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We used to love fear

Presence of horror elements in child culture
and how puppet can be a horror-based
child culture artifact.



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Chapter I:

Introduction

Human culture is a culture of stories. From myths and legends passed down through generations to modern digital media, we tend to explain the unexplainable, teach about the dangers of the surrounding environment, or simply entertain ourselves with imagined stories that can range from simple anecdotes to fully developed myth systems we call religions. One of the most fascinating phenomena is the urge to create fear, which, as a powerful emotion, can manipulate those who believe in it or simply create an enjoyable spike of adrenaline. One aspect of the relationship between horror and cultures is particularly interesting - its implementation in the media dedicated to the younger audience.

At a glance, horror and child culture should never be mixed, and many psychologists and pedagogists advocate for creating a completely fear-free environment for children. However, as with any controversial theory, there are as many advocates as opponents. To properly engage in this discourse, we first need to understand what horror is, and therefore analyze the concept of uncanny, abject, and the biological definition of fear and its connection to experiencing pleasure. Only then can we start discussing the existence of horror in child culture in various forms: from literature, through cinematography, and video games, to everyday practices and physical play. Collecting those examples leads us to framing phenomena as a “horror child culture” and therefore allows creating a “horror-based child culture design,” which is the aim of this project.

The intersection of horror and design appears in different forms, mostly as an element of visual experience, however, it is a niche subject not very well understood or classified. Due to the unruly nature and strong visual expression of most horror genres, horror-based designs are often considered art rather than design. The reason for this approach is a common concept of design as

something orderly and perceptibly pleasing, which is, for many, impossible to associate with often chaotic and repulsive horror. In those cases, the design process can use the same methodology as any other object, but with a seemingly contradictory aim of creating a pleasant experience by a delicate balance of disturbance and curiosity. As horror is considered an extreme form of user experience, which already crosses the boundaries of what is accepted, it is important to stay within the limits of tolerance to fear of an average person. It is an even greater struggle not to cross the edge while creating objects dedicated to children, as their acceptance of horror may differ from that of adults. A particular situation of children engaging with horror requires great flexibility of immersion and Point of Wonder, especially when it comes to escaping it instantly. Therefore, it is important to adjust the horror medium to the capabilities of the user or audience, as well as what is the actual role of the designer throughout the process of creating a horror experience.

One of these media, which is often disregarded in terms of horror for children, is theatre, as it is perceived as a highly immersive form of visual expression, and consequently difficult to adjust to younger audiences. On top of the shorter attention span amongst children or early teenagers, there is a struggle in adjusting the level of eeriness of the performance. A particularly well-known form of theatre, in its very base form, carrying the sense of the uncanny to the audience, is puppet theatre. The disturbance carried by human-like robots, dolls, and puppets is generated by the sole movement of inanimate objects. Therefore, this is an excellent starting point for horror-based child design as it is already relatively eerie without adjustments. However, the main questions remain the same: how can it become horror-based child culture design and not an art and craft project?

To this question, I would like to answer by presenting in this report the process of creating “Josh - the puppet who does not want to be a human”. A deeper understanding of horror theory and examples that prove everlasting children’s fascination with the scary and obscure set the basis for the entire project. What inspired and what is the backstory of the puppet character, how its external appearance was created, as well as the mechanical aspects of the internal motor system, and last, but not least, how aforementioned aspects are based on the design methodologies. In the following chapters, I am presenting the outcome, the opinion of theatre professionals on the usability and storytelling of the puppet, and how the story of “Josh” can be a reigniting point of horror elements in the child culture.

Chapter II:

Literature overview

What is horror

Fear is one of the most basic emotions that drives the evolution of all animals. The instinctive sense of danger, accompanied spike of adrenaline and an increased heart rate, proved its importance to survival. Overcoming it led us humans on the path of inventions and discoveries. Without the resilience and persistence in the face of danger, there would not be civilizations and modern societies. As we progressed, the function, or rather the object of fear, changed. This powerful emotion is still being used to manipulate others or force obedience. From the perspective of Satan butchering our tormented souls after committing unforgivable sins or fear of ending up as a witch's dinner if we follow unknown paths in the forest to being forced to go to war in fear of the existence of your family or simply avoiding suspicious people on the streets we can see the everlasting purpose of fear - obedience and precaution. However, there are many different situations which invoke fear, and fear itself can be an intersection of other emotions "which justifies the use of a special name. One is curious to know what this peculiar quality is which allows us to distinguish as "uncanny" certain things within the boundaries of what is "fearful." (Freud, 2003). Certain objects evokes the feeling of uncanny which is can be evoked by many different factors i.e. when objects appear to be "alive" although they should not or spaces "when every endeavor to find the marked or familiar path ends again and again in a return to one and the same spot" (Freud, 2003). Familiarity of an object or the situation is estranged - according to Freud "only by the process of repression."

Nonetheless, we can experience the uncanny without having repressed childhood fears by pure aesthetics and construction, whether it is the liminal space or human-like movement of the object. In the second case, we are experiencing "the uncanny valley, the proposed relation between the human likeness of an entity, and the perceiver's affinity for it" (Mori et al., 2012). In

most cases, human resemblance of artificial objects like robots, puppets, or prosthetics is almost straightforwardly proportional to the positive perception from humans. However, there is a specific point where an object does not resemble humans enough - this point is called the uncanny valley (Figure 1). In a standard design situation, “we hope to design and build robots and prosthetic hands that will not fall into the uncanny valley” (Mori et al., 2012), yet while creating a horror-based design, the goal is exactly opposite. Additionally, an aspect which can magnify the uncanny is movement: “Its presence changes the shape of the uncanny valley graph by amplifying the peaks and valleys” (Mori et al., 2012; Figure 1). From this, we can come up with a conclusion that fear originated in the uncanny valley comes from not full familiarity to humans in both visual and motoric aspects.

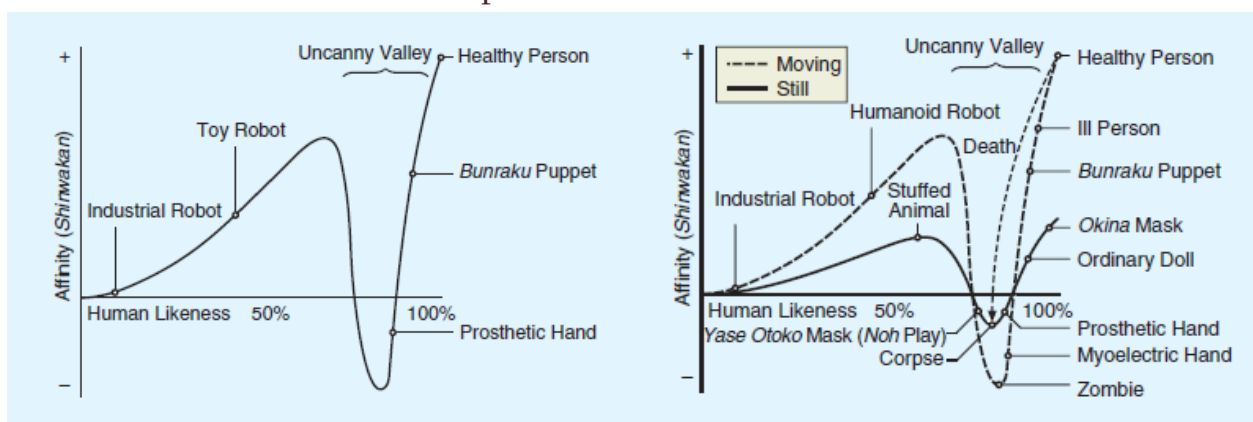


Figure 1. Graphs depicting the Uncanny Valley, Mori et al., 2012, From the Field magazine 06.2012

There are many theories why people react that way when confronted with something human-like. Most of them are deeply related to evolutionary aspects, i.e., disease theory - when a being contains characteristics that differ from the majority, or when it does not show the signs of life, like movement, it can cause unease due to its resemblance to a contagious disease, which threatens survival. Another example is mimicry theory, which refers to predatory behaviour in the animal kingdom - mimicking other peaceful animals or elements of nature is used by predators to lure their prey. Those and many other theories why we can find certain objects or characteristics as a part of an uncanny valley, prove that this specific feeling is “an integral part of our instinct for self-preservation” (Mori et al., 2012) and the fact that it has not disappeared in the process of evolution can be one of the reasons why experiencing horror in a form of a uncanny still has its purpose.

As primal instincts cause defensive or aggressive reactions that ensure our survival as a species, theories of both Sigmund Freud and Masahiro Mori are mainly focused on the uncanny as a feeling, without properly exploring the reactions. As a part of the child culture design process, the emotions

regarding the object are measured or defined by the reactions, otherwise, we would have very limited ways of evaluating the accuracy of the design. If the goal is to evoke fear by visual design, the desired, measurable reactions would be scream or increased heart rate, but in the case of creating an uncanny experience, participants or users should feel “abjection”. Abjection or the theory of the abject presented by Julia Kristeva could be considered as an extension to Freud’s Uncanny. “This abjection which threatens the ego and results from dual confrontation in which the uncertainties of primary narcissism reside” (Kristeva, 1984). It can be understood as the reaction to a breakdown in meaning, blurring borders between subject and object or self and other. This reaction, mostly fright or disgust, is additionally strongly connected not only with the object or our visual perception of it, but also with the physical interaction and thus the full user experience. Touch, smell, and senses other than just vision can expand the perception of horror - and therefore abjection - due to being much more immersive, which raises the question: what medium would evoke the abjection the most? To answer this, we need to first analyse the advantages and disadvantages of media currently used as vessels for horror, which I investigate in the following subchapter to find which can be a point of reigniting the interest in horror-based child culture. Nonetheless, before we dive into the horror elements in child culture, it is important to know the physical symptoms of fear on a human body experiencing abjection.

