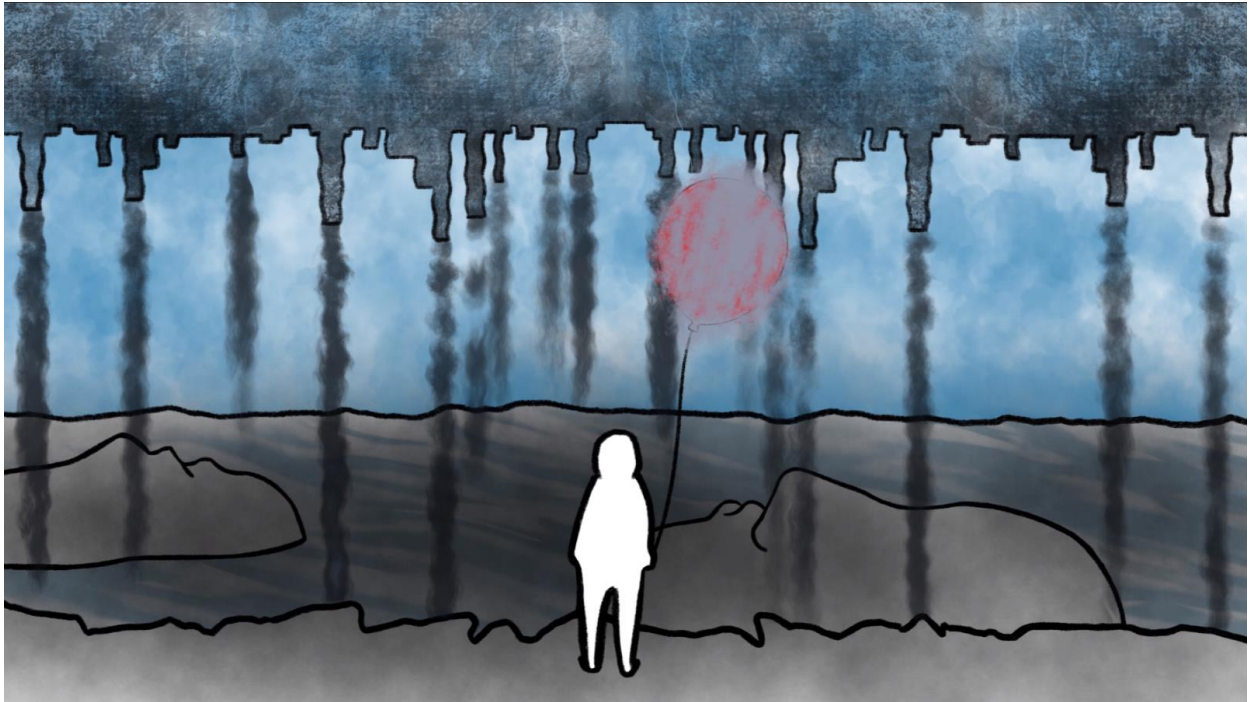
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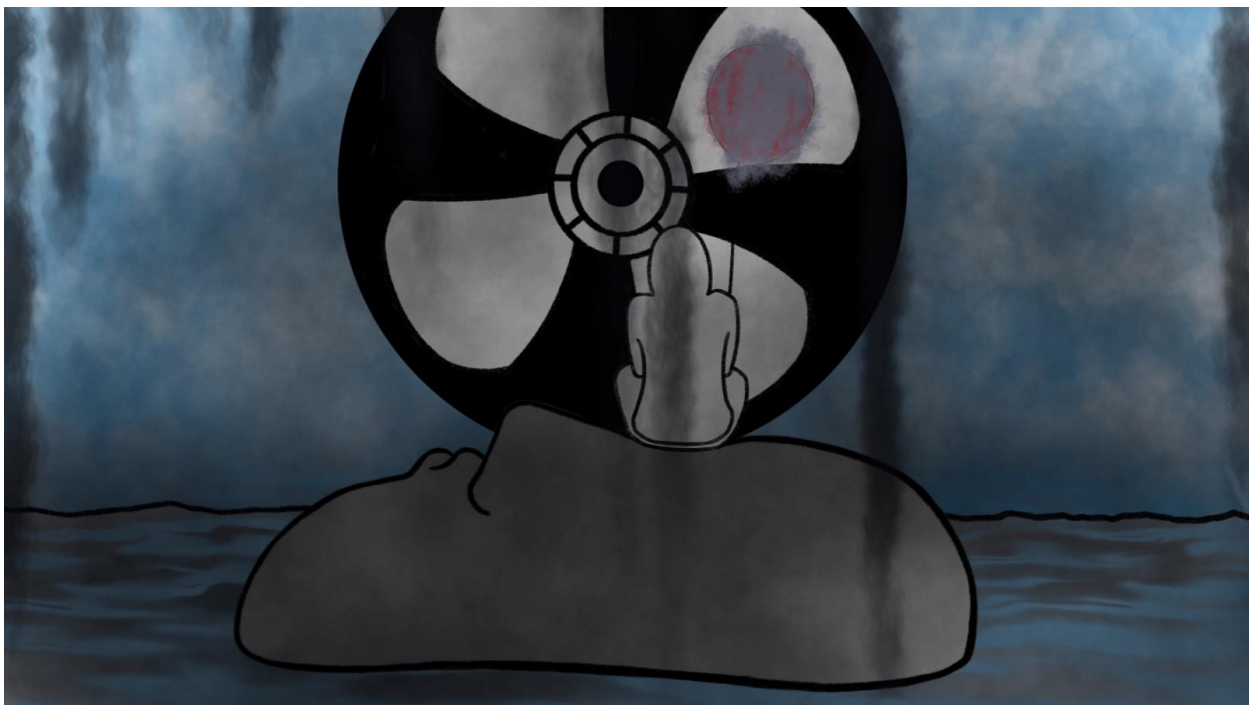
Figure 12. *Surreal World 2* (Peggy Li, 2019).

The Red Balloon (1956), directed by Albert Lamorisse, is a short film that has similarities to 'Surreal Air' in terms of personifying objects and imbuing them with human characteristics without using dialogue. In *The Red Balloon*, Lamorisse personifies a red balloon and employs it as a character alongside the main character, a young boy called Pascal. The film begins with Pascal on his way to school, discovering a helium balloon that is bigger than typical balloons. A devoted relationship subsequently develops between Pascal and the red balloon. The boy soon discovers that the balloon has a mind and will of its own, which represents a unique aspect of the film. However, the bullies from the older boys' gang from the streets of Paris and Pascal's mother do not condone this relationship. Numerous other obstacles arise for Pascal and the balloon. Eventually, however, they are reunited and the film concludes with a meaningful ending; after having been burst, the spirit of the red balloon gathers with other balloons from the town of Paris and meets his best friend Pascal once again (see Figure 13.1). The film ends with a tracking shot of Pascal floating up into the sky, carried by numerous balloons. I believe the red balloon itself is not an individual spirit within that balloon, and perhaps it is an energy. This spirit energy gathers other balloons together to form a bond, as seen in Figure 13.1. This scene can prove to Pascal that it is still there for him although its original red balloon form was already destroyed and popped by bullies.

A balloon also serves as a significant symbol in 'Surreal Air' but is not personified to the degree of Lamorisse's balloon. Rather, I investigated how Lamorisse employed the balloon in his film to interact with the main character, Pascal. Albert Lamorisse's film does not feature any significant dialogue but instead employs the actions of characters to express a significant amount of meaning. For example, a heart-warming scene occurs on a rainy day, when Pascal drags the balloon along with him by its string, leading him to a pedestrian whose umbrella they are able to share to stay dry (see Figure 13.2). The imagery here illustrates that a child can be friends with a balloon and that the friendship between them is caring and pure. Pascal does not view the

balloon as a non-human object but an affectionate best friend. By comparing and contrasting my film to *The Red Balloon*, I can express that this same sense of childhood purity is present in 'Surreal Air'. The main character in my film must reconcile an innocent self with the surreal world of air pollution. However, no matter how unpleasant and unfortunate her experience becomes, like a best friend, the balloon is always with her.

This image has been removed by the author due to copyright reasons.

Figure 13.1. *The Red Balloon* (dir. Albert Lamorisse, 1956).

Figure 13.2. *The Red Balloon* (dir. Albert Lamorisse, 1956).

On the use of symbolism in animated films, Paul Wells states in *Understanding Animation*

(1998) that "The symbol in animation can operate in its purest form, divorced from any

relationship to [a] representation of the real world, finding its proper purchase in the realms of its

primal source".[14] A symbolic meaning is more likely to be conveyed in its purest form using

animation as a form of expression. My research focused on using animation as one of the

primary techniques for expressing my experience and narrative to viewers. I believe that the use

of animation can enable me to creatively design and manipulate my memories, consciously or

subconsciously, into a surrealist form. Rendering some of the objects in my film scenes

realistically may not, however, necessarily be as effective for conveying a sense of surrealist

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[14] Wells, *Understanding Animation*, 83.

aesthetics. However, this does not limit me in terms of the types of visual style possibilities that can be applied to my film.

Metaphors and symbolism are to some degree linked. Metaphors serve as a figure of speech but also use an object differently from what it ostensibly signifies, thereby signalling a different purpose or meaning that may also emphasise a symbolic interpretation. "Metaphor essentially grows out of symbolism and serves to embody a system of ideas in a more appealing or conducive image system".[15] Therefore, to better express my memories at a surrealist level, I employed the use of metaphors by crafting conceptual ideas, and then slowly converted these ideas into a surrealist form by communicating them using my personal unique aesthetic style. The visual ideas that I composed within these conceptual stages were all related to the symbolism which are present throughout the film, and to notions of smoke, fog, earth, people, and everyday objects. By repeatedly using these symbols, I eventually developed them into metaphoric symbols. One example from *Surreal Air* is where I replaced a person's head with an Earth-like object wearing a mask next to the use of a hairdryer (see Figure 15.6). My intention was for this image to represent the presence of air pollution on the planet, and to emphasise the negative effect of this pollution by having someone pointing a hairdryer at it, symbolically representing a gun. In other words, the association with a gun represents the meaning 'to kill'; thus, the image metaphorically symbolises that the Earth is slowly being killed by air pollution emitted from the hairdryer. This is my interpretation, however, and others may interpret the image differently. As Wells notes, "The use of metaphor simultaneously invites interpretation but insists upon openness".[16] I should, however, clarify that the most critical part of this research focused on a surrealist expression of my childhood experience of air pollution, whether derived from conscious or subconscious memories. Ultimately, the images conveyed in *Surreal Air*

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[15] Wells, *Understanding Animation*, 84.

[16] Wells, *Understanding Animation*, 84.

represents a personal expression of my air pollution experiences, using surrealism as a way of self-expression.

Afternoon Class (2015), directed by Seoro Oh, is a 2D animated film that shows how an animator uses the technique of metaphor and symbolism as part of the film's visual style to convey a sense of personal experience through a surrealist aesthetic. The animation begins with the main character, a student, sitting in the class, tired, exhausted and close to falling asleep. As the film proceeds, its surreal aspects become more visibly obvious. The objective of the main character is to remain awake in class without attracting the teacher's attention; however, he was still able to avoid his temptation to fall asleep before other students. Oh employed the medium of film to adapt his personal experience in narrative form and to illustrate it surrealistically using the medium of animation. Using his personal experience of enduring drowsiness in class and by converting metaphors into a surrealistic visual style, the director was able to bring all of the film's elements together in narrative form using a surrealist and symbolic approach. Despite finding the narrative of this animated film slight due to a simple storyline and lack of dialogue, I did not consider these aspects to have limited the number of strong visual qualities from this animation and the simplicity that it holds within these surreal characteristics. The film is able to convey an interesting narrative using surreal visual imagery to convey the significance of the themes involved. Additionally, *Afternoon Class* exhibits an impressive metaphorical and visual style and, as such, I used it as a reference source during my research process. The creative nature of the animation in *Afternoon Class* exhibits how Oh employs symbolism and metaphor surrealistically to portray his personal experience. This also reflects the aim of my film which is to convey a sense of air pollution experience through incorporating surrealist aesthetics with using symbols and metaphors. Examples of *Afternoon Class* are shown in Figure 14.1 and Figure 14.2. In these images, Oh employed symbolic items such as a bowling ball and hammer to represent the exhaustion weighing on the main character's head as

he struggles to stay awake in class, noticeably lifting his head from the drowsiness of falling asleep.

Figure 14.1. *Afternoon Class* (dir. Seoro Oh, 2015).

https://www.youtube.com/watch?v=CAYDRIbXFAc.

Figure 14.2. *Afternoon Class* (dir. Seoro Oh, 2015).

https://www.youtube.com/watch?v=CAYDRIbXFAc.

Afternoon Class is an example of how a filmmaker can portray metaphors using symbols. The bowling ball and hammer serve as symbolic representations of heaviness and also emphasises that this weight is difficult to control and balance, which in turn suggests that the character will inevitably fall asleep. The bowling ball and hammer also act as metaphors for representing the head as a bowling ball/hammer in the form of a figure of speech, but in this instance, one that is visually applied. Oh's use of metaphor and symbolism in this film is an effective approach for comparing one object to something else, while not applying said object in a literal manner in terms of what it outwardly represents. "I used the fantasy elements in the film to help convey…subjective feelings and [to] add humour to the narrative. Although *Afternoon Class* is based on my own experience, [anyone] may find it familiar".[17] While Oh emphasises his personal experience in this visual narrative, he is concurrently also attempting to influence viewers in terms of relating his memories to their own experiences. In *Afternoon Class*, Oh recalls and expresses familiar sensations many of us experienced while attending school. Oh aimed to illustrate his personal school experience using 'fantasy elements', an approach I believe to have been a strategy for converting subjective ideas from his memories into symbols and metaphors and using the freedom of animation to convey a sense of the surreal within the film's production stage. Finally, the philosophical aspects of this film also emphasise the themes of life and death. Oh creatively applied this by using a memorable experience of falling asleep in class to emphasise notions of life and death. This is achieved at the moment where the character finally falls asleep in class and begins to dream. The dream imagery is conveyed using neon lines on a black background and starts on the day the character was born. In this way, the director places himself within the perspective of the main character in the film, observing his life within the character's dream from being an infant until the final moment when

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[17]Nathaniel Ainley, "This Animated Short Perfectly Captures What It's Like to Fall Asleep in Class," May 4, 2017, https://www.vice.com/en_us/article/53nzvb/falling-asleep-in-class-animated-short-film-seoro-oh.

he shakes the hand of an older man, whom I interpret as a future representation of himself. *Afternoon Class* is a remarkable film because of the magnificent surrealist style it employs, this is conveyed using animation as a primary technique to successfully portray the sense of sleepiness through the eyes of the main character. The use of symbols and metaphors (e.g. the bowling ball and hammer noted above) that Oh emphasises visually alongside unrelated objects clearly brings across the director's surrealist aesthetics.