The enveloping experience of horror is the basis of the scare house phenomenon. However, main goal of those places is to evoke fear rather than uncanny, many examples like human-likeness in a form of a zombie or an alien or distorting reality by dissolving distinction between self and other by using optical illusions or light design can prove that horror as a set of reactions is deeply rooted in uncanny valley and abject reaction to it. Moreover, the existence of spaces dedicated to fear is not only a manifestation of interest in horror but also an opening to horror as a recreational experience that can be tested. A conclusion to the field study conducted by group of researchers in one of danish haunted houses is that “fear appears to be related to large and relatively long term deviations from the expected physiological state of the human organism, enjoyment appears to be related to smaller just-right physiological deviations from whatever state the organism currently inhabits” (Andersen et al., 2020; Figure 2). The tests evaluated facial reactions, differences in heart rate, and participants’ self-reported fear level.

In conclusion, we can consider horror as an experience that originates in a feeling of the uncanny, which evokes abjection and gives a reaction of increased heart rate. The aspect that distinguishes the horror experience dedicated to

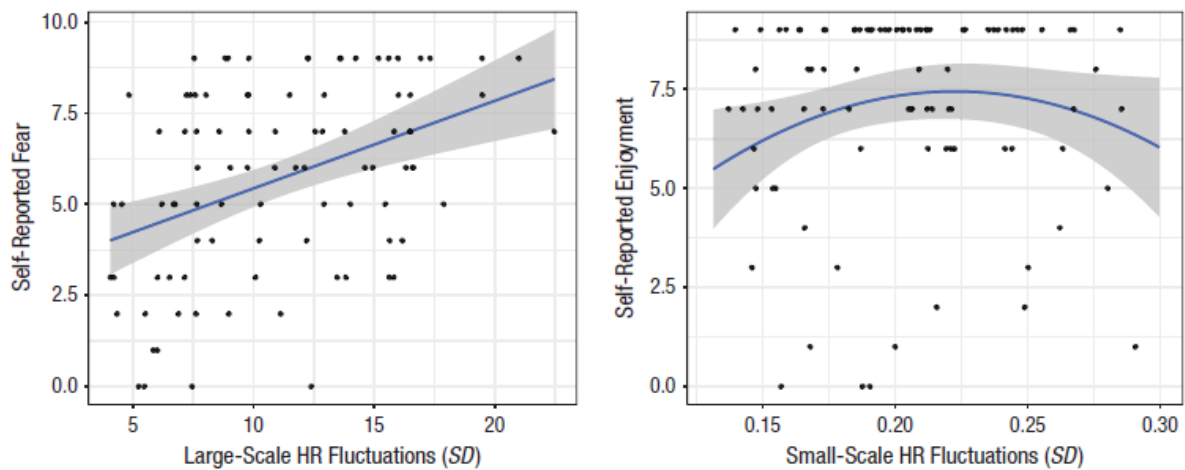


Figure 2. Graphs presenting relations between fear and large scale heart rate fluctuations (left), and enjoyment and small scale heart rate fluctuations (Andersen et al., 2020); *Playing With Fear: A Field Study in Recreational Horror 2020*.

children from that for adults is its various purposes. We can assume that the purpose of horror for adults can be considered only as a recreational activity, despite “that it falls outside the scope of traditional fear accounts by seemingly allowing fear and enjoyment to coexist” (Andersen et al., 2020). However, horror-based child culture artifacts could be considered not enough or even ethically wrong if we consider only their recreational aspect. Evoking fear amongst children is a controversial idea. Perhaps the answer lies in mixing recreational fear with the original, or even primal, function of horror - the instinct for self-preservation. This could enable children to overcome their fear and abjection to build their resistance to it for the future, thus resolving potential childhood trauma before repressing it, and to achieve this, the experience of horror should be carefully designed, which is why in this project I would like to focus on evoking the feeling of uncanny rather than just plain fear. Besides its potential to be recreational or educational, including the uncanny in child culture design can be considered a form of disruption, one of the key elements in developing playfulness. Specifically, uncanny objects can correspond to the SCUSA model (Legaard, 2023; Figure 3) in every disruption type, further confirming its relevance in child culture design.

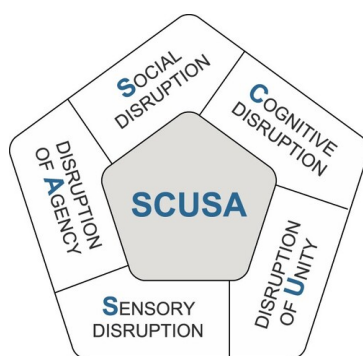


Figure 3. the SCUSA model presenting different types of disruption, Jesper F. Legaard, 2023, *International Journal of Play*

Presence and function of horror in child culture

Any type of emotion cannot be eliminated from human psychology, and thus, artifacts of cultures produced by humans are always rooted in artists, writers, designers, etc., and therefore carry those feelings to the final users. In the case of creating pieces evoking fear, we tend to connect them with aggression, pain, or disgust, and therefore, many psychologists created a strong front against it, disregarding the potential benefits of interacting with horror. Recent studies, however, provide a different perspective on the implementation of this complex emotion, especially in the child culture. Children as a target group often enjoy interactions with the eerie: “David Buckingham interviewed a group of 6–16-year-old British children and their families about their thoughts and feelings regarding various media, including scary ones. He discovered that eerie media were among the most popular across all ages, even though some children disliked the scary experiences themselves.” (Andersen et al., 2022). As childhood and horror have been present in media with successful popularity, it opens an interesting opportunity to intersect the child-centered design and horror. However, to correctly prepare the design principles of a horror-based child culture project, we first have to discuss what qualities and constructs different media use to adjust horror to young users and viewers. This analysis also provides an overview of vessels for horror with their qualities and disadvantages, which helped me eliminate media where the design methodology would not positively influence the process.

Before we discuss the analog and digital media pieces, child culture, first and foremost, includes many examples of physical play. What is considered a regular game of tag or hide and seek also refers to horror and fear. Overall, excitement and fun have their origins in the balance between danger and safety, which is similar to the experience of watching a horror film. “Horror-film viewers, for example, respond to the film with negative emotions such as fear, anxiety, dread, and disgust without being in actual danger. Like a child responding with suspenseful delight to being playfully chased by a caregiver, the horror-film viewer engages playfully with a form of threat simulation.” (Adnersen et al., 2020). From the adult’s perspective, those little things would not seem scary, but to children, they are providing thrill and excitement as a combination of a very mild fear and excitement. Moreover, the Danish educational system encourages this type of recreational activity, and in the field study conducted in 2022 in numerous Danish daycare institutions “suggests that the introduction to the eerie is often an unspoken, tradition-driven developmental process where educational staff sensitively balance children’s receptiveness to spooky

activities to support their development and curiosity towards the fascinating and the frightening” (Andersen et al., 2022). The researchers suggest that interaction with spooky or eerie media enhances a child’s curiosity and helps them interact with frightening objects in safety, and additionally, as an important factor of child-centered design, the main users - children - are drawn to it.



Figure 4. unknown author, Dressed up children engaged in “slå katten af tønden”, 1937, Det Kongelige Biblioteks Billedsamling

One of the first types of media with which children interact is literature - bedtime stories, school lectures, or simply books dedicated to them and their emotional development. One of the oldest examples of those is cautionary tales like the ones written down by the Grimm brothers in the early 19th century. Therefore, how is it possible that child horror stories still attract an audience? According to Randi Dickson, scary child stories to be attractive have to “include a threatening monster that both attracts and repulses the reader” and “it must evoke an empathetic response from the reader in relation to the book’s protagonists” (McCort, 2016). The eeriness of these tales concentrates during the act of reading, and due to its closed ending, it does not evoke fear after finishing the story. “Though the child reading a scary picture book or a tween horror novel may report feeling many of the same physical and emotional responses as adults watching a contemporary horror film, the closure achieved by children’s and young adult horror is more often than not markedly different, mainly because the true nature of the monster is discovered and its

power is usually dissipated.” (McCort, 2016). This emphasizes the importance of the ability to exit or close the horror experience to be plausible and considered as a recreational horror, and shows how fear still works as a cautionary tool; however, the immersiveness of the experience is very often limited, and therefore, horror does not necessarily reach the desired level.



Figure 5. Wanda Gág, Hansel and Gretel from "Tales of Grimm", 1936, www.themarginalian.org

Stories and legends quickly transformed into another medium, often disregarded in the discussion about horror: puppet theatre. Spectacles dedicated to children, by sole usage of human-like puppets or marionettes, could cause disturbance and fall into the Uncanny Valley. Puppets also have the advantage of depicting things sometimes impossible to perform with real actors, due to the nature of this genre, based on the belief that what we see can be just an allegory or a metaphor. Additionally, the horror element is transmitted by direct spectating, which, as a memory, can have a long-lasting impact on consciousness and dreams of the viewer.. However, “the straightforwardness of the medium not only arouses the immediacy of laughter but also conveys the anguish of death, the need for terror, and the vice of crime” (di Fazio, 2022), which lowers the tension and realism and therefore can be easier adapted for younger audiences, while still maintaining its uncanny nature - it allows

to present topics often difficult for adults to talk about with children - death, diseases, drugs, etc. The problem with puppet theatre, however, lies in the limits of reach - to truly experience the eeriness of the horror puppet show, one needs to be present in the audience.