I aim to use a creative approach to a surrealist aesthetic by imbuing everyday objects with metaphorical meaning and symbolising them in unique ways to illustrate personal feelings. Oh illustrated his personal feelings about how a normal person might respond to a situation in which they felt drowsy by recalling childhood memories and expressing them visually in a composite form using a surrealist aesthetic, symbols and metaphors. On reflection, I realised that this was what I was attempting to accurately portray using my personal experience of air pollution in *Surreal Air*, using animation, digital simulation effects and live-action to emphasise the sensation of having once felt trapped in an air-polluted environment.

Symmetrical framing

Symmetrical framing, also known as centred framing, is a framing style in film design that is employed to create a sense of balanced harmony within the film frame. Stanley Kubrick and Wes Anderson are notable directors that adopt symmetry framing as part of their signature styles. According to Louis Thonsgaard, "Symmetry refers to material[s] being organized in such a way that it conveys a sense of unity through the repetition of one or more elements".[18]

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[18] Louis Thonsgaard, "Symmetry - the Forbidden Fruit of Picture Composition in Film," *P.o.v.*, no. 15 (2003): 1, https://pov.imv.au.dk/Issue_15/section_5/artc1A.html

Similarly, a one-point perspective also acts as a framing technique, where all lines in the frame lead to a single point on the screen. This creates a sense of perfect order but can still make viewers feel that the shot is unusual, thereby giving rise to a sense of the uncanny. According to Thonsgaard, filmmakers often attempt avoiding the use of centred framing due to the complexity of doing so well, particularly when it is applied thoughtlessly. "The visual power of symmetry is so great that filmmakers often avoid or are advised against using symmetrical picture compositions… [If] symmetry is used randomly and thoughtlessly, one runs the risk of creating visual disturbances in the narrative of the film".[19] However, Thonsgaard also notes that as long as symmetrical framing is applied carefully, a shot can have a larger impact by immersing the audience within the film and by highlighting the subject on the composition's symmetrical axis, thereby efficiently establishing the subject matter. "Symmetrical compositions focus the attention on characters appearing in them, and hence it is important to consider who should appear in them".[20] Accordingly, I applied symmetrical framing in specific shots of *Surreal Air*, as I believe it can draw the audience's attention to the focal point, i.e. the primary subject. To provide me with a more comprehensive understanding on the use of symmetry in this research process, I also reviewed *The Evolution of Wes Anderson's Cinematography*, in which Martin discusses director Wes Anderson's signature shots. "Anderson [uses] a lot of symmetry in [Bottle Rocket (1996)]; however he only makes it very noticeable in a few select shots [which] are usually establishing shots".[21] Accordingly, Anderson on occasion employs symmetrical or centred framing in which everything placed within the frame is symmetrical and centred. Nevertheless, he uses the technique thoughtfully and only makes it evident in specific shots that specifically require this characteristic. I believe the purpose of this technique is to give the audience a strong impression

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[19] Thonsgaard, 1.

[20] Thonsgaard, 1.

[21] Richard F. Martin, "The Evolution of Wes Anderson's Cinematography," Film Matters 5, no. 2 (2014): 63, https://doi-org.ezproxy.aut.ac.nz/10.1386/fm.5.2.63_1

of a shot, as it directs the viewer's gaze to the centre of the composition to observe the action or subject matter present there. Contrastingly, it can also achieve the effect of unsettling the viewer and give rise to a sense of uncanniness. "The beauty of surrealist art will be "convulsive," it will produce in the spectator "a state of physical disturbance characterized by the sensation of a wind brushing across [the] forehead and capable of causing [a physical] shiver".[22] In *Uncanny urges: the familiar made strange* by Adi Brown, the author centres her research on the uncanny and investigates how surrealist strategies develop a psychologically compelling effect on images and objects. Brown notes, "In Surrealist art, ideas of the uncanny are experienced when objects of varying scale are placed in careful juxtapositions with or next to each other in a single work or space".[23] As I reflected on my own use of surrealist aesthetics alongside juxtapositions within a digital space, I simultaneously imbued my work with a sense of the uncanny through juxtapositions using compelling images and objects to express the surreal. Sigmund Freud posited that the uncanny can be strange yet familiar at the same time, as it concerns the manipulation of everyday objects into that which represents something new; this representation is known as the process of repression. "[The] uncanny is in reality nothing new or alien, but something which is familiar and old-established in the mind and which has become alienated from it only through the process of repression".[24] The process of reflecting on my research of surrealist aesthetics altered ordinary images into signifying unique representations through the use of surrealism as a technique. A sense of the uncanny may, as a result, arise in viewers; however, this will depend on the viewer's impression of the work itself upon observing it. The uncanny can thus be triggered differently based on audience response; this is because the uncanny is entirely subjective, as noted by Ruers. "Through this process, we can see that the

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[22] Gauss, 40.

[23] Adi Brown, "Uncanny urges: the familiar made strange." (master's thesis, Massey University, 2013), https://mro.massey.ac.nz/bitstream/handle/10179/4491/02_whole.pdf?sequence=1&isAllowed=y

[24] Jamie Ruers, "The Uncanny," Freud Museum London, September 18, 2019, https://www.freud.org.uk/2019/09/18/the-uncanny/.

nature of the uncanny is entirely subjective, based upon our own experiences [and] haunts each of us to varying degrees".[25] That is, individuals respond to the uncanny differently because we have all had different life experiences. For example, I specifically used symmetrical framing (see Figure 15.1) in *Surreal Air* as an establishing shot at the beginning of the film, which introduces the city setting. The use of symmetrical framing is established during the opening of the "city in a bowl" shot, which is directed by a camera panning through the window. Once the camera reaches the window, balloons begin separating into individual balloons and drift away from the window. This helps to solidify audience attention and immerses their view within the polluted city. Moreover, everything in the composition is placed within the vertical axis, which divides the screen in half and leads the viewer's gaze to focus on the subject matter in the middle of the shot, in this instance, the polluted city itself. A tracking shot introduces the start of the film and in this shot, a hidden window is visible at the centre of the composition; the focus point is on the axis, which was designed with balloons hovering outside the window along with the polluted city view outside. This approach aims to instil in the audience a sense of mystery. I believe that these aspects will help to immerse the audience within a film early on.

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[25] Ruers, 1.
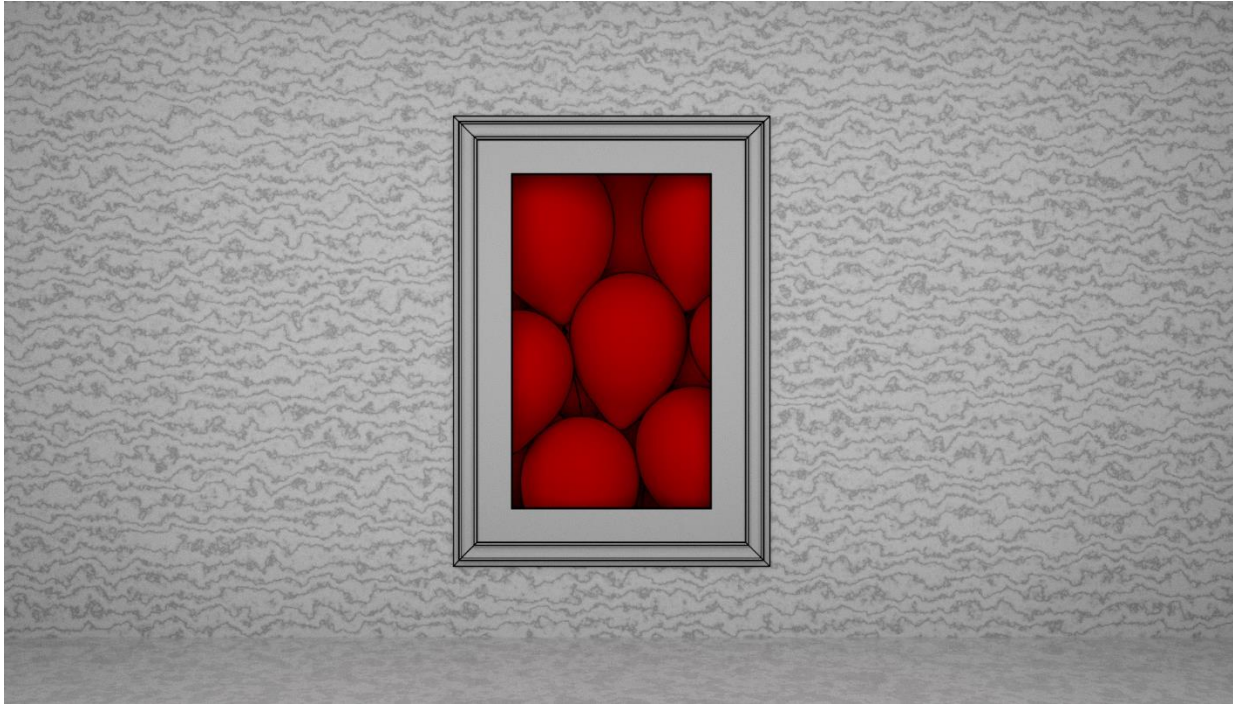
Figure 15.1. "Symmetrical window" (Peggy Li, 2020, test rendered in Maya).

Louis Thonsgaard's *Symmetry – the forbidden fruit of picture composition in film* (2003) discusses interesting theories on symmetrical framing. Thonsgaard explains that the widescreen format, with a ratio of 16:9, equivalent to a 1920 x 1080 screen size, is the most popular ratio for use in a film. "The wide-screen format of film is well suited to axial symmetry, as it provides ample room for the mirroring parts when the axis is placed vertically in the center of the picture. When it comes to film, axial symmetry is the most interesting and widely used form of symmetry".[26] Axial symmetry framing in a film is suitable because the line that is placed in the middle of the composition allows for aesthetic mirroring to occur within the film. I believe that creating a film using symmetrical framing is to some extent acceptable, but that it must be sensibly employed. Thonsgaard also states that while symmetry instils in the audience a sense of "perfectness", symmetrical framing also enables artistic expressions to be uniquely exhibited

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[26] Thonsgaard, 1.

within the composition. "[I]t is often the deviation from ideal symmetry that makes a composition interesting. It adds the possibility for artistic expression to the composition, which is not usually associated with symmetry".[27] Most importantly, this article is not about defining whether symmetry is viewed as desired or not in a composition but about how effective the expression is and its purpose. I accept the notion that there is no definition of perfection in the use of symmetry; rather, it is how filmmakers utilise the expression of artistic intention through the incorporation of symmetry as a framing style. "[A] composition might be defined as symmetrical, however there [is] no perfection and it's always shown with the slightest asymmetrical disturbance."[28] Overall, the expression itself is the most critical aspect of a symmetrical framing approach; this is because it is used as a tool for illustrating the content within a film shot and how the message and purpose of the shot itself are conveyed. When reflecting on *Surreal Air*, I realised I had to use symmetry in a manner that reflected it had a purpose; however, I also had to employ it as an aesthetic style in my film to express uniqueness and surrealist notions. "Anderson does this – creates these stylised, surrealist spaces – so as to render cinematic fantasy worlds [as] existing within the domestic, the familiar".[29] Anderson also designs surreal spaces in filmmaking by using framing as a technique. In films like *Rushmore*, *Fantastic Mr. Fox* (Figure 16.1) and *The Grand Budapest Hotel* (Figure 16.2), perfect symmetry plays a significant role.

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[27] Thonsgaard, 1.

[28] Thonsgaard, 1.

[29] Anthony Carew, "Wes Anderson." Screen Education, no. 79 (2015): 65, http://ezproxy.aut.ac.nz/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=edsihs&AN=edsihs.7845 45384776581&site=eds-live.

Figure 16.1. *Fantastic Mr. Fox* (dir. by Wes Anderson, 2009).

Figure 16.2. *The Grand Budapest Hotel* (dir. by Wes Anderson, 2009).

The uncanny arises for the viewer when using symmetrical compositions that are combined with juxtapositions to create a sense of irrationality. This irrationality conveys the uncanny, through which the viewer can experience the familiar made unfamiliar. In *A Cinema of Loneliness*, Robert Kolker references Sigmund Freud when stating that the uncanny is a way of it manipulating artificial imagery to convey the familiar to the audience; in doing so, an unusual sense of representation arises: "The uncanny results when something familiar is seen again, once and after, or simultaneously, and becomes suddenly unfamiliar, Unheimlich; or when the eye, unable to be satisfied with the familiar, seeks to startle itself by seeing or creating something out of the familiar that makes it anxious".[30] During my post-production phase, I combined the digital manipulation of elements into a surrealist aesthetic using 3D animation programs like Autodesk Maya to create cartoon-like animations from animated 3D objects, which gave rise to a sense of unease and uncanniness (Figure 15.2). As I continued using symmetry more frequently throughout *Surreal Air*, a degree of familiarisation was established through the use of juxtapositions, and I believe the viewers will soon adapt this surrealist aesthetics as a style throughout my animation. They will also be able to understand and gain an impression of my personal experience through the surreal aesthetics I applied. Kolker studied the use of different techniques in director Stanley Kubrick's films, who frequently employed symmetry, and noted that symmetry could be viewed as spatial manipulation within the shot to enhance the composition's balance and centricity. It can also present an uncanny perfection and image undoing of the characters. "[A] stasis in which the uncanny perfection of the image promises its ultimate undoing, along with the characters caught within it."[31] However, as previously noted by Thonsgaard, there is no perfectly symmetrical composition, as there will always be a slight disturbance based on how we design and place the elements within a

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[30] Robert Kolker, A Cinema of Loneliness (Oxford: Oxford University Press, 2011), 117, https://books.google.co.nz/books?id=5q1oAgAAQBAJ.