Figure 6. Salute Solitude (2003), dir: Emil Veber Rasmussen, authors personal archive

Another very immersive story-based medium is films and series. The level of realism of characters and the presented world can inspire the imagination, and similarly to theatre, horror is transmitted directly. The “child’s horror trend”, as described by Filipa Antunes (Antunes, 2020), however, is a relatively new genre in cinematography. Originating in the 1980s, it merged seemingly impossible concepts - childhood and horror, which till then existed in the films as an extreme form of gore, uncanny, and violence. It includes both films, such as “Gremlins” (1984), “The Night Before Christmas” (1992), “Frankenweenie” (2012), and television shows and cartoons - “Goosebumps” (1992-1997), “Courage the Cowardly Dog” (1999-2002). “Children’s horror was, moreover, an all-consuming trend while it lasted, particularly in the mid-1990s when children’s culture was positively saturated with horror stories and motifs.” (Antunes, 2020). Further in her book, Filipa Antunes states that the creation of children’s horror opened an important, yet controversial discussion about the limits of horror and childhood and their impact on society. Conservative circles in the United States’ Government were arguing against the genre because the plots of many of those films concerned a struggle between tween protagonists and controlling them adults (Coraline, 2009 which directly hit traditional family values and even gave the child’s horror another name - a gate-way horror as



Figure 7. Coraline (2009), dir: Henry Selick, www.polygon.com , www.theguardian.com

an analogy to gate-way drugs - substances considered as an entry to more dangerous hard drugs. Additionally, a child's horror is often disregarded by the cinematic community as something trivial, not scary, or just badly made by using terms like "terror for tots" or "kiddie horror". Despite all of this, horror can carry values impossible to present with other genres, like rebelliousness described previously, which is why it is implemented in the children's cinema to this day. However, film viewers cannot interact with the story or characters on the screen, which limits the perception of horror, and additionally, the realism of special effects can limit broadening the horror by our imagination.

This lack of interaction between the object and the viewer is fulfilled in another medium - horror games. The genre is almost as old as the first games, but the particularly interesting sub-genre is "survival horror". The best definition of it is "game designers can provide horror, but survival is up to you" (Kirkland, 2009). It is based on the need to recognise the danger by defining what elements are uncanny and defy them to complete the game, to survive. Flagship examples are a series of "Resident Evil" (Capcom, 1996 -) and Silent Hill (Konami, 1999 -), and despite being based primarily on solving puzzles and minigames, narration in both series interfered with the uncanny. The reason for this is that the narration of the games is based mostly on the structure of Hollywood horror movies. However, the recreational aspect of these games might not be embedded only in the horror experience, but more in "constructing a consistent narrative from the potential chaos of the game" (Kirkland, 2009). As Kirkland also put it, survival horror games' storytelling is based more on processing and uncovering repressed memories of the protagonist rather than a cohesively built narration. This can be referred back to Freud and the feeling of the uncanny as a result of repressed trauma. Nonetheless, the game mechanics are based on puzzles, and the ability to solve them while

experiencing anxiety or abjection from the game entourage. It suggests that to feel immersively engaged with the uncanny, we need the mysteriousness of the object we are interacting with, to potentially overcome abjection. The problem often arises when experienced players are so resilient to the uncanny that this aspect completely disappears. Additionally, like in the case of films, directly presented horror visuals can limit the importance of imagination in the personal experience of perceiving horror.

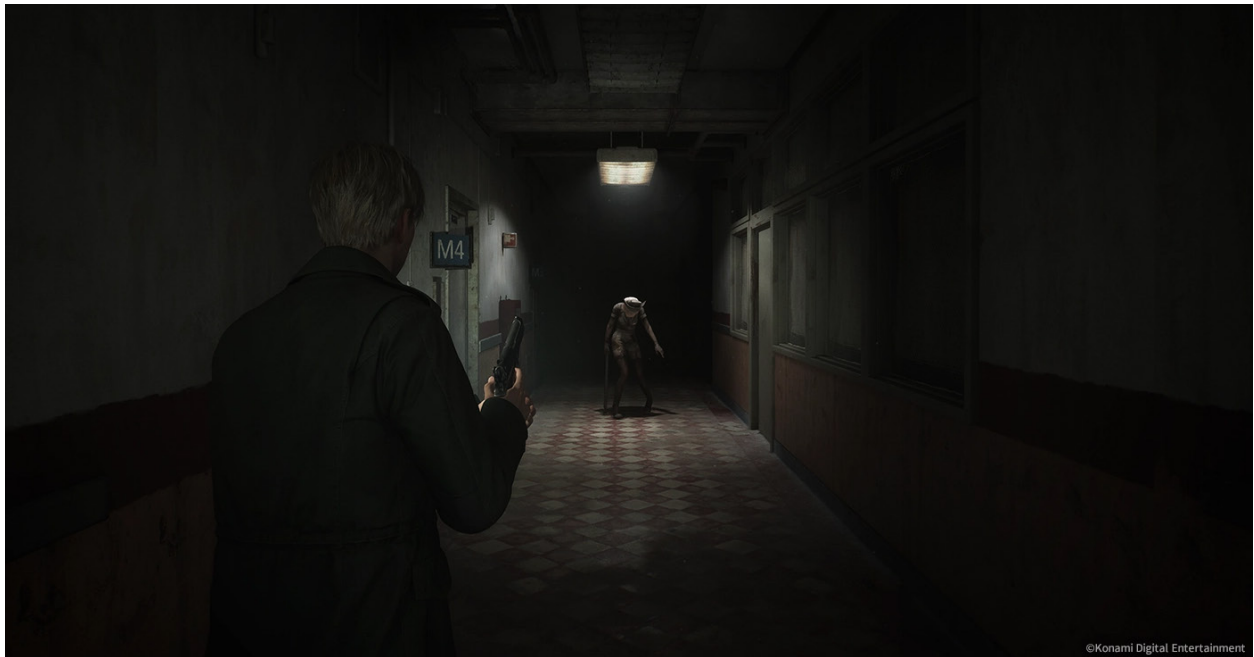


Figure 8. Silent Hill 2 (remake), 2024, Konami, www.konami.com

To summarise, the presence of horror elements in child culture is almost constant throughout modern history; Examples above prove that horror has many important functions in adolescence, upbringing, and education, different depending on the media. Physical play enhances curiosity, literature teaches self-preservation, puppet theatre enables discussion of difficult topics more accessibly, films build a sense of independence, and games build resilience in solving tasks in stressful situations - functions that cannot be substituted by any other genre. Additionally, the construction of horror media for children defines the principle of any potential horror-based child culture design. The project has to create an immersive experience, yet easily escapeable. The story needs to be intriguing and should be closed-ended, not to carry the fear outside of the horror experience. Accordingly, the media, which I believe is the best, to combine those principles is puppet theatre, because of its interactive possibilities, while maintaining a strong orientation on storytelling.

Chapter III:

Research questions and design principles

The analysis of horror in the form of the uncanny and the existence of horror elements in child culture provides important theoretical background and justification for further investigation and implementation of horror into different media, as well as the structure of scary storytelling for younger audiences. Therefore, now the discussion can shift into design practices and formulating design principles for this project. The main question of this paper is: how could puppet theatre become a reigniting point of horror-based child culture design? Knowing from previous analysis that puppet theatre is uncanny without additional interference, more questions about that details of the project arise. How can it be designed to evoke the uncanny purposefully? What are the techniques that a puppeteer needs to apply to provide an optimal level of eeriness in a children's theatre?

The main question, tricky in its structure, implies that we also have to switch the art of puppet-making into the design-driven process. The subsequent element of this change would be choosing a relevant design methodology and positioning the role of the designer in the theatrical experience meta-levels, which I present in the following chapter.

However, answering the supporting questions now helps create a well-thought-out project. Intentional eeriness of the puppet can be achieved by two crucial balances. First, a puppet's construction should allow the movement similar to humans, yet maintain small mechanical malfunctions. Second, the external aesthetics should mimic humans as well, but differ from the standard canon by alterations of elements' scale and placement. This mimicking will lower the puppet's positioning in the uncanny valley graph. To summarize it, to intentionally evoke a feeling of uncanny, the puppet needs to be intentionally different from regular human likeness.

Moreover, a puppet cannot exist without a puppeteer, and in the end, the

Chapter 10: Methodology

Puppet making is by many considered a more artistic craft, rather than product design; however, implementing the user-experience-focused design methodology in the process can enhance better construction of the puppet and therefore provide more opportunities for different theatres and performers to use it. In many cases, puppets are being prepared by puppeteers, which makes them, at the same time, puppet designers and performers. Sometimes it can cause the puppet's construction to follow specific preferences of the performing artist and may not be usable for others. To avoid this, I would like to separate those two roles and position myself as only the puppet designer.