[31] Kolker, A Cinema of Loneliness, 119.

composition. Similarly, Kolker notes that slight disturbances will always be present, but that these unbalanced aspects serve to enhance and exaggerate what is implied in the composition itself. "Kubrick's symmetry – exaggerated by his use of a wide-angle lens that bends the sides of the image outwards – tends to confound center and periphery in a way that unbalances the composition".[32] Kolker highlights Kubrick's use of a wide-angle lens, which captures footage in a manner that enhances the symmetrical effect within the composition. I focused on the use of symmetrical framing to achieve a sense of irrationality through the enhancement of the surreal to give rise to the uncanny. In this manner, I aimed to draw the audience into a deeper subconscious engagement with my surrealist aesthetics, based on my personal experience, by establishing a non-linear narrative and effecting the appropriate use of symmetrical shot designs to highlight the subject matter.

In conclusion, I believe using symmetrical framing in this film project to have been the correct approach; I wanted to experiment with this framing technique, which I had no previous experience of and aimed to create an aesthetic for it based on my personal experience of air pollution. I was aware that I had to use it precisely and highlight the purpose of symmetry in specific shots, based on Thonsgaard's theory of symmetrical framing guides. "Because symmetry is a distinctive form of composition that draws attention to itself, the absence of symmetry helps intensify the visual effect and thus also the viewer's focus of attention when the symmetrical composition is finally applied".[33] Using symmetry can help to depict and alter the viewer's perception of a film and the way they will interpret it. This is effected by the designed space of the compositions, the animation and the VFX on the screen. Notably, I employed symmetrical framing on the "Earth wearing a mask" shot because it served as an important shot

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[32] Kolker, A Cinema of Loneliness, 119.

[33] Thonsgaard, 1.

for drawing in the audience's attention and expressing the theme of air pollution through the incorporation of surrealist aesthetics.

Figure 15.2. "Fan scene" (Peggy Li, 2020, test rendered in Maya).

3. METHODOLOGICAL APPROACH

Methodology

The methodologies applied in this research were primarily autoethnography within the context of practice-based and action research. Deitering describes such a method in *The Self as Subject: Autoethnographic Research into Identity, Culture, and Academic Librarianship* as "a qualitative, reflexive, ethnographic method [in which] the researcher is also the subject of inquiry."[34] Accordingly, my approach to this research was to use myself as the primary subject and to

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[34] Anne-Marie Deitering, Richard A. Stoddart and Robert Schroeder, The Self as Subject: Autoethnographic Research into Identity, Culture, and Academic Librarianship (Chicago: Association of College and Research Libraries, a division of the American Library Association, 2017), 1-5.

engage in self-reflection during the research process. In this way, I could draw from personal childhood experiences and bring them to life through digital expression. I believe this to have been the most suitable research approach, as it provided me with the ability to expand creative ideas in my short film via my perceptions of air pollution using memory recall. This approach situated me within a better position for creating poetic direction through visual expression. Autoethnography is an approach that has been adopted by many artists and designers and is a well-suited methodology if the researcher sets themselves as the research subject. "The autoethnographic research method…serves as a self-reflective process, and promotes awareness of the relationship between self and other, self and society".[35] Renee Chen is a master's student that studied in the masters of fine arts at The Ohio State University in a graduate program in design. Autoethnography is used as a methodology in her research to serve as a self-reflective process for exploring her past. Chen reflects her feelings and values by creating animation and games, and by contextualising themes in storytelling using this approach. Although a suitable method for Chen's research, it nonetheless gave rise to some concerns for her, since autoethnography is an extremely personal approach to research, particularly if the researcher recalls traumatic memories from their past. As Chen noted, "This study [required] me to recall the traumatic events that I regard as the direct cause of my mental illness. Recalling these events…[placed] a [significant] emotional burden [on] me".[36] I thus had to approach this method attentively and with care.

The main purpose that Chen provides for her own research, based on her experience, is that she seeks to critically understand her values and feelings better, and to develop these aspects into a storytelling process through broader socio-cultural phenomena. Chen, who had been

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[35] Renee Chen, "Autoethnographic Research through Storytelling in Animation and Video Games" (master's thesis, Ohio State University, 2016), https://etd.ohiolink.edu/!etd.send_file?accession=osu1461270639&disposition=inline.

[36] Chen, 52.

diagnosed with major depressive and post-traumatic stress disorders, stated that it had been difficult to adopt autoethnographic research. However, she nonetheless uses aspects from her personal life as material for story concepts in the form of animation and video games. "I use my personal life as data to develop story concepts. I then present the data in the form of animation and video games, [which represent] my academic expertise".[37] Importantly, in Chen's case, the research itself becomes autoethnographic, as she sets herself as the subject to employ storytelling as a primary tool for revealing her deeper self, and to unburden herself from social and cultural biases, thereby emphasising her values in the form of design work that aspires to inform viewers by promoting the theme of empathy. "I aim to use storytelling to reveal a deep sense of myself, unpack social and cultural biases to express my values within my design work, and [to] affect…viewers by fostering empathy".[38] Using case studies on various artworks from other artists during her studies, Chen developed her own visual style, a style that I personally observe as the aesthetic she wished to establish. Chen explains that these works helped her to broaden her understanding and to develop a suitable visual style and storytelling techniques for her game designs. She also stated a specific approach for achieving this as follows: "In order to design characters or proper settings to influence my viewers, I listen to popular songs, play video games, and watch videos on YouTube".[39] To reflect on this approach, I studied Coldplay's *Up&Up* music video directed by Vania Heymann and Gal Muggia (2016). I subsequently gained a better understanding of Chen's method of reviewing various mixed-media resources that are able to provide inspiration by acknowledging current popular cultural trends, e.g. moving media images, whether in game design, VFX or animation in films or music videos. Chen also

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[37] Chen, 74.

[38] Chen, 2.

[39] Chen, 77.

analyses the symbols that she observes within popular culture sources like music videos to find inspiration for her own research, which she employs to create storytelling narratives.

Throughout Chen's masters research, Chen specifically states theories and analyses quotes from other autoethnographic research. These observations are based on *Autoethnography: An Overview* (2011) by Carolyn Ellis, Tony E. Adams, and Arthur P. Bochner. As autoethnographers, we must use external sources to help us recall our experiences. Chen explains that "Autoethnographers usually rely on other resources such as texts and photographs to help them recall their experiences".[40] I believe the purpose of this approach is to recall memories, both subconsciously and consciously, from personal experience and to accurately portray and express them in artefacts. Reflecting on my surrealist aesthetic research, I found that I had also contextually reviewed various mixed-media artworks from popular culture such as Coldplay's *Up&Up* (2016) and contemporary animation short films like *Afternoon Class* (2015) by Seoro Oh, as well as older films such as *The Red Balloon* (1956) by Albert Lamorisse. I also included literature reviews of theses such as Renee Chen's autoethnographic research and Louis Thonsgaard's *Symmetry – the forbidden fruit of picture composition in* film, among others. The overall aim of this was to obtain the necessary knowledge of the research area that I was about to engage with so that the research I conducted would be able to achieve the best possible outcome.

During the early stages of my research, I experimented with self-reflective writing methods through memory recall. "Any writer knows that the process of writing and revising is a learning process. This seems to be particularly true, and particularly important, in autoethnography".[41] I agree with Deitering's discussion on how important writing is as part of an autoethnographic

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[40] Chen, 74.

[41] Deitering, Stoddart, and Schroeder, 16.

approach. However, it should be noted that this author is not an artist or designer and introduces herself earlier in the book as an "academic librarian". Accordingly, I had to adapt the use of autoethnography by making it more suitable for application to my own research. I initially believed this method to be the correct approach for expressing childhood memories from my subconscious mind. As an artist and designer, I also considered using practical methods like drawings, concept art and animation, as doing so would assist me to enrich subconscious feelings and memories. It would be easier to express these visually, rather than simply writing them down. However, selected writing methods for particular camera shots of my project was easier to be listed down in sentences that describe the visual illustration of the surrealist scene during that moment when designing the scenes for *Surreal Air*. This method enables me to select the best ideas for the scenes rather than making a treatment which is not suitable for the style of my project due to the poetic approach. Figure 17 illustrates my thought process for setting up a scene prior to affecting concept drawings, not all of these ideas were included in *Surreal Air*. During the subsequent stage, I developed selected subconscious ideas by drawings in relation to keywords related to air pollution and collected inspirations from Pinterest to create a mood board which then are designed and drawn into concept arts. Thus, specifically selected ideas were developed later in the research process and were combined with one or more concept art examples. I then developed these concept art pieces into a storyboard (see appendices) and animatic in the list of videos.

Surrealist world scene

-Got onto the face, with her back facing the camera, holding the balloon.

-A few fan / one big fan appears in the background of the scene.

Close up of the flatted balloon

-> cuts to

(A close up of the fan shot)
- The fan turns on and back to the shot with the girl sitting on the face boat.
- After the fan turns on, dark air pollution starts to fade away.
- The face turns back to white colour and everything is back to a positive colour.

Then the girl does something? An action that shows positivity? Perhaps something related to the hairdryer shot? Turns out the big fan is a front angle of the hair dryer which someone was holding?

Then the girl does something? An action that shows positivity? Perhaps something related to the hairdryer shot? Turns out the big fan is a front angle of the hair dryer which someone was holding?

Then someone pulls out the plug from the wall and that's why all the air pollution stops??

End - in mirrors reflection, the earth person lifts head up (hand and sink shot) and condensation slowly disappears off the mirror and then reveal the earth with mask in reflection (emphasising dark childhood)-> Credit?

Then it ends with the girl back to happy childhood? and the hair dryer shot is reversed or somehow it shows the hair dryer person is back to positivity.

New shots

Have the same table, with symmetrical square gaps and fill them with water? And just have the camera pan across and also have a birds eye view shot

Symmetrical flat pattern with squares, inside each square is all chimneys and each of them release smoke? The background is a smoke video running through?

Looking down at a chimney pipe from above the sky as birdseye view. Smoke is emitting from it and it pans down into the chimney and then camera passes into smoke and

then out into the nature again? (Could be the ending?)

Looking down at a chimney pipe from above the sky as birdseye view. Smoke is emitting from it and it pans down into the chimney and then camera passes into smoke and

then out into the nature again? (Could be the ending?)

Or

Revealing the girl sitting down, in a scared position inside the cup.

The camera pans out from a group of smoke, inside the chimney and then the camera looks like it's looking down at the chimney from the sky, we can see few chimney is floating on water, along with the masks and the chimney is seen as the mask's nose (one chimney in one nostrils or eyes)? (Surrealism)

Figure 17. *Narrative Ideas* (Peggy Li, 2019).

An animatic is a sequence that is created using storyboard images that are animated using motion and sound, "to illustrate how a sequence will flow in motion".[42] In the list of videos I have attached a link to my animatic called *Surreal Air – Animatic*. The purpose of using an animatic in the preproduction stage of my research was to provide details of each shot, which was necessary if the shots comprised animation and visual effects, as this provides the artist with a better sense of the film when animating and creating VFX. It also provides a plan for the timing of each shots. As I was particularly drawn to the visual and abstract approaches of my research. Accordingly, I decided to express subconscious memories and ideas for this project in a more poetic manner. This project reflects the surreal expression of my memories. I discovered that these memories could easily be expressed in the form of sensations. Throughout the research process, I realised that I needed to use strong visual methods in my approach to autoethnography, as this would allow me to successfully emphasise my personal experiences through my film by using surrealist aesthetics as a central theme and style. Deitering states that

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[42] Brent Dunham, "What is an Animatic? Bring Your Storyboard to Life," Studiobinder, July 19, 2019, https://www.studiobinder.com/blog/what-is-an-animatic-definition/.

"To do our work we [researchers] need to understand and think critically about research, and sometimes that means thinking creatively about doing research differently".[43] Accordingly, I carefully considered how to approach my research methods, and realised that this had to be executed creatively and deliberately. Since I set myself as the research subject, the research became significantly more meaningful to me, something that is reflected in the fact that I hope to make an impact on audience perspectives regarding the current global air pollution problem. That is, my research aims to serve as a message that I wish to pass on through surrealist expression. Accordingly, I used myself as an expression of the surreal by effecting practice-based research with an autoethnographic approach.

The values inherent in this research arose from personal experience of an unpleasant aspect of my childhood in my home country, China. As a result, I developed a fear of returning to China, based on sensations of suffocation. I describe these sensations as not being able to breathe, particularly in places without air conditioning or air purifiers during summer. This fear faded as I grew older, but the unpleasant sensations remain as a traumatising effect in my memories. I eventually realised that these feelings were related to pollution; furthermore, I came to understand that if the pollution issue was not addressed, people would become ill and possibly die as a result. My values include raising awareness of the air pollution issue and informing others to minimise the harm caused to the environment. Expressing my personal experience using a surrealist aesthetic is a significant part of this research; however, I must clarify that I employed surrealist expression to emphasise the message of air pollution to an audience. For example, for the first few weeks of the production phase I have produced concept arts from inspirations and personal memories. My primary supervisor advised me to continue creating concept art and to add these to a timeline in the software editing program, Premiere Pro, which

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[43] Deitering, Stoddart, and Schroeder, 3.

would enable me to observe the storyline coming together and emerging as a whole. My supervisor also commented that the characteristics of surrealism do not necessarily need to make sense or be rational to an audience, as it is an expression derived from the subconscious mind. "The surrealist [seeks] to unite art and method in such a way as to make both the creative process and the resultant object remedial and enlightening. [These artists] to express the subconscious order of things, to delineate the point of intersection of the planes of the conscious and the unconscious".[44] This approach can, admittedly, give rise to conflict, since the expression in question is one made by the surrealist themselves, and if the viewer observing the work has not had a similar experience, they may not understand the message (in this instance, feelings of being trapped in an air-polluted environment). Nonetheless, I aim to affect audiences using my personal experience in the process of self-reflection through autoethnography. During the autoethnography research process, I developed a better understanding of incorporating a reflective nature, which allowed me to understand conscious and subconscious feelings from recalled memories. For example, practical methods such as constantly generating concept art allowed me to express my experiences and feelings in a physical form. These drawings were simple but had an aesthetic nature that adapted well to a surrealist style. I also researched images on Pinterest, which inspired me to further develop my conceptual art into signifying stronger surrealist aesthetics.