Puppet as a tool

Due to puppet making being a new discipline for me, and my main goal is to explore the potential of horror in child culture design, the methodology of my project is mostly based on design through research. Therefore, the functioning prototype, an outcome of this project, can be considered a tool for research rather than a commercial product. Additionally, the separation of the puppet maker and the performer enables the implementation of the “designer-product-user triangle” (Stappers & Visser, 2014; Figure 10). This puts me more in the position of a tool developer rather than a traditional product designer. The outcome - puppet - is a tool for directors and actors to create a final product - a theatrical performance which can be later presented to the audience. Moreover, the puppets can also be used as a tool for researchers to measure the influence of the uncanny.

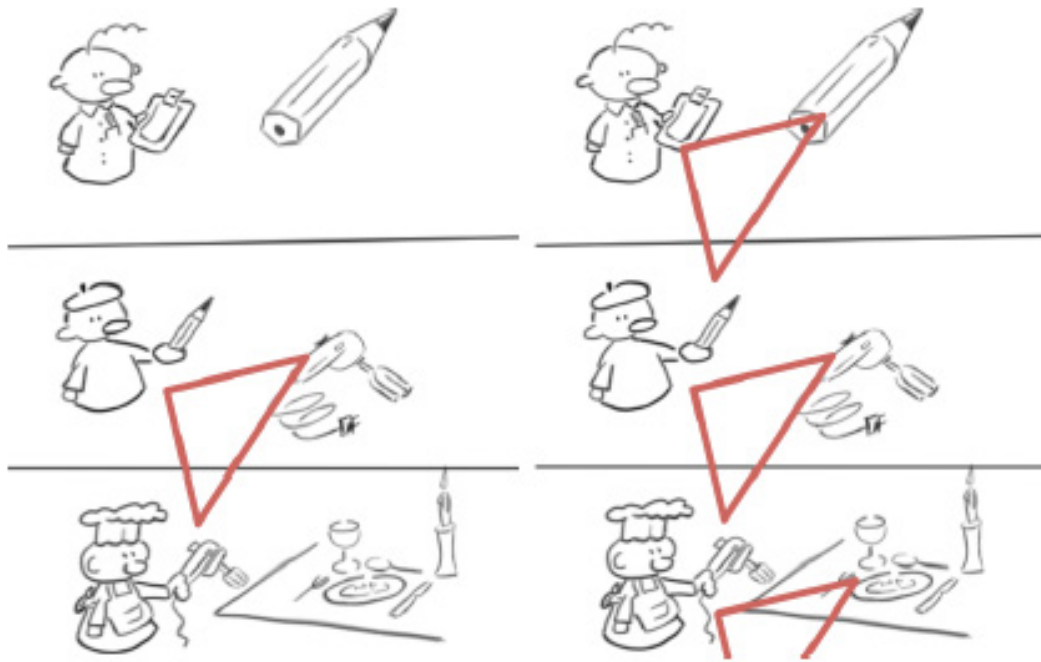


Figure 10. Roles, tools, and products organised as three meta levels, each connected to a level below and above. (Stappers & Visser, 2014)

Double Diamond

As my position in the process of reigniting the interest in horror was defined, I organised my design through research by using the Double Diamond method (Béla H. Bánáthy, 1996; Figure 11); however, it served me in two simultaneous paths, which equally influenced the project.

The discovery stage included research of actual examples of existing horror elements, preparing moodboards, and analysing the differences between horror media dedicated to adults and ones dedicated to children, to further prepare balanced uncanny aesthetics. Concurrently, I researched and in some cases tested the existing puppet-making methods to gain knowledge about the possibilities of development in this broad but quite niche field. The defining stage was mostly dedicated to formulating the characteristics of optimal for children's uncanny experience and deciding on puppet technique which would serve the best in the cultural circle of its creation. Both the horror and puppet path lead me to the conclusion of creating one, large, human-like puppet. The development stage focused first on material research and creating singular external elements of the puppet. Later in the process, but as a part of the same stage, I dedicated my attention to creating a mechanical "skeleton" of the future puppet, which would later serve as a frame for its entire body. The delivery phase focused on combining external elements and internal structure into one, final puppet.

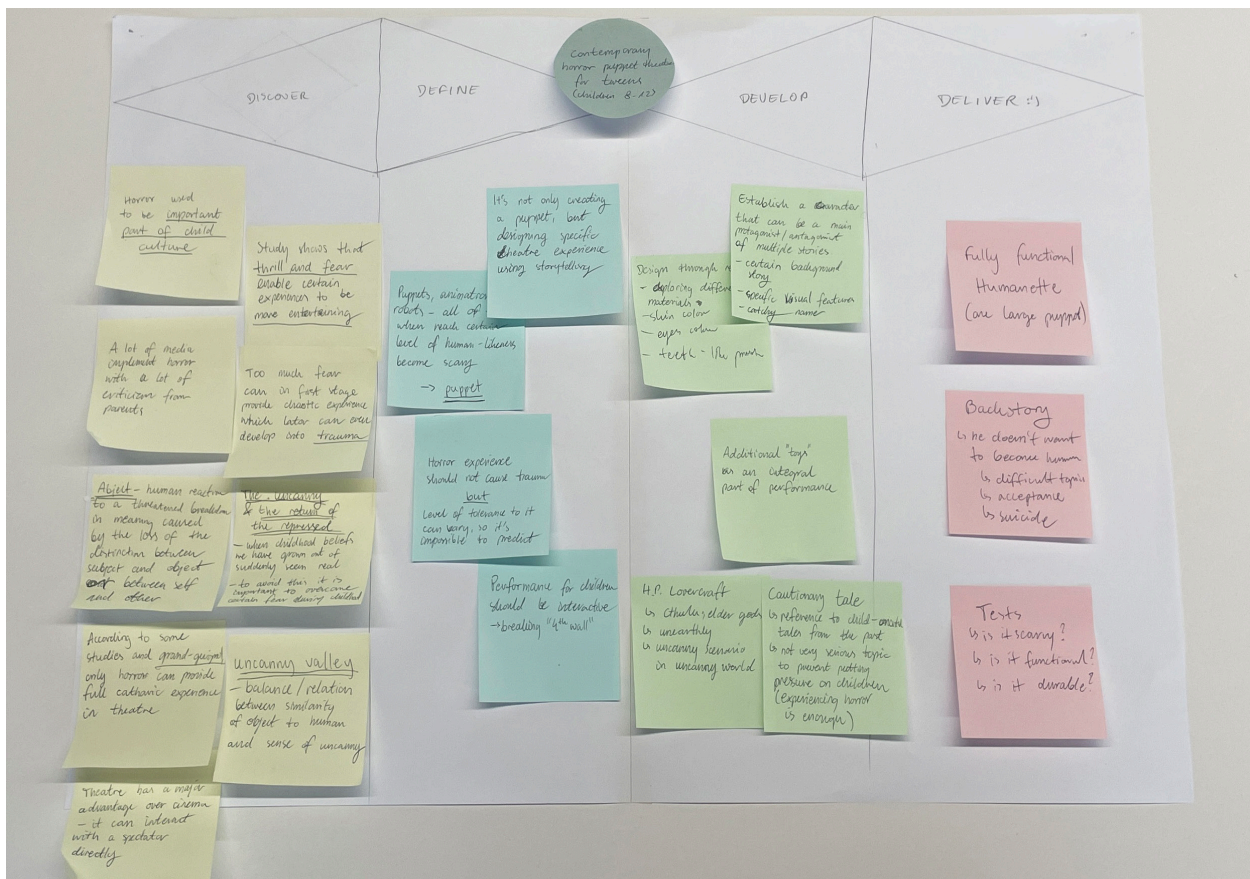


Figure 11. Double diamond model

Interviews with professionals

Another important aspect that influenced the methodology was interviews with theatre professionals: Emil Veber Rasmussen, Sofie Jørgensen, and Karoline Normann Fløysvik. A small number of interviewed people enabled me to dive deeper into the details of theatre operations. The input from the interviews I applied in this project helped adapt the order-driven design methodology into an artistically chaotic and quickly changing performance creation process in the form of loosening the need to make it a data-driven process, and applying some instinct-driven decisions.

Additionally, as I learned from interviews, puppet-making is a craft mostly based on adjusting the project when it does not work as planned. I have experienced it myself when later tests showed malfunctions of the existing prototype, and the changes had to be implemented. Knowing that this could happen, the design of the puppet construction frame allows for quick dismantling and reassembling after implementing changes in flawed or broken parts. This feature came in handy while transporting, but also made certain elements more fragile or unstable, which is unacceptable in a rush, theatrical environment, and had to be further changed.

Horror-based child culture design as a part of the design for play

Horror-based child culture design, despite concerning quite a disturbing topic, as horror is still dedicated to younger audiences, and therefore, in the process, I additionally implement the play methodology in the form of a play tension model (Rahbek, 2021), which helped me define the balance between orderly and unruly in a form of visually safe - familiar and alien/disturbing to the point of potentially causing trauma, as it is already considered a balance resulting in recreational aspect of horror - “phenomena associated with little to no uncertainty or surprise would render an experience boring and unmotivating, whereas too much uncertainty and surprise would render it chaotic, unmasterable, and displeasurable.”(Andersen et al., 2020). Trying to reach the edge of this balance on the scary side, every horror visual and mechanical reference in the discover stage of double diamond was put in the chart to localize an optimal point, and thus influenced the outcome. Of course, the measure could be considered very subjective, which is why a group of 5 other play researchers helped me organise the chart; however, in terms of these balances, it is almost impossible to find truly universal answers due to the personal preferences of any user.