I adopted action research as an additional methodology as it guided the practical aspects of my research; that is, it contributed to producing the short film that served as a form of self-exploration of my practice. According to Gjoko Muratovski's, "Ultimately, the purpose of [action] research is to help you to improve your…practice and by doing so to set new standards in the

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[44] Sellin, 167.

field".[45] Action research encourages designers to keep refining their work during the evaluation process until they are satisfied in the sense of solving the problems, dilemma or ambiguity in their practical work. The process of being practically experimental allowed me to seek out new techniques and to adopt a surrealist aesthetic to emphasise the theme of air pollution in my film. Practice-based research within the field of digital design can guide and enable the designer to gain new knowledge based on the practice itself, and from the outcome of said practice. Importantly, an understanding of the research at hand can be expressed straightforwardly through the artefact itself, in this instance, my short film project. This additional methodology has helped me to further develop my film project to a higher standard through refinement stages and by gathering feedback from professionals in the field such as my supervisors, both of whom are experienced digital design lecturers. The action research methodology is also strongly linked to my approach of techniques adopted for this research. This included adopting experimental methods to further enhance the creative nature of my project, and adapting technical approach on the project to reflect an authentic surrealist aesthetic. In doing so, I was able to develop additional strategies linked to the design aspect, which helped me improve my ability to address problems when they arose during the research process. As a result, I was able develop more advanced design strategies in a variety of situations, e.g. when experiencing problems such as technical issues during the post-production stage of the filmmaking process. "The most important thing to remember…is that action research should be based around a problem, dilemma, or ambiguity from the situation in which practitioners may find themselves".[46] As noted here by Muratovski, action research should be used appropriately in situations when practitioners experience problems during the research process that require solving, which can be done by establishing a feedback loop within the action research model itself. Figure 18

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[45] Gjoko Muratovski, Research for Designers: A Guide to Methods and Practice (London: Sage Publications, 2016), 194.

[46] Muratovski, *Research for Designers*, 193.

represents action research in a diagram taken from Muratovski's *'Research for Designers'*[47] book. The process begins with a small number of important steps that reoccur in a cycle and comprises a plan, action, monitoring, and evaluation. The only difference between these four aspects within the cycles is that the plan is labelled as an initial plan at the outset, and subsequently transitions to a revised plan. The purpose of applying these cycles is to address problems when they first arise. To do so, the practitioner will have to eventually refine the first step of the cycle (the planning step). Since refining or changing the plan may lead to a different research outcome, researchers must apply careful consideration of their techniques and solutions when refining their research plan before the next cycle of action research. For example, in digital design situations, technical issues are often experienced in software programs, e.g. image noise in the 3D rendering process. This noise represents variables that process quality evaluation in the field of computer-generated imagery (CGI). The lack of lighting in a scene can cause noise to occur during or after the rendering process. Noise caused by a lack of light can also cause the rendering engine to produce image distortions, which will affect the image is perceived (blurry or grainy). Other uncommon factors that can cause noise may also depend on the specific computer component used to render the image. For example, Arnold renderer uses a central processing unit (CPU) to render on a computer, while Redshift renderer uses a graphics processing unit (GPU). To solve the issue of noise in rendering for *Surreal Air* scenes in Maya, the settings of the rendering software must be adjusted and the lights repositioned into a 3D scene before repeating the action research cycle. In other words, action research often occurs in all parts of the research, but researchers experience the act of action research separately in different parts of the refining process. Accordingly, it serves as a repetitive loop technique of the iteration process within action research.

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[47] Muratovski, *Research for Designers*, 194.

The process of applied research (Figure 18) is reflected in Muratovski's *Research for Designers: a guide to methods and practice*, which visually illustrates how action research works. The practitioner starts with an initial plan, acts on it, monitors it, then evaluates the process; the cycle then repeats, akin to a loop, which the diagram in Figure 18 illustrates as a feedback loop. As a designer and filmmaker, I started with an initial design plan as my pre-production stage, comprising concept art, storyboards, and animatic. Later, in the post-production stage, I created the scenes which were planned using the storyboards and animatic from pre-production stages. During the process of creating the film, I monitored the production stages by observing the work in process and evaluated it. During the process, I did encounter practical or technical issues, which I then seek feedback from my supervisors, who suggested solutions for problem-solving. Once I received this feedback, I would revise my work plan using new solutions and then execute the newly discovered or suggested method. I did not always require the technical help of my supervisors, however; in some instances, where technical issues were considered minor, I conducted online research to find solutions. I tended to seek advice more often from supervisors during the pre-production stage of this project, e.g. when creating concept art; this was because I required experts to professionally evaluate the design of my chosen film aesthetic. Overall, action research increased my work efficiency during the content-creation process and helped me to further evaluate the research activities from different perspectives; this was achieved by using feedback and by determining whether a method was efficient for application to practical processes during the post-production stage.

This image has been removed by the author due to copyright reasons.

Figure 18. The process of applied research (Muratovski, 2016).

Methods

The methods I adopted for this research primarily involved using digital tools because my work would be presented on a digital screen. Practical methods included created concept art, drawings, storyboarding, and animatic developed from subconscious ideas. However, I also employed other methods such as a contextual review to help me expand my knowledge of the digital design field and other related topics such as surrealist aesthetics and methodologies. Alongside the contextual review, pre-production drawings and sketches and prototyping/tests were included, as well as self-exploration using, e.g. concept art as shown in Figures 3 and 11. Additionally, the testing of 3D simulation effects (see Figure 19), as well as mind-mapping in the appendices and mood board (Figure 20) were also included. A production schedule (see appendices) has also been created for this research to guide me through the deadlines and to estimate the appropriate amount of time that I should spend on each different task. The primary software I experimented with and used to animate 3D objects and effects included 3D animation software such as Autodesk Maya and Sidefx Houdini. Motion capture was also employed, using a workflow process that started with mocap data cleaning software Cortex and subsequently, Maya as well as MotionBuilder. Following these processes, all these rendered scenes were composited together in Adobe After Effects and Premiere Pro along with music and sound effects. These methods are often followed by a production pipeline which is a number of procedures illustrated in a diagram that shows the tasks and techniques performed in a series of programs (see Figure 21). The workflow in 3D software often starts with modelling before moving on to animation/simulation and texturing, to rendering in the final stages of the post-production phase. To illustrate the approach of practice-based research, I applied an autoethnographic approach inspired by my personal feelings and experience of air pollution as shown in Figure 10. In this example of concept art, I used a black and white palette with digital painting to express the mood of being trapped in an air-polluted environment. I believe the

concept art I generated to have been effective in terms of my capacity for designing shots and effects for my film during the production stage. A contextual review served as another important method that encouraged me to expand my theoretical knowledge for this research and helped me to locate specific contexts situated around my project. Numerous film and text annotations are also included in this research, and these often include aspects of surrealism, editing style, air pollution, symmetrical framing, and methodologies, among others. The contextual review aimed to situate the reviewed contexts within my research, thereby providing me with an in-depth understanding of these concepts within each relevant context. Above all, I applied the adopted research methods by practically applying them to my research materials, imagination, memories, and subconscious thoughts.
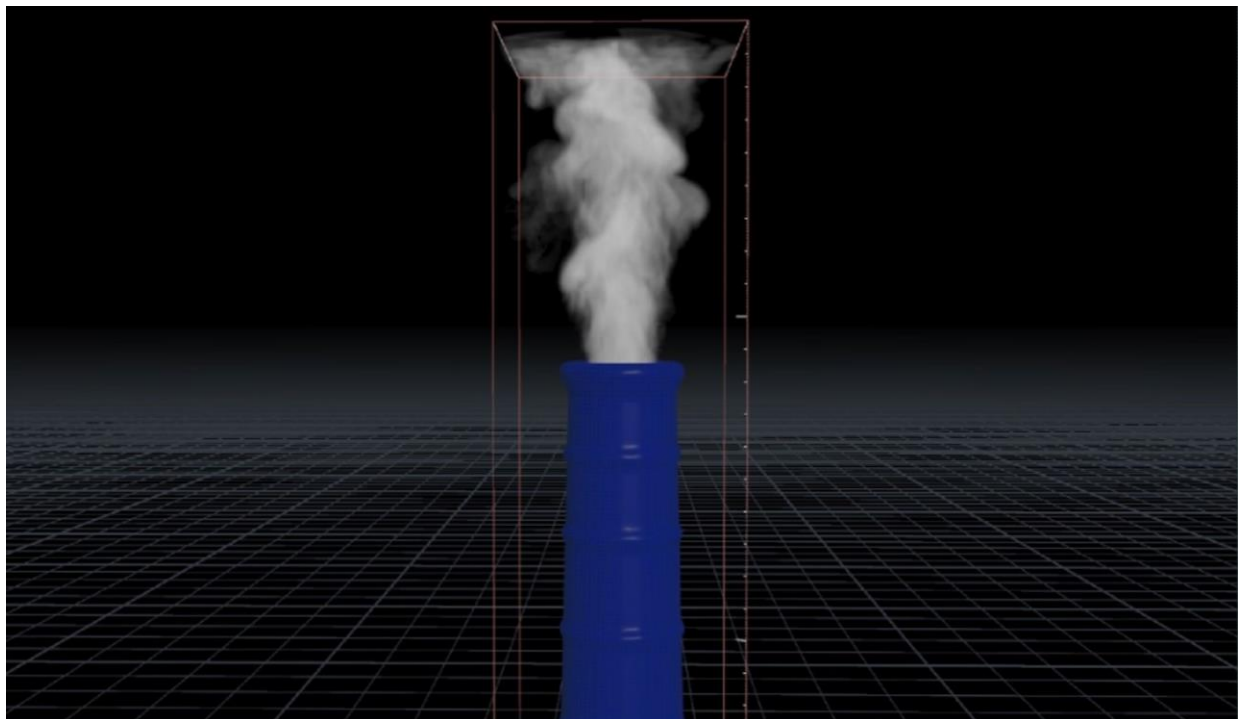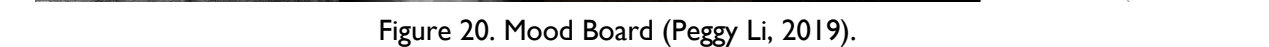

Figure 19. Chimney smoke simulation test (Peggy Li, 2020, screenshot from Houdini).

Figure 20. Mood Board (Peggy Li, 2019).

Figure 21. Surreal Air project pipeline (Peggy Li, 2020).

Visual style

My film employed two different renderers in Maya to immerse the audience in a visual style with a graphic aesthetic, using a monochromatic colour scheme and black outlines surrounding the rendered objects in the shot. The black outlines of the 3D objects were rendered with an Arnold toon shader in Maya using Arnold renderer. According to Arnold's official website, the shader is a non-photorealistic 3D rendering technique that is combined with a contour filter in Maya's render settings. For my project in particular, a black outline is part of the film's aesthetics. To achieve this, a contour filter must be enabled. For example, Figure 15.3 represents a test render of a surreal world scene created using two renderers and incorporates a scene with a low polygon-style child rig. This style was achieved using Arnold (v5.2.2.0) renderer for the 3D scenes and Redshift (v3.0.17) renderer to create the smoke effects, which was created and simulated in the Houdini 3D simulation software. The smoke was cached as RBD volume files and imported into Maya as Redshift volume material. Once the smoke volume had been imported into the scene and assigned to a Redshift standard material, it could be edited in the Hypershade (central working area of rendering) and rendered as part of the scene. My concept art style inspired the aesthetic of this cartoon-like appearance as I drew the storyboard images primarily using a black outline while painting other parts in either grey or white using iPad's digital drawing application software (Procreate). However, vibrant colours like blue and red were used sparingly throughout the film because not every scene had to include them. For example, pale blue was primarily used as the colour of the sky in some shots and red as the colour of the balloon. I believe the red served as a conventional colour for a child's balloon, thus reflecting childhood and happiness. By applying this colour, I was able to emphasise my childhood experience by characterising the balloon as one of the symbols to reflect childhood. The blue colour of the sky signifies that there is still hope to solve the issue of air pollution. The representation of the red balloon and brighter colours emphasises hope and a positive side.

Everything else is dark and trapped by the smoke, which is what I aimed to portray to the viewer. Using two renderers at the same time, however, increased my film's rendering time, as I needed to render frames separately in both renderers for the same scene. Fortunately, Redshift renderer uses a computer's GPU to generate computer imagery digitally, enabling it to render frames twice as fast as the Arnold CPU renderer, which requires two to five minutes to render one frame, depending on the size of the scene. This valuable experience enabled me to experiment with a new technique using two renderers at the same time, an unpopular choice for artists because of the long render time required. Regardless, experimenting with a new combination of techniques helped me to create the unique overall of my film.
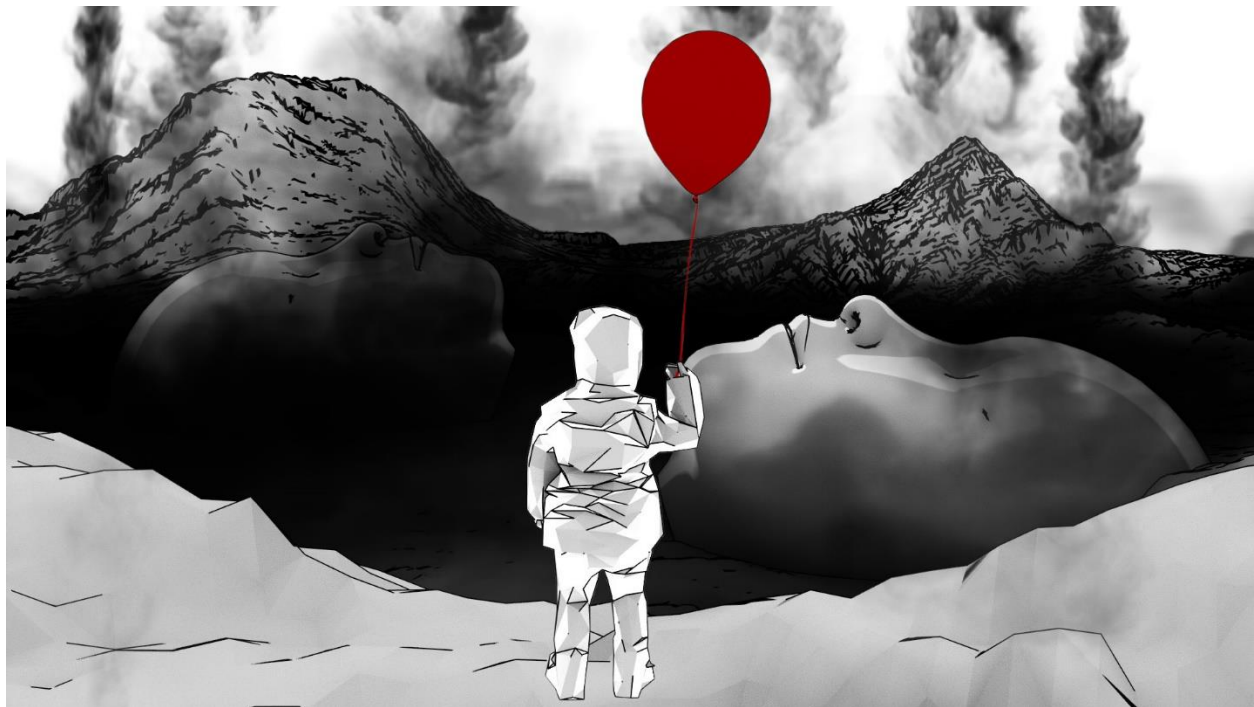

Figure 15.3. "Surreal world" scene (Peggy Li, 2020, test rendered in Maya).

4. DOCUMENTATION OF PROCESS AND TECHNIQUES

Basic workflow

In the pre-production stage of my project, concept art initially served as a starting tool for creating imagery from my subconscious mind. These images were then used to collage together ideas related to my experience, creating a surrealist piece through the incorporation of juxtapositions. I also gathered numerous images from Pinterest in advance and formulated them into a mood board to help me set the fundamental aesthetic of my film. During an earlier stage of pre-production, I generated concept art within which symbols began to take shape, the purpose of which was to signify my experiences through visual practice using a surrealist aesthetic. In this way, I could convey and express my experiences more straightforwardly to an audience in the most authentic way possible. To create the concept art, I used Procreate, a drawing application that functions similarly to Adobe Photoshop on an Apple iPad, which allowed me to alter the sketch and image layers, add different effects, and tone colours. Procreate provides several different brush styles and paint to choose from, which allowed me to achieve the style and I wished to express through my concept art. Concept art is considered a pre-production stage of creating a film and, as such, it does not need to be perfect, as it can be manipulated later in the production stage of modelling and animating. An animatic, however, is an essential step in the process of creating an animated film, since the shots comprise animations and VFX. Having an animatic on hand can help guide the visual effects artist/animator during post-production as a form of reference, save time when animating shots and can help to avoid unnecessary mistakes. Once the animatic had been completed satisfactorily and, combined with feedback received from my supervisors, I started the production stage of *Surreal Air*.

I adopted an autoethnographic research approach to conduct research based on self-reflection. People primarily conduct such research using writing methods as a means to explore personal

and anecdotal experiences. In 'Easier Said than Done: Writing an Autoethnography' article by Sarah Wall, as an autoethnographer herself, she writes about international adoption and she once stated that "Given the relative newness of the genre, a few other autoethnographers have also written writing stories about their experiences with autoethnography."[48] However, I decided to approach my research differently, using practical aspects alongside autoethnography and action research and adopting a practice-based approach. For this reason, many of my methods were practical; however, the contextual review section of this research was crucial for gaining a comprehensive understanding of topics related to my personal experience. I primarily used digital tools to create my project as I majored in digital design and am familiar with many of the different computer software packages used in this field. The pipeline for Surreal Air includes pre-production of concept art, storyboarding, animatic, which we can see in the Surreal Air project pipeline (see Figure 21). The production stage is considered the central production phase of a film which consists of 3D modelling, simulations, motion capturing, scene setup, animating, texturing, and finally rendering before the post-production stage. All of which were performed using the 3D programs such as Autodesk's Character generator, Maya, Motion Builder, MakeHuman, Houdini, and Cortex. The procedures can be referred to in Figure 21, which I created an animation pipeline for *Surreal Air* that shows the production processes from pre-production to post-production. The final phase of the pipeline is the pre-preproduction stage where all rendered elements are composited together in a VFX compositing software called After Effects that creates the layering of the digital animation and effects. Furthermore, the compositions are exported as sequences into Premiere Pro (video editing software), where the sequences are implemented music and sound effects. In my research, simulation and animation were two of the most challenging aspects of my project, as I conducted numerous tests to

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[48] Sarah Wall, "Easier Said than Done: Writing an Autoethnography," *International Journal of Qualitative Methods* 7, no. 1 (2008): 40, https://journals.sagepub.com/doi/pdf/10.1177/160940690800700103.

produce smoke effects in Houdini to achieve the best possible visualisation to represent my personal experience. The smoke simulations for this project required countless refinements to achieve the best results for conveying a surrealist aesthetic. Another time-consuming task was performing nCloth (dynamic cloth solution); this was because Maya did not always visualise nCloth dynamics in the way I wanted it to. I worked on the dynamic settings in the nucleus of the assigned nCloth material within Maya to achieve the best dynamic look for my project. Once I understood the workflow and was able to solve specific issues that arose, I could create the same type of nCloth simulations in other scenes without experiencing the same issues. Among the film's primary scenes that employ nCloth simulation intensively is the "hand and balloon" scene in Figure 15.4.

nCloth simulations

The process of generating the two primary simulations I created for my project, i.e. smoke and nCloth, required significant patience for achieving the desired outcome. In Maya, nCloth is a dynamic cloth solution that uses a system of particles to create simulations on polygon surfaces. Although nCloth can be simulated in Maya fairly quickly, I encountered problems when the history of the mesh was not cleaned correctly in Maya. However, I realised this problem later on in the production phase and solved it through selecting 'delete by type in history' option in the edit tab within Maya. Other unsuccessful attempts occur when the constraints between two mesh vertices are not properly connected. For example, for the "hand and balloon" scene (see Figure 15.4), I had to set the hand and balloon, which were created as two passive colliders in a 3D space in Maya, and then have them interact with a nCloth ribbon. However, setting two nCloth materials at the same time can create difficulties because it increases strain on the software and significantly slows down computer performance, causing prolonged playback of

the simulation, and in some instances can even crash the software. In this context, action research can be used to overcome this issue. In my case, this took the form of seeking advice and feedback from my supervisors to discuss possible solutions. My supervisors provided me with alternative options for overcoming nCloth issues. Option one was to animate the balloon separately using only gravity and wind abilities in Maya to affect the simulation of the nCloth, then work on the ribbon and hand at a later stage. The second option was to focus on animating the balloon as a passive collider; in this way, the ribbon could follow the animated path using an animatic as reference for creating animation. The first issue that occurred in this process was that when the balloon bounced off a surface, its string did not follow along. This caused the rupture of both nCloth materials upon proceeding towards a specific animation frame (see Figure 22). The working solution was to have only two passive collider materials and one nCloth material. In this way, three meshes could interact successfully without creating nCloth issues. Not setting the balloon object as an nCloth material in this shot was not problematic, as the "hand and balloon" (Figure 15.4) shot mainly captured the balloon being held across the screen by a hand in a long shot camera angle. The gravity and wind effects, however, were more difficult to control in the scene. As a result, I decided to use animation and nCloth purely to help me direct the scene.

During the directorial process, I performed action research and sought advice from my supervisors, creating an iterative feedback loop through which to derive methods for solving technical issues. I discussed the nCloth issue with my primary supervisor numerous times to test new solutions that could solve the issue. As the researcher, it was my responsibility to take my supervisor's suggestions and test them to discover the best solution for my particular problem. Using only dynamic settings like gravity and wind in Maya would have made it too difficult to control the scene. Accordingly, I decided to adopt the second option and experimented with using animation to direct the "hand and balloon" scene (Figure 15.4).

However, additional unanticipated technical issues can still occur when using 3D software
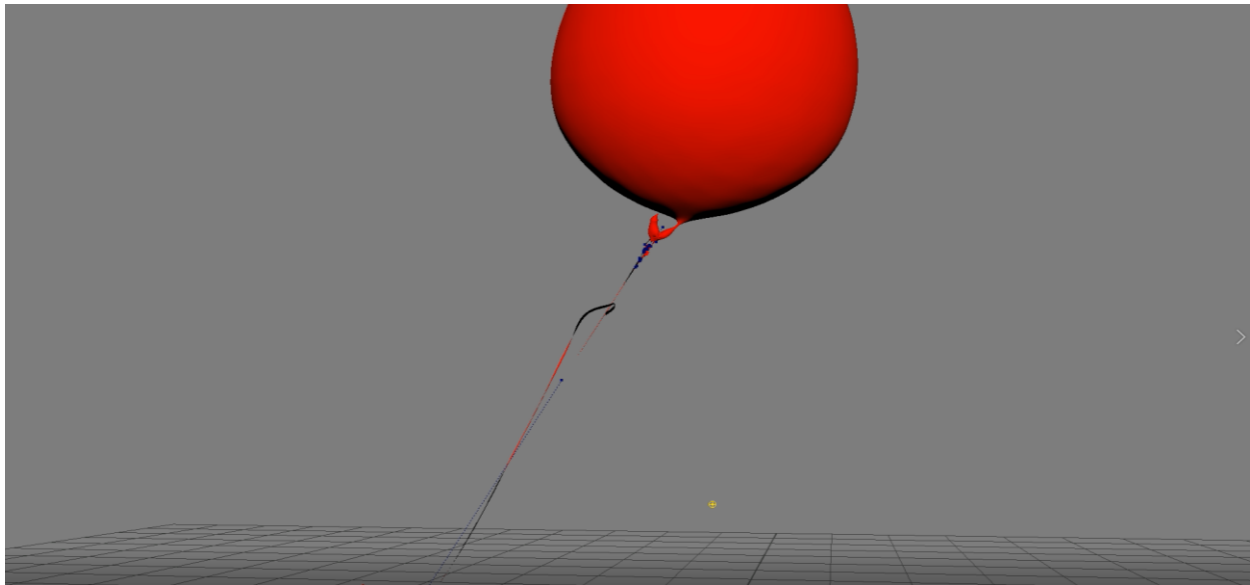programs.

Figure 22. Balloon nCloth test (Peggy Li, 2020, screenshot from Maya).

Smoke simulations

Throughout the production of my film, one of the most frequently used visual effects was smoke
simulations. These were simulated in the 3D software program Houdini, which delivered a faster
performance rate for simulating, cooking, and play-blasting simulation effects. The smoke effect
is used in several instances throughout the film to emphasise the theme of air pollution. It is
frequently used to portray the experience of being confined in an air-polluted environment, thus
enhancing the feeling of an oppressive atmosphere. The workflow process of smoke simulations
began by creating the simulation in Houdini. The smoke shape was altered by editing dynamic
settings such as speed, turbulence, disturbance, dissipation and many others. I used the
"billowy smoke" option under the Pyrofx tools in Houdini to create the upward flowing motion of
smoke. The cached files of the simulation had to be exported as an RBD file and imported into
Maya as a Redshift volume material. The visualisation settings for the smoke were controlled

using the "hypershade" tab in Maya. For particular smoke simulations such as the chimney smoke, I used the same simulation designed for similar scenes, which increased the time efficiency of my project. Examples of this include the "hand and balloon" scene (Figure 15.4) and the "city scene" (Figure 15.5). These scenes used the same smoke simulation, except in Figure 15.4, the smoke is being duplicated repetitively into each chimney to create the illusion of smoke emitting from the cityscape silhouette in the background. One of the problems I encountered when duplicating the smoke elements and positioning them at the top of each chimney (Figure 15.4) was that the smoke elements were simulated identically, which looked unnatural in the scene. My secondary supervisor, Hossein Najafi, suggested that I use an offset effect in the animation settings to offset the keyframes of each chimney's smoke to a random frame before effecting the simulation. After attempting the suggested solution, the smoke simulation pattern looked much more natural. For "Earth with a mask" in Figure 15.6, the hairdryer smoke was also created using similar billowy smoke; here, instead of being emitted by a chimney, it is produced by the hairdryer object. In this scene, the smoke had to wrap around the "Earth head". I performed action research in the form of again seeking advice from Hossein, who suggested a method for attracting the smoke to the surface of the Earth. He wrote down advice for me and demonstrated in Houdini an example of how to use the "attract fluid" effect within the container tool to refine the look of the scene. Once I had mastered this technique, I positioned the attractor behind the Earth (as had been demonstrated by my supervisor) and successfully attracted the smoke to the surface of the Earth. This fluid attractor function worked perfectly because Houdini treated the smoke as a fluid substance.