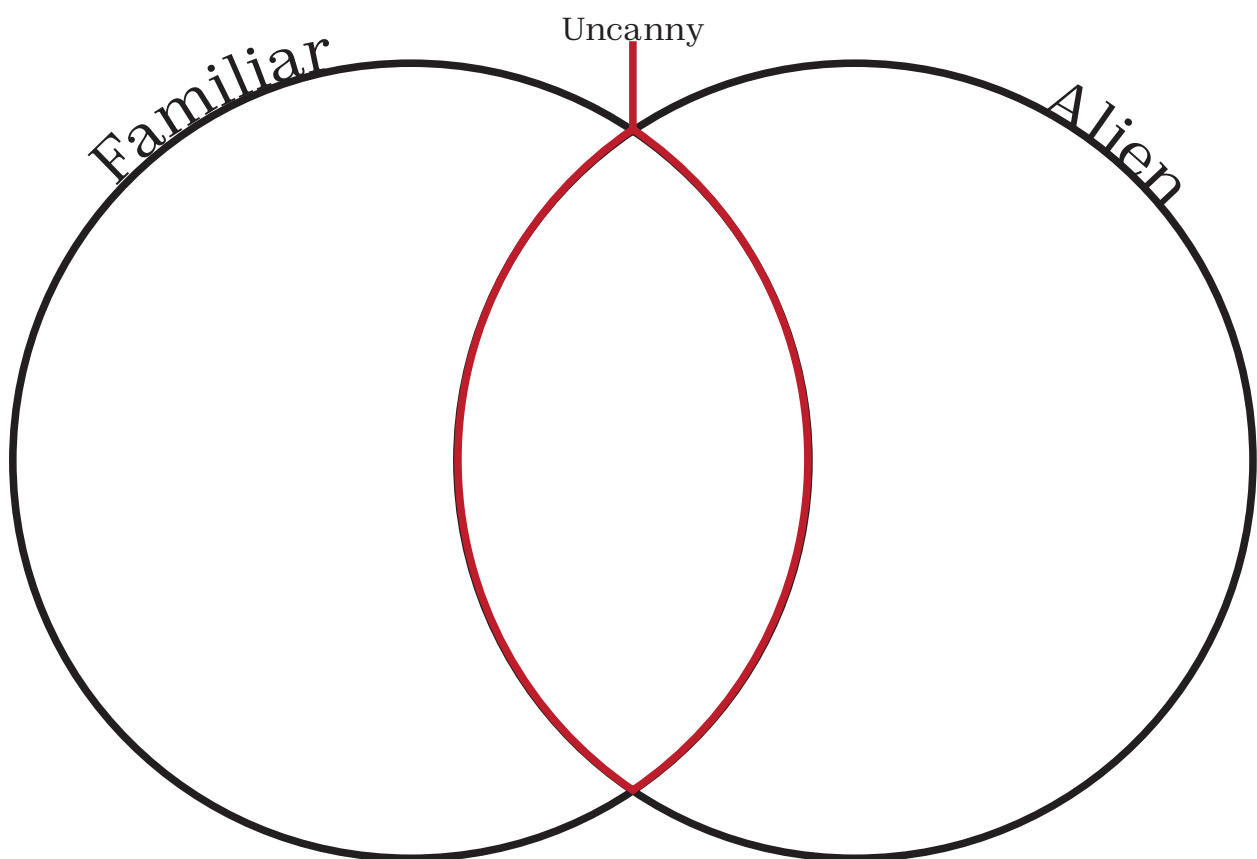


Figure 12. “fear tension chart as adapted “play tension model”

Chapter 10: Design process

Discover

After concluding the literature analysis and defining design principles and methodology, the process of creating the horror puppet started from research about existing horror puppets, animatronics, and costumes, as well as scary cartoon and book characters. By collectively organising the visual references in the play tension chart (Figure 13, 14; Appendix I), I managed to define the characteristics of the uncanny in child culture media. Those characteristics align very much with the existing description of the uncanny (Freud, 2003) and the uncanny valley (Mori et al., 2012), however, with a slightly different approach.

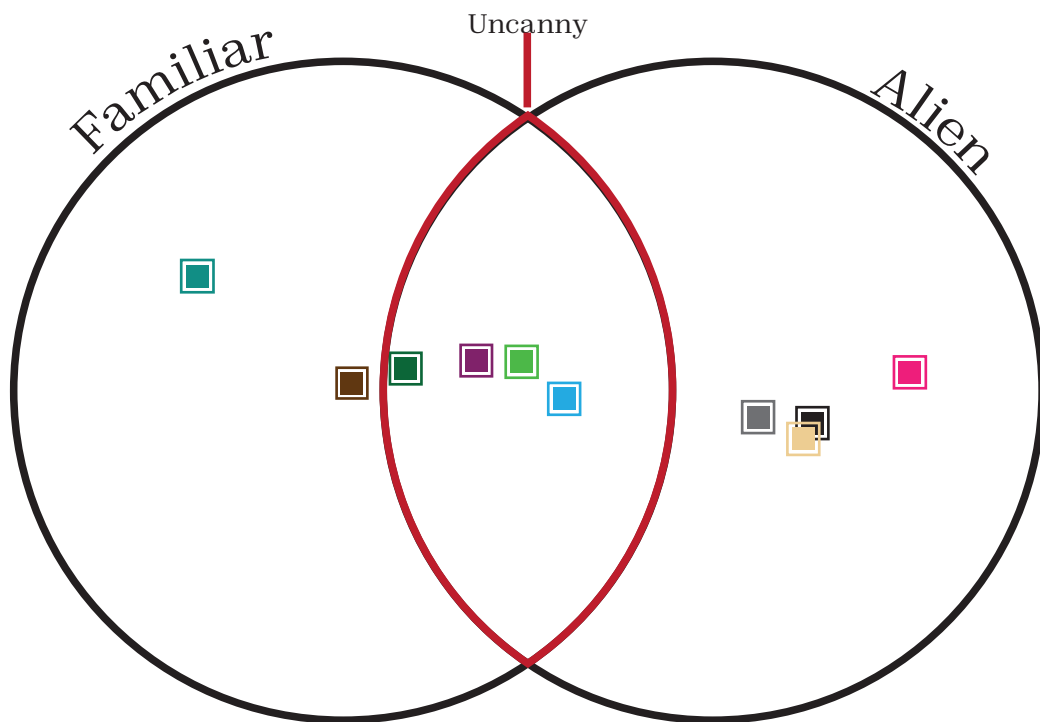
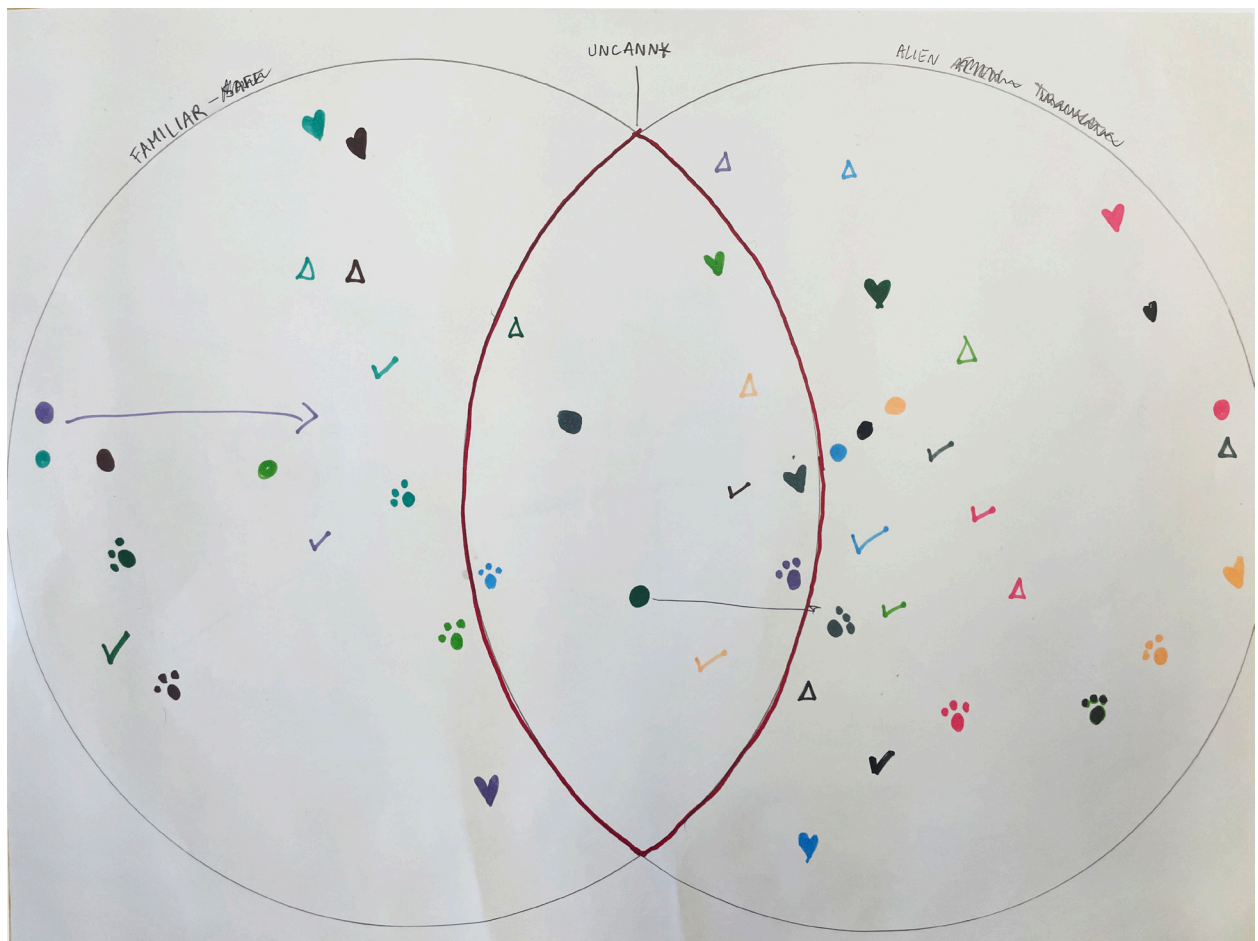
The balance between real and surreal in child media differs from the media dedicated to adults. Due to many fantastic elements and narratives in children's media, the aspect of differentiating from realism is not scary, however, the antagonists of the stories are often portrayed as more realistic, with vain personality and most human-like appearance in the story, which makes them fall into the uncanny valley; however from different side than in adult horror.

Huge impact on perceiving character as disturbing had the following visual traits:

1. The most common aspect considered a scary element was the face and facial expression.
2. Next was the shape and structure of the body.
3. The least mentioned aspect was overall colour and eyes.
4. Human-likeness in the most uncanny characters varied.

For the face expression, multiple aspects influenced the perception:

1. Skin colour - any unnatural colour can enhance the abjection, especially shades of yellow and green, colours usually associated with sickness. This is also when all of the characters in the story had varying colours - then the dimmed shade played an important role as



something outstanding amongst the bright palette of other characters.

2. Eye colour - unnatural eye colours were usually considered disturbing, on the same basis as dimmed skin colour; however, the aspect which evokes a feeling of uncanny is the shape of the eyes.
3. Teeth - resemblance to predators with pointy teeth and an unnatural number of them inside the character's mouth made them more disturbing. In many cases, "friendly predators" in stories have changed teeth to avoid being perceived as a predators.
4. Nose - classic examples of large, pointy, or crooked noses traditionally indicate that the character has evil intentions.
5. Cohesive structure of the face - despite being already not very human-like, child culture characters who differ from others by enlarged mouth or unaligned eyes are considered creepy.

This analysis also shows how broadly we can interpret the uncanny in child culture. Much like in adult media, uncanny is also being used as a way to create distrust towards the things that are different, which in children's media serves the same purpose as 200 years ago - cautionary behaviour towards the unknown.

Additionally, as a part of the "discover" stage, I explored different puppetry techniques from around the world. Preparing some rough prototypes gave me insights into what type of puppet I should create. The relevant aspects were mostly scale, capability to mimic humans, potential for improvement, and design methodology implementation. Amongst those tested were string marionettes, stick and glove puppets (Figure 15), and humanettes ("a puppet manipulated in front of the puppeteer, with the puppeteer's head, and sometimes hands, appearing as that of the puppet" (Violette & McCormick, 2018); Figure 16). Each type had its advantages and disadvantages in the aforementioned categories (Figure 17).

Creating prototypes was also an opportunity to conduct the material research. The external surface of puppets is usually made out of fabric, therefore, I tested felt, cotton canvas, and woolen knitwear. Additionally, I tested leather and latex to try to mimic human skin. Important aspects were also elements like eyes and teeth - I assembled them out of clay, styrofoam, wood, and PET plastic. Internal structure usually consists of different types of wood and foam to mimic muscles or add volume, as well as occasional metal or leather elements used in joints.



Figure 15. Rough prototypes of glove puppet, marionette hand, marionette and stick puppet



Figure 16. Rough prototype of humanette (~150 cm)

	Scale	Mimicry of humans	Potential of technical improvement	Horror-based design potential
String marionette	varying (10 - 100 cm)	varying	medium	medium
Stick puppet	defined (5 - 20 cm)	small	limited	small
Glove puppet	defined (15 - 30 cm)	small	medium	medium
Humanette	varying (80 - 180 cm)	large	medium	large

Figure 17. Table of advantages and disadvantages of tested puppet types prototypes.



Figure 18. Material and shape research

Define

As a conclusion to the visual horror reference research, as well as material and puppet type research, I decided to follow the path of humanette with puppeteer hands substituting the puppet's hands. The uncanny aspect of the project would be a resemblance to humans with scale and internal construction of the body, and facial elements modified in scale and positioning. Additionally, as forementioned in chapter 3, the user experience of the puppet has priority over the aesthetics and construction, and therefore every element was examined and tested to provide the most accurate and convenient experience.

Organising the references and horror examples in a Play Tension chart helped establish the spectrum of familiarity and fear, on which the feeling of uncanny is relatively in the middle. Borders of the uncanny in child culture media and material research provide suggestions and focus points for the visual elements, from which I decided to follow certain paths:

1. Skin colour - dimmed yellow, as it is also the natural colour of dry latex forms.
2. Eye colour - muted pale natural colour, as it adds realism and the resemblance to cataract illness.
3. Teeth - imitation of predator teeth.
4. Nose - big and slightly flattened
5. Structure of the face - Manipulating the scale of the face can cause an abject reaction.

Despite seeming quite precise, the visual goals for the puppet are opening a lot of opportunities to interpret, especially since they have to correspond with the construction of the puppet and its potential backstory.

Another aspect that was influenced by the research is the techniques a puppeteer needs to apply to provide an optimal level of eeriness. As many of the scary characters are portrayed in a way that the viewer is addressed directly, the puppet show should be interactive. Interaction could be based on stepping down from the stage and interacting with the audience, therefore, the puppet's construction should allow it by having sturdy and easy to managed by just one person. This opens the topic of the motor system, expression system, and accordingly, control points, their localisation, and type.

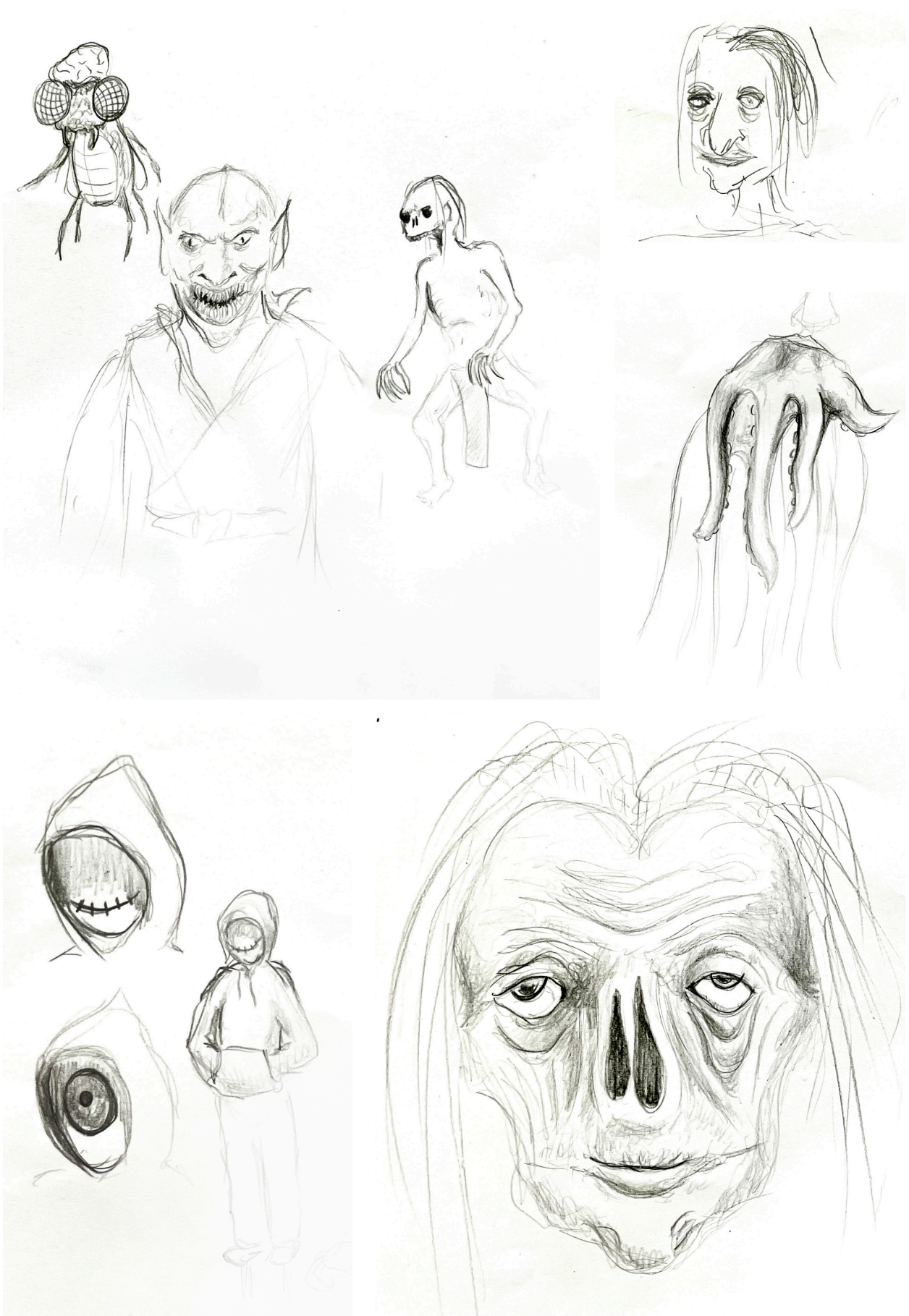


Figure 19. Concept sketches

Develop - aesthetics of the face

After framing both aesthetic and technical aspects of the puppet, I began exploring the possible solutions for the elements. At first, I created various potential options for elements like eyelids, mouth, and nose. The material I have used for this is latex, however latex casting process requires more than just the liquid. Sculpted clay positive of the object, I later poured with plaster - this created a negative for further latex casting (Figure 20). Simultaneously, I conducted tests with pouring latex on nylon gloves, leather, and styrofoam (Figure 21). Despite interesting outcomes, I found them impractical. Latex-covered glove loses its flexibility, despite latex being usually very flexible. Using leather as a negative for a flat piece of latex gave an interesting effect which imitated human skin, however, this detail was only visible upon closer examination, and on top of that, it didn't allow creating ready-made components but only a flat piece of textile. The last method of pouring latex directly on styrofoam created a very interesting effect, which could imitate flesh, and I left it for further consideration. Despite the tests, the "traditional" way happened to be the most efficient and durable.