I created a different style of smoke simulation for various scenes including a scene with a lake (Figure 11), and 3D faces in smoke (Figure 15.7). The smoke in the lake simulation was initially refined from a lake filled with water (Figure 23), which served as an initial concept during the concept art and animatic phases. During earlier stages of the supervision meetings, while

completing my animatic, both of my supervisors suggested that I use smoke to fill the lake rather than water, as doing so would better portray the feeling of air pollution. I acknowledged this feedback and made changes because I agreed that doing so would create better consistency among different shots and convey a sense of being trapped in an air-polluted environment, considering that the faces were embedded within the smoke. Following this change, it was also technically more comfortable for me to create smoke effects because I was focused on creating one element rather than many; additionally, I was familiar with smoke simulations from previous practice. Changing the water element into polluted air also imbued my film with a sense of uniqueness that would help to better convey the air pollution experience.
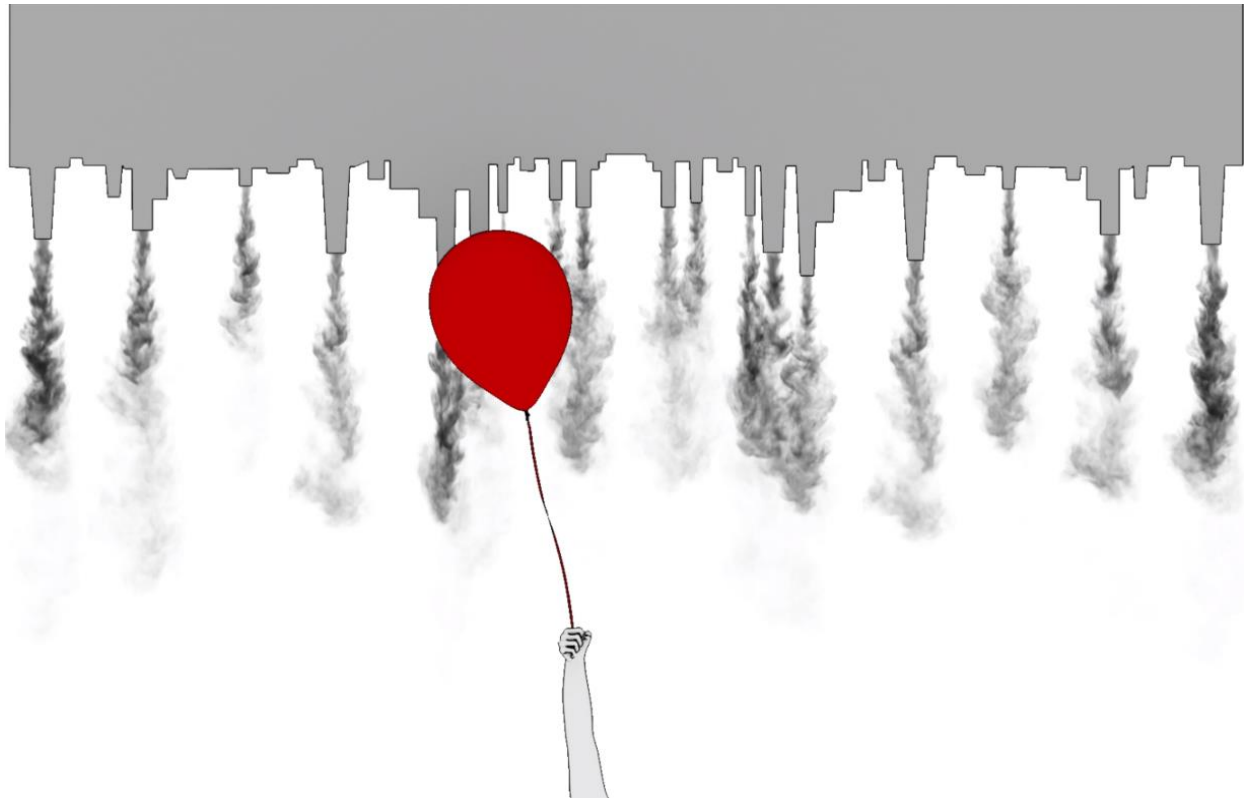

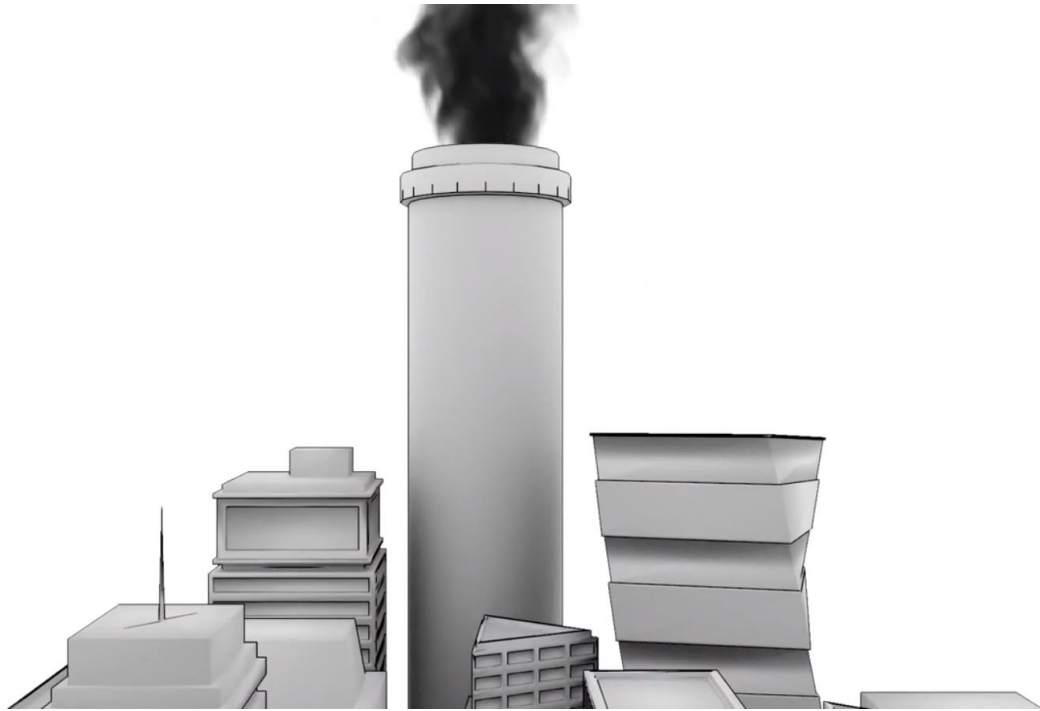Figure 15.4. "Hand and Balloon" scene (Peggy Li, 2020, test rendered in Maya).

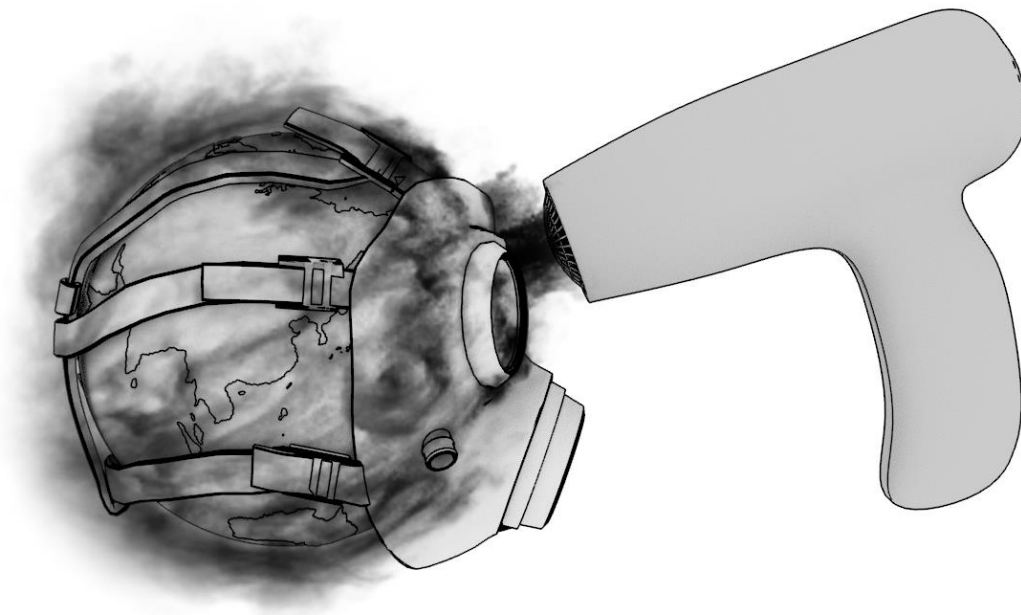Figure 15.5. "City" scene (Peggy Li, 2020, test rendered in Maya).

Figure 15.6. "Earth with a mask" scene (Peggy Li, 2020, test rendered in Maya).
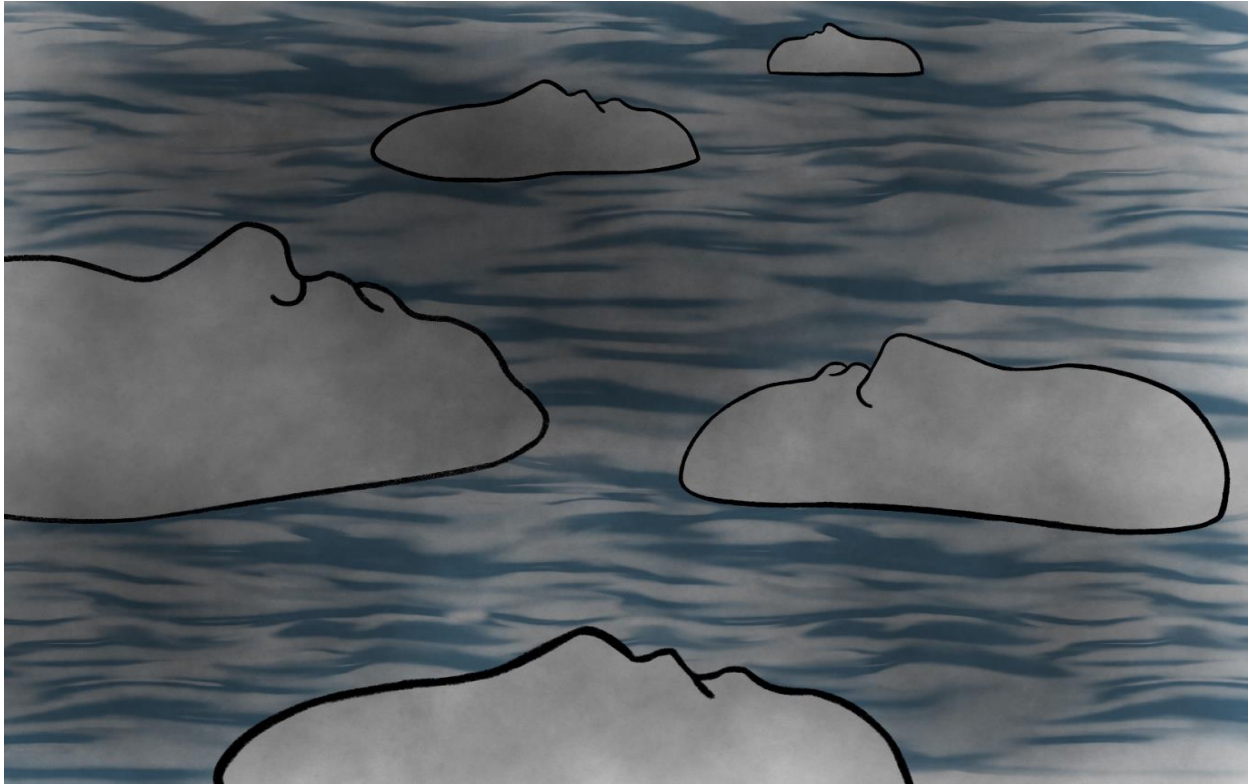
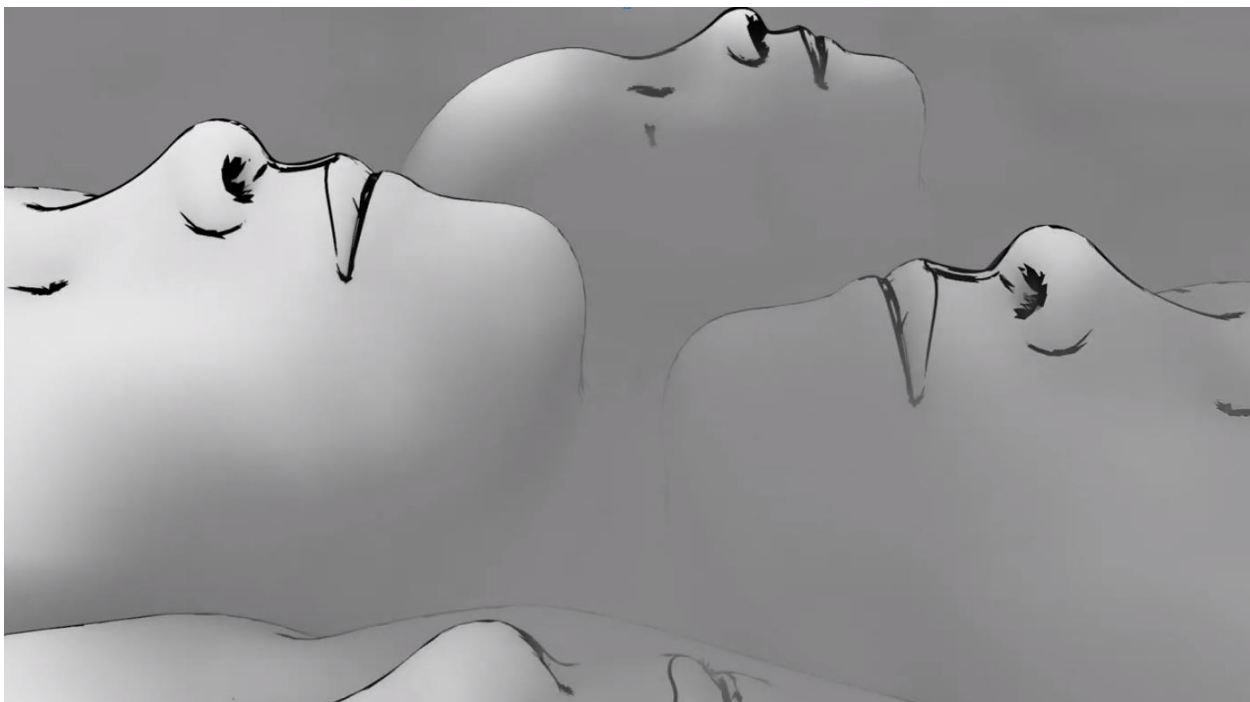Figure 23. *Faces on Water* (Peggy Li, 2019).

Figure 15.7. "3D faces in smoke" scene (Peggy Li, 2020, test rendered in Maya).

Motion capture

To effect mocap, I used AUT's mocap studio, located in the city campus's WG building. As recommended by my supervisor, Greg Bennett, I had previously created a mocap shot list that described all the detailed movements required for each shot (see Figure 26). Completion of the mocap session took approximately two-and-a-half hours. For this capture session, I asked one of my peers, Do-Yeon, to act out the scenes (see Figure 24). Auckland University of Technology's mocap technician, Lee Jackson, helped me to organise the capture session, while I focused on directing the performance of the actress wearing the mocap suit in the scenes. Mocap was effected for the "city in bowl", "hairdryer", "face in glass", "framing window" and "faces on water" scenes. The technician also helped me to export the mocap data from the mocap studio and to save them as TRB files, at which point they were ready to be imported into the mocap data cleaning program called Cortex (see Figure 25). Once the data clean was completed in Cortex, the data was exported to Motion Builder as TRC files. Autodesk's MotionBuilder is a 3D character animation software program designed specifically for mocap, traditional keyframe animation, and virtual cinematography. Each mocap scene was imported and assigned to an actor in the 3D space of the program. Loading a TRC file imports its optical motion data, and from the pattern of this data, the software creates a human shape in a T-pose. At this stage, I could reposition the actor into an accurate size and position them within the provided data markers. Once the actor was correctly positioned, I created a marker set and assigned the data points to each of the rig's body parts. Each individual marker had to be assigned to the correct bubble of body parts, otherwise the captured movements would not be accurately acted out in the 3D rigged model. Once the data assignation was completed within the marker sets, the animation could be mirrored to the required rig for the scene. Finally, I imported the rigged model into MotionBuilder and assigned the movements of the actor onto the rigged model, thereby mirroring their actions within the software.