Creating separate elements was supposed to be only for research purposes; nonetheless, after consulting the eeriness level of the elements with puppet makers, I decided to glue them together with additional layers of latex without mold, which created an effect of "Frankenstein" (Figure 22). The main inconvenience of this solution, however, was decreased durability. Various elements had different latex distributions and had different drying times, which resulted in both connection points thinner than the main structure of the particular element and aberrations in the colour of elements and connection points. To support the weakened elements, I decided to provide a stable structure for the head, which is elaborated in the next subchapter.

The external elements that also needed material exploration were details such as eyes, teeth, and hair. Taking the experience from the previous material research (Figure 18), I created several colours and shapes of eyes on the styrofoam basis to check which one of them colouristically matches with the skin colour of the puppet, while following the concept of pale, natural colour. The choice fell on light blue with hints of green and an additional layer of semi-transparent foil to imitate a cloudy effect. Another important detail yet to be designed was the teeth. As I mentioned in the previous subchapter, the goal to achieve was to recreate the teeth of animal predators; however, after considering the unnatural wideness of the lips, I decided to create human-like front teeth to balance the familiarity of the mouth. To create those, I made several examples

out of clay and used nail lacquer to add the glossy effect. Hair aspect, as one of the most difficult to mimic with materials other than yarn, nylon strings, or actual hair, caused some problems, and the temporary solution of the doll's hair glued directly to the puppet's scalp had been implemented, however, the final version may include a size-adjusted wig. The current solution, no matter how scary looking, is simply not durable enough, therefore, the changes still need to be applied.



Figure 20. Plaster molds (for latex casts) of used and unused elements



Figure 21. Latex possibilities tests



Figure 22. Glueing face elements with latex

Develop - internal construction

The professionalism of a puppet can be measured by its construction. It allows puppeteers to control it naturally and therefore, create an immersive audience experience. Before creating an actual structure, during the research phase, I made a rough, actual-size model out of foam, tape, and textiles. This experience showed me how important is usage of durable materials is, despite their weight. However, foam and textiles are still the main materials for adding volume and imitating muscles and fat tissue.

First, I focused on creating joints and moving parts. The process started from the analysis of the movement of human joints: range, angles, and type of following movement, like supination and pronation of the forearm, which is deeply connected to the elbow. Translating these advanced movements into materials for a puppet opened two possible paths - creating a fake skeleton out of wood or plastic, or trying to simplify it and create more mechanical, rather than organic construction. Due to the additional influence of muscles and nerves on the motor system within actual living bodies, I decided to simplify the movements and recreate only the most important aspects, which would position the movement of the puppet as a human-like, rather than fully human. Presented sketches (Figure 23) show the process of creation of certain joints (Figure 24) and the way they recreate the natural movement. Due to the complexity of certain joints, the sketch phase allowed me to limit the number of corrections that accrued during tests described in the following chapter.

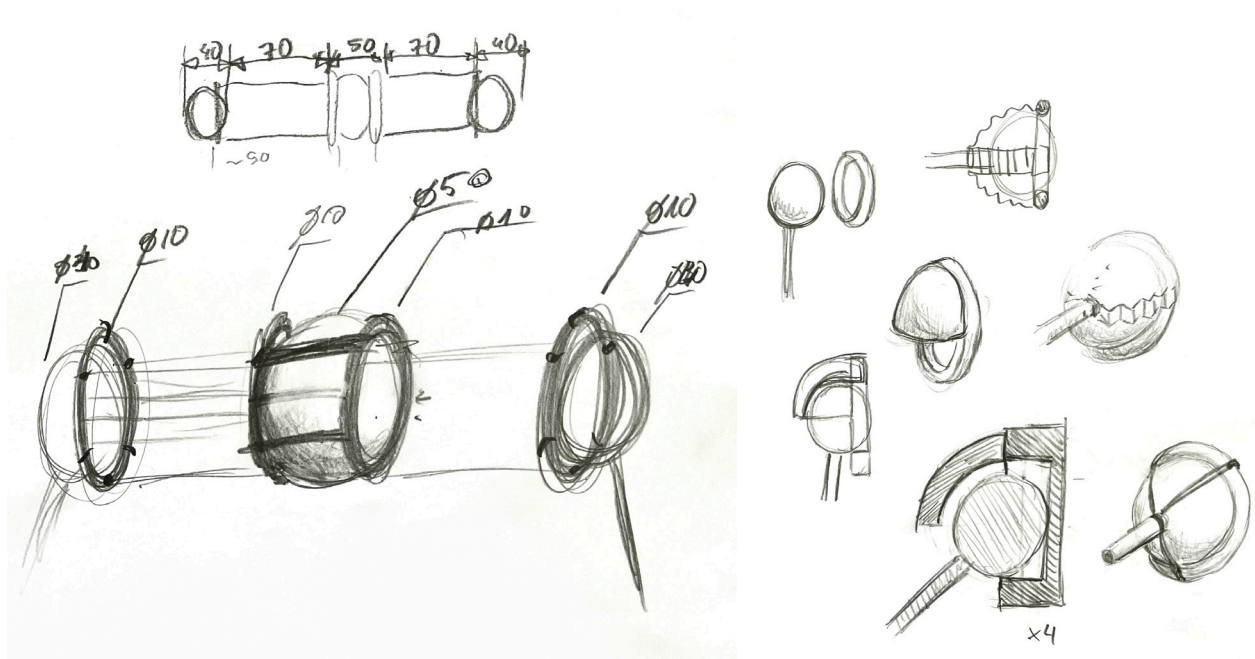


Figure 23. Sketches depicting shoulders and arms constructions

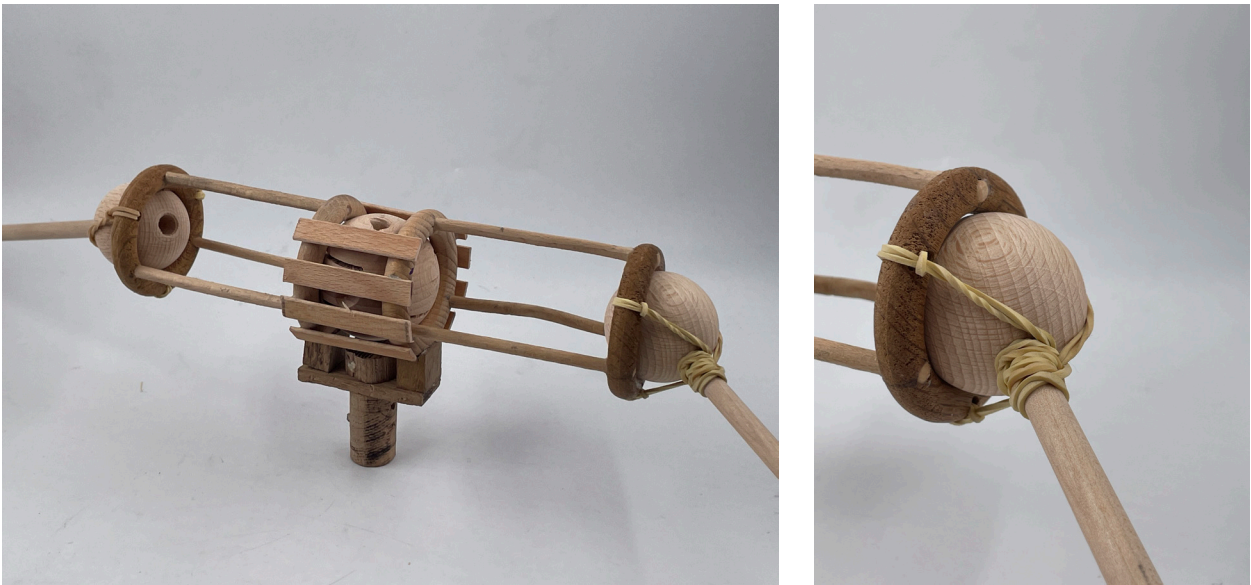


Figure 24. Shoulders and arms based on the sketch (Figure 23)

The next step was focused on creating the spine, a main stabilizer of the body, when the puppeteer is not controlling it. The difficulty of the task lay in the combination of the stabilisation function of the spine and its ability to fold. To ensure both of these features, I used springs on both sides of the moving elements (Figure 25); however, it was still not enough and required additional, thin PCV pipe, added between the construction and foam layers.