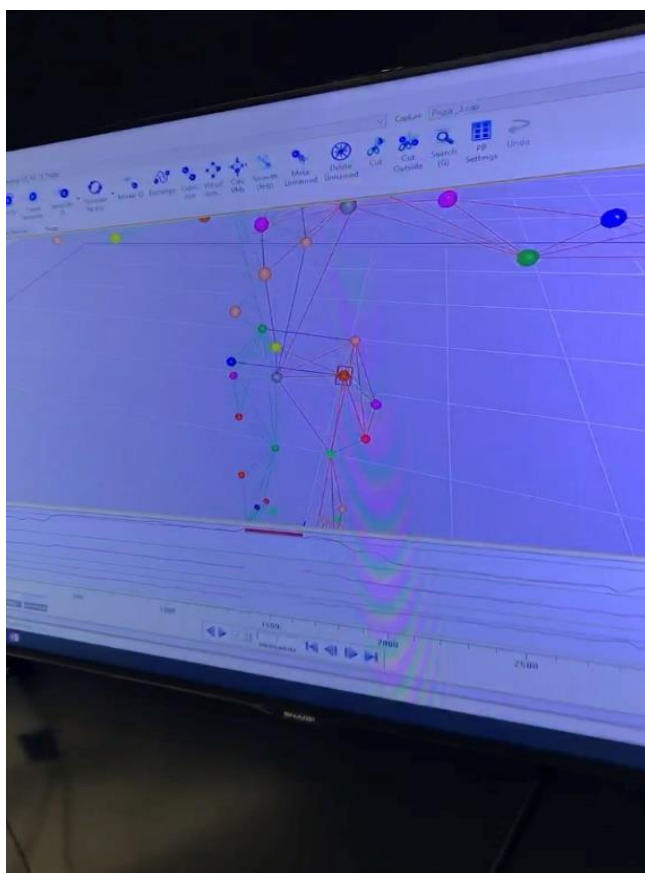Figure 24. Mocap session (Peggy Li, 2020).

Figure 25. Data cleaning in Cortex (Peggy Li, 2020).

Motion Capture Shot List

Production: Surrealist Aesthetics   **Director:** Peggy Li

NO.	Type of shot	Description	Scene
1	Medium shot	Sitting down on a chair, takes a big breath and makes a big sigh. Both hands grabbing and resting on the edge of the table, with very subtle natural head movements.	City in bowl
2	Medium shot	Sitting down on a chair with both arms laying on the table. As she waits, right hand's index finger taps 1, then left hand's 4 finger taps a few times. After 2 secs, she looks at the watch on her left wrist and back at the table.	City in bowl
2	Medium shot	She grabs knife with her right hand and a fork with her left hand off the table simultaneously, in a ready to eat position.	City in bowl
3	Medium shot	Body slowly lifts up, while kneeling down on her knee with her head down. The body is slightly hunched. Her head starts to lift up as the hairdryer is approaching in the shot.	Hairdryer
4	Long shot	Sitting on the ground, with knees up, both arms crossed and wrapping around her knee. Looking sad and terrified. Slightly shakes, then slowly starts to wrap herself tighter and tighter as time proceeds.	Face in Glass
5	Extreme long shot	Kneeling down with her foot flat on the ground. Both arms wrapping around herself, while left hand holding a balloon, and her chin rests on both of her crossed arms, looking sad.	Framing window
5	Extreme long shot	10 seconds passes by, she stands up from previous position and holds the balloon up and releases up the air. Head and eyes following the balloon as it flies away.	Framing window
5	Extreme long shot	After the balloon is out of sight, she then positions herself back to the previous kneeling position and stays still for 20 seconds. Again, looking sad and lost.	Framing window
6	Extreme long shot	Standing still for 15 seconds with her back facing the camera and meanwhile holding the string of the balloon in her right hand.	Faces on water
6	Extreme long shot	She sits still on the ground, holding the balloon in her right hand. After few secs, the balloon pops, she turns her head to look at the balloon on the right, she looks at it for a few seconds then turns slowly back to looking at the fan in front. (15secs)	Faces on water/Fan
7	Medium shot	Head slightly down, camera is pointing to the right side of her face and body. After a couple of secs, she rotates her head and body to the right in 45degrees. Head and body now faces the camera in a straight angle.	Mirror reflection

Figure 26. Motion capture shot list (Peggy Li, 2020).

The rig acts as a human skeleton represented in a 3D space and comprises a mesh that serves as the skin's surface. The skeleton comprises bones alongside the body parts. These parts are all interconnected by bones to create a skeleton or rig. For this project, I used both the Autodesk character generator and Makehuman to generate a suitable rig (Figure 27), which I then used for the appropriate mocap scenes such as "city in bowl" and "Earth with mask". The head of the Makehuman model was replaced with elements such as a chimney for the "Earth with mask" model to effect a sense of the surreal. However, the hand and arm part of the rig (which was generated using the character generator from Autodesk) for the "hand and balloon" scene was animated using the hand and arms of the rigged model. Using Makehuman rigs required creating character definitions in Maya's HumanIK (Figure 28) for the rig to work appropriately in MotionBuilder. After experimenting with the modelling and automatic rigging of both programs, I decided to purchase another rig from a 3D model market called CG trader, where I found low polygon style children's rigged model that I believed would work well with my project. The storyboard-constructed concept for the mocap characters was initially conceived with generic characters in mind. However, I wanted to use a more abstract 3D child model for my film, the purpose of which was to express my unpleasant childhood experience of air pollution using a surreal style. The low-poly 3D child model shown in Figure 29 did not have sharp or clearly defined physical features; this was ideal, as I wanted to keep the characters generic alongside an adaptation of childhood in my film. Subsequently, the assigned data within each rig for each scene were baked as animation into the 3D model and then exported to Maya and positioned in the designed scene, ready to be rendered. I believe using mocap have been a more effective method for this project in this instance because the movements of the character in the former were much more life-like compared to manually animating the characters in Maya, which can be time-consuming and unnecessary.

Figure 27. Makehuman rig (Peggy Li, 2020, screenshot from MakeHuman).   Figure 28. HumanIK function (Peggy Li, 2020, screenshot from Maya).
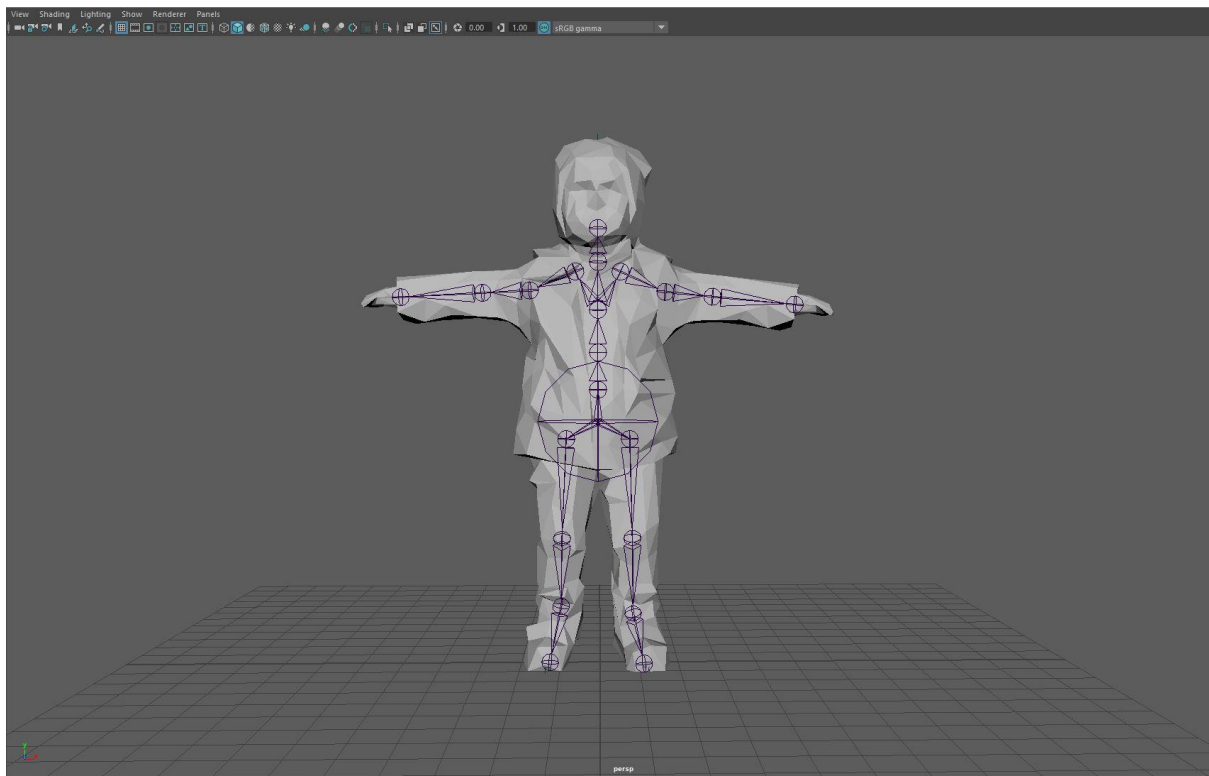

Figure 29. Low-poly child model (Peggy Li, 2020, screenshot from Maya).

The iterative cycle approach

Action research was applied whenever a new problem arose in different areas of this research. When this happened, I first conducted online research to find solutions; for example, I consulted YouTube tutorials and forums to find solutions before asking my supervisors for help. Doing this helped me to be more independent as a researcher and taught me new problem-solving abilities. Furthermore, I critically reflected on my project by accepting the evaluations of my supervisors and peers to further improve my work and my digital design practice overall. Furthermore, a fellow student, Do-Yeon Kim, who is also a master's student, and Lee Jackson, who is a mocap technician at AUT, provided me with feedback about the motion-capture actions. This feedback helped me to improve and better demonstrate my feelings by refining and adding minor movements to the mocap scenes. The first planned movements for the "City in bowl" scene involved directing the actress sitting down, with both hands on a table and her eyes focused on a bowl. Do-Yeon subsequently suggested I add additional subtle motions to make the scene more interesting, such as an action indicating that the character was reading themselves to eat. This involved moving both arms up into the air and the actor's hands holding a knife and fork, respectively, this action was mirrored from the green screen tests during the early stage of the project. As we can see after combining live-action and 3D animation as shown in the edited green screen test footage in Figure 32, I gathered feedback from both supervisors for this test and they critiqued on the unbalanced aesthetic feel for the edited composition. Therefore, using green screen as a technique for *Surreal Air* did not work out as expected during the earlier stage of testing because of the unbalanced aesthetics for the "City in Bowl" scene. However, my supervisors, Greg and Hossein, suggested that I use full 3D animation, by using the technique of mocap to carry the actress's performance instead of using live-action to be combined with 3D animation. I filmed a variety of footage for the "City in bowl" and "hairdryer" shots and then edited the "City in bowl" shot in a VFX and compositing program called After

Effects, which is capable of keying out a green screen easily using the Keylight 1.2 tool and selecting the best colour point of the green screen. To remove unnecessary areas of footage, I attempted using the Roto Brush in After Effects to mask out the table and replacing it with a 3D table instead. However, following completion of the composited test footage (link in the list of videos or Figure 32) in After Effects, both of my supervisors suggested that it lacked consistency for creating a balanced aesthetic. They suggested I use the mocap technique instead to address restoring this balance. Furthermore, mocap provides the potential for accessing a variety of rigs and using them in scenes to convey the directed motions, compared to using live-action footage. Considering that I had not previously used mocap techniques in previous projects, I decided to experiment by taking mocap footage and rendering it using the Arnold toon shader, which gave it a more graphic look. Figure 30 shows the initial surreal-inspired concept art of a person represented with a chimney where their head should be. Figures 30, 31, 32, and 33 illustrate the connection between these images and the process of iteration changes while portraying the process of iterations from feedbacks to refining the methods from the first concept to green screen technique, then the shift to full 3D animation with mocap.
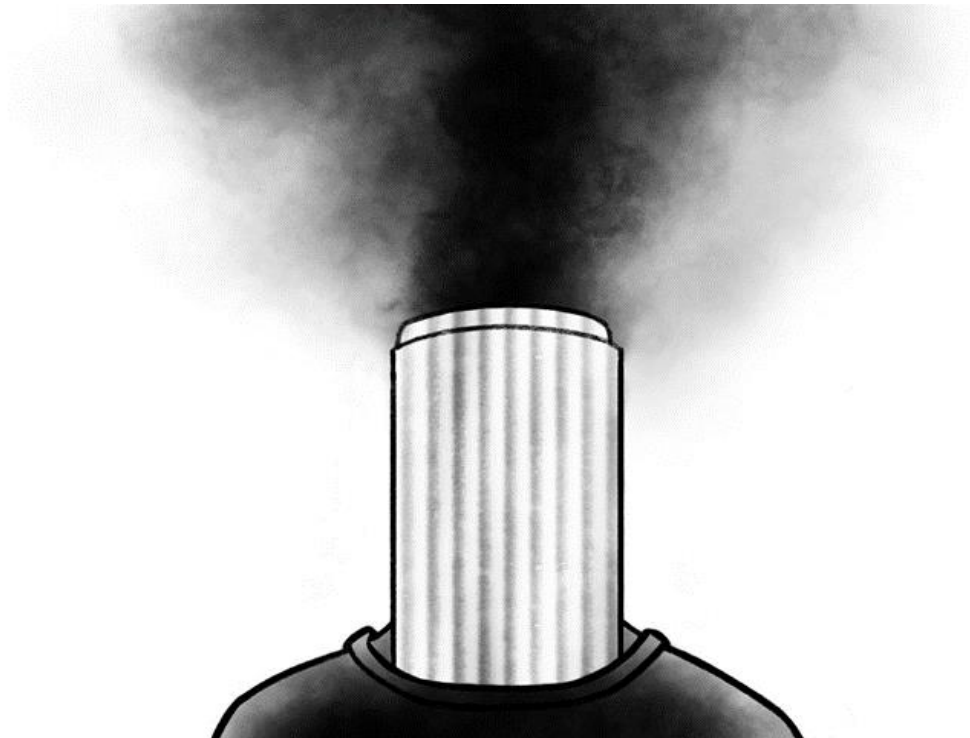
Figure 30. *Chimney Head* (Peggy Li, 2019).

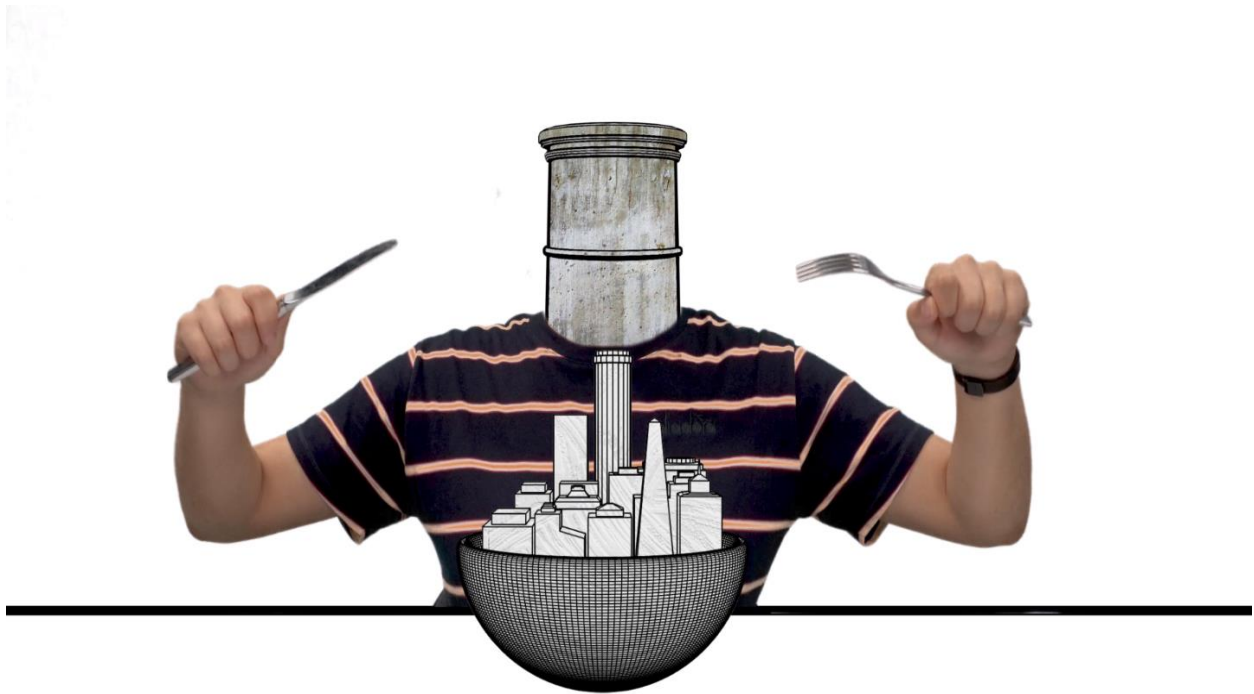Figure 31. "City in bowl" green screen footage (Peggy Li, 2020).

Figure 32. "City in bowl" edited test footage (Peggy Li, 2020).

Figure 33. "City in Bowl" (Peggy Li, 2020, test rendered in Maya).

5. CONCLUSION

In conclusion, this project aimed to increase awareness of the issue of air pollution by converting my personal experiences into a visual expression of feelings. I aimed to inspire in those who viewed my film the experience of feeling trapped in an air-polluted environment and as a result gain an increased understanding of this environmental issue. I employed film as a tool and medium to express my personal experiences within visual and narrative forms. By using mocap techniques and digital simulation effects, I was able to achieve what I set out to do during the pre-production phases. Iteration cycles were performed numerous times during the course of completing this project to improve the quality of my film. Feedback gained from iterative cycles also provided me with the means to effect improvements. This was realised by alternating between the use of different techniques; for example, the initial aim of using live-action, then changing to using mocap techniques, and creating full 3D animation to present my surrealist aesthetic. A contextual review method also provided me with comprehensive knowledge regarding the selected contexts and contents. These different understandings helped me to establish the fundamental base of my research and assisted me in the overall designing of the literature and technical aspects of my research.

The principles of autoethnography within practice-based and action research was applied during both pre-production and post-production phases. These approaches to research helped me to critically reflect and refine my work following supervision meetings, and to apply the feedback of supervisors and fellow students. These iteration cycles were important regarding the decision of switching from using mocap instead of live-action footage. Furthermore, smoke and nCloth simulations were required during iteration cycles. Based on the feedback I received, the approach for creating 3D simulations was to create as many simulation tests possible to achieve the desired performance of the simulation effects.

The technical aspects of my project drove the research and encouraged me to accept criticism and changes based on these iteration processes, which increased my decision-making and independence while conducting the research. Reflecting on feedback and advice enabled me to improve my work to a higher standard by making refinements to it during the film production process. This process also included constructing a poetic approach to the narrative using a mind-map, mood board, concept art, and an animatic in the pre-production stage.

While conducting this research, I experienced challenges I had never previously dealt with. The entire experience as a whole was new to me, as my previous projects primarily focused on working with live-action and VFX. Even though this project comprised a significant amount of VFX, particularly smoke and nCloth simulations, it allowed me to experiment with mocap and VFX by combining both into a full 3D animation film. As a visual effects artist, I enjoyed experimenting with new techniques and challenges. I was subsequently able to achieve my goals and improve my skills in the area of digital design, while also increasing my problem-solving abilities.

This research project expanded my knowledge on the topic of directing simulation effects and helped me to learn how to use mocap techniques in a 3D film. Importantly, I was able to successfully express my personal experience of air pollution using a surrealist aesthetic. This was developed through experimentation and by applying concept art purely to construct an animatic into a poetic narrative film, thus using 3D space to create a 2D style. The most important aspect of this research was to express my experience in a 3D animation as a means to raise awareness of the issue of air pollution, in this way making an impact on audience perspectives regarding this global environmental problem.

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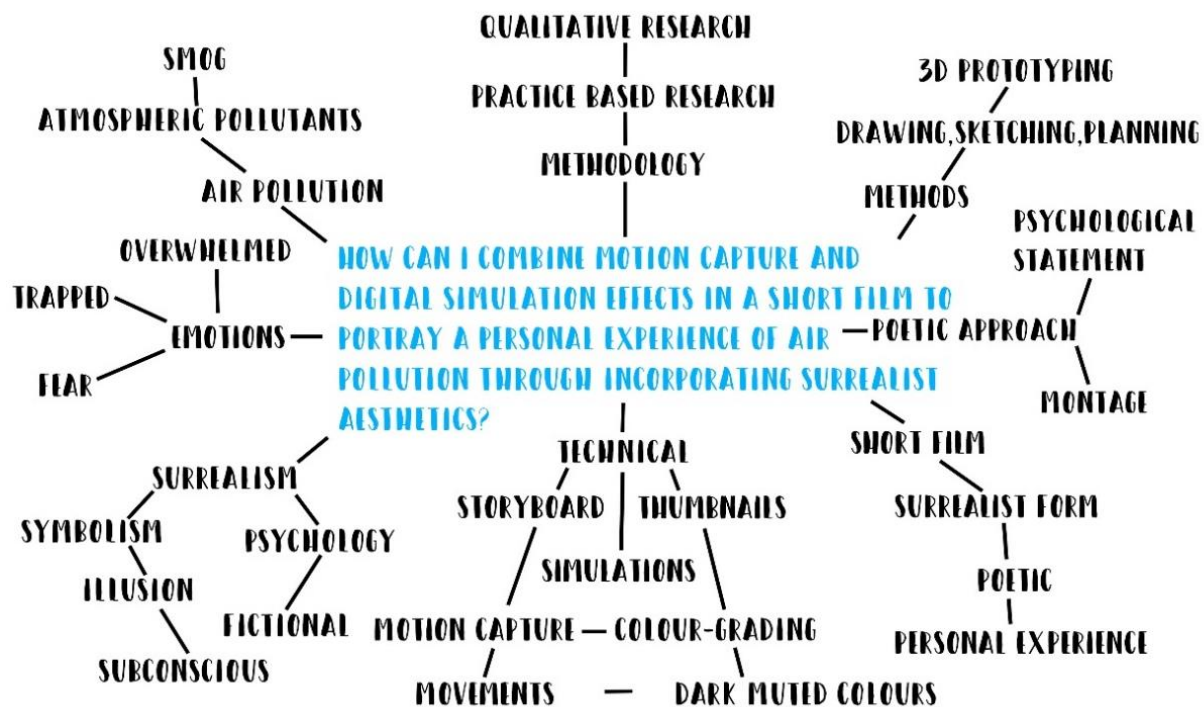Wall, Sarah. "Easier Said than Done: Writing an Autoethnography." *International Journal of Qualitative Methods* 7, no. 1 (2008): 40. https://journals.sagepub.com/doi/pdf/10.1177/160940690800700103.

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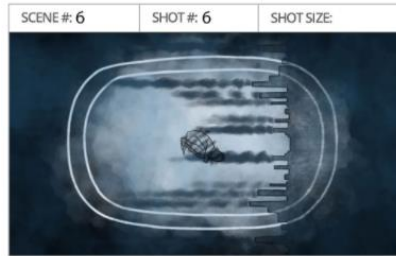
APPENDICES

Appendix 1: Production schedule

Appendix 2: Mind map

Appendix 3: Storyboard

| SCENE #: 6	SHOT #: 6	SHOT SIZE:

The shot begins morphing into the next shot and camera pans 90 degrees clockwise. Trails of black smoke appears and wraps around her entire body.

| SCENE #: 7	SHOT #: 7	SHOT SIZE:

She continues kneeling down with feet flat on the ground. Both arms wrapping around herself. Transitions to a dream-like background, with blue trails of smoke.
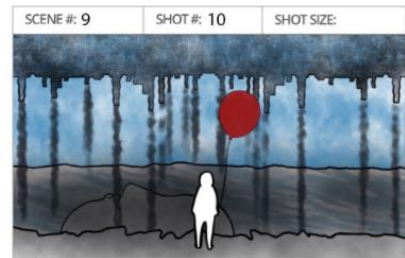
SCENE #: 8	SHOT #: 8	SHOT SIZE:
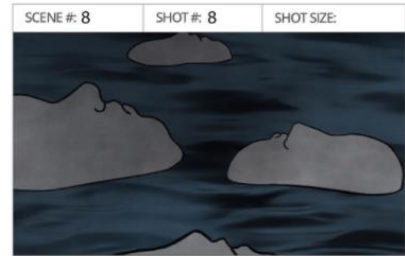
Camera pans into the person and breaks into the next shot with a shattered sound.

SCENE #: 8	SHOT #: 9	SHOT SIZE:
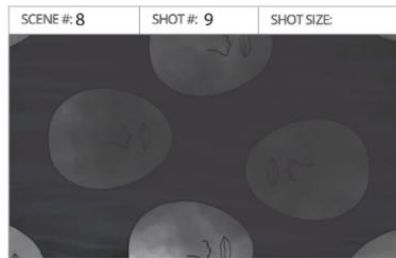
Faces floating in a pool of smoke and smog hovers on top of the faces.

SCENE #: 8	SHOT #: 9	SHOT SIZE:
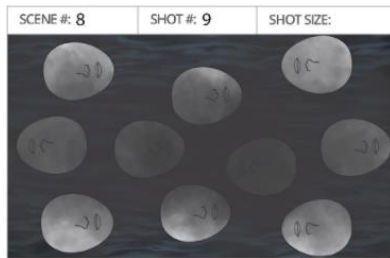
The camera pans back, revealing more faces that are suffering from the air pollution.

| SCENE #: 9	SHOT #: 10	SHOT SIZE:

The person stands in front of the smoke pool, with big floating faces in the smoke pool. The person stands still and watches the scene with a red balloon in her right hand.

SCENE #: 9	SHOT #: 10	SHOT SIZE:
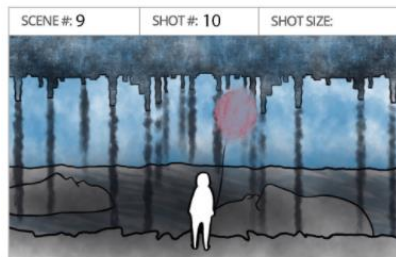
As the faces moves from the left to the right, the balloon transitions as it was covered with a mysterious smoke.

| SCENE #: 10	SHOT #: 11	SHOT SIZE:
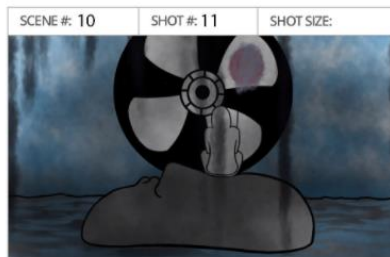
She sits still on the giant face and holding the balloon in her right hand.

| SCENE #: 10	SHOT #: 11	SHOT SIZE:
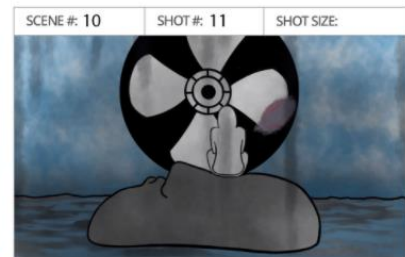
The fan activates and the balloon pops after a few seconds. She turns her head to look at the balloon on the right, and few secs later, she looks back at the fan in front again.

SCENE #: 10	SHOT #: 12	SHOT SIZE:

Close up of the popped balloon.

SCENE #: 10	SHOT #: 12	SHOT SIZE:
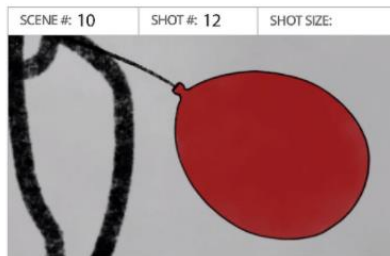
After a while, the balloon transitions back to its original form since the smoke disappeared.

SCENE #: 10	SHOT #: 13	SHOT SIZE:
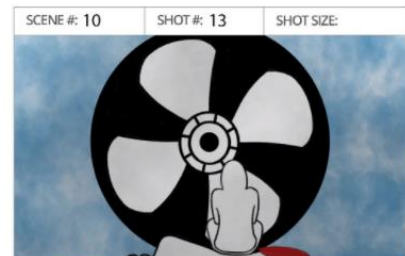
Cutting back to the angle where she is sitting down and looking straight at the fan, with the popped balloon beside her.