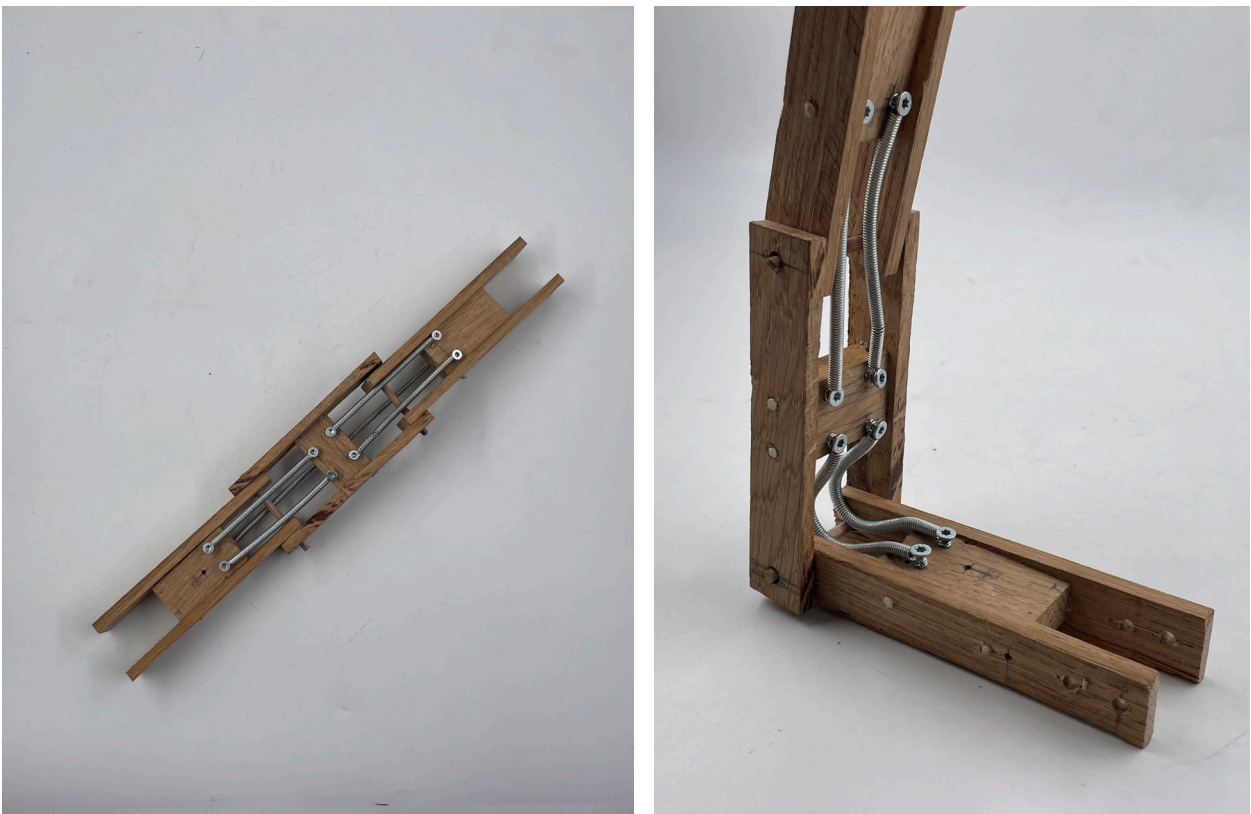


Figure 25. Foldable spine construction

Last, but not least, I created the head. The head as a carrier of a latex face is one of the most important elements, and its durability and functionality were carefully designed from the start. The feature that determined the whole construction was a movement of the mouth, as it is the only facial expression possible. The mechanism is presented in the figure 26. Construction additionally included foam layers connected to the main structure to ensure that the face attached to it has a full-body background.

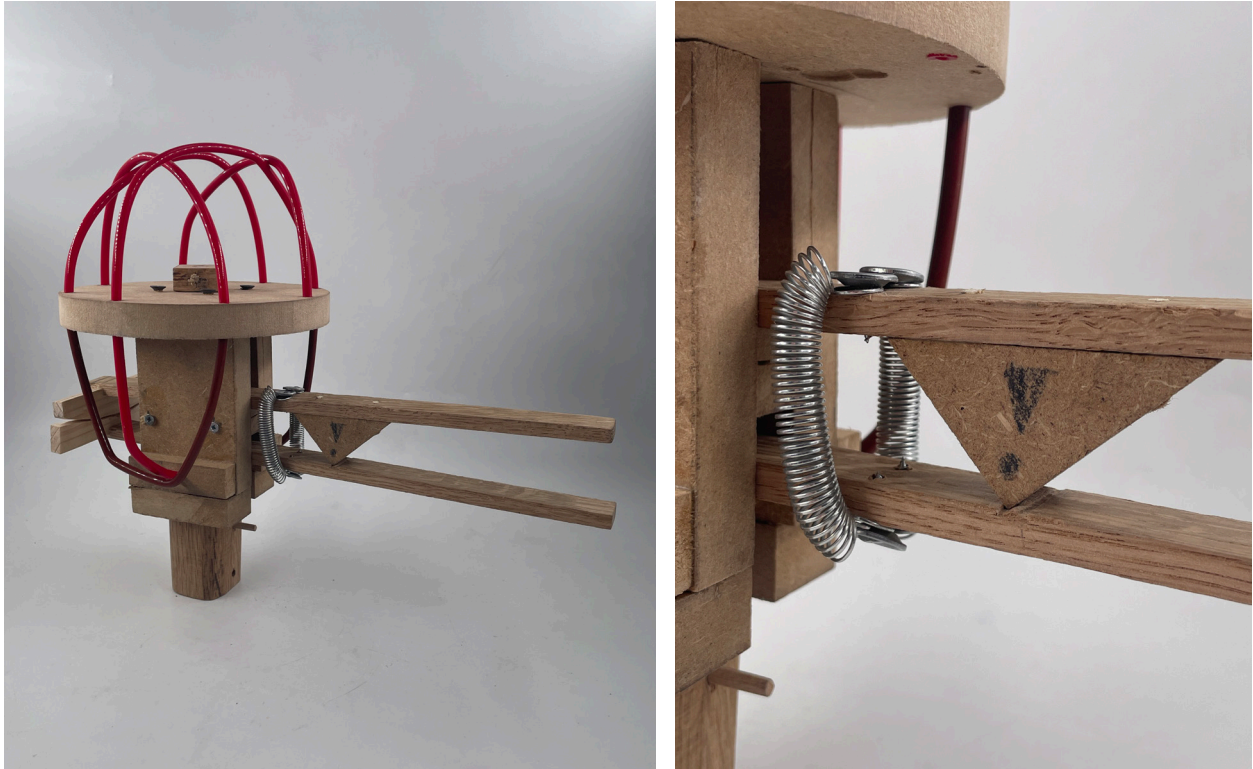


Figure 26. Head construction and mouth mechanism

After finishing the structure, I have prepared foam layers to add volume and imitate muscles and fat tissue, to mimic humans as much as it is possible. During this phase, I was also able to create a rib cage attached to the foam cover of the spine. This phase, presented in Figure 27, heavily relied on soft materials and in the first version of the prototype required disassembling certain elements to enable covering them with foam “muscles”. To make sure the puppet has the most human-like appearance and the foam is as least visible as possible. The technical documentation of the internal structure can be found in the appendix II.

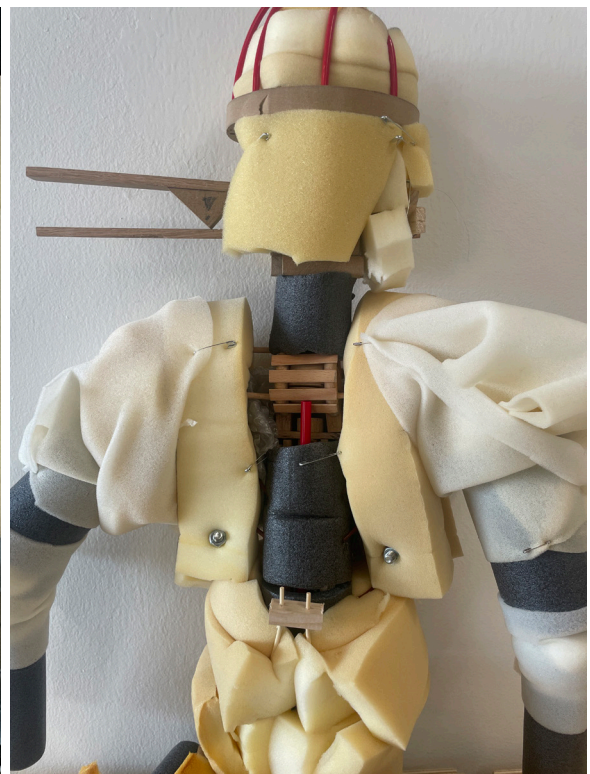


Figure 27. Foam “muscles” and “fat” layers

Deliver

Finished structure, foam layer, and face marked the finishing of the development stage. The assembled puppet received a normal human name - Josh - and a simple backstory. The story of the puppet takes inspiration from the popular Pinocchio (Collodi, 1881-1883); however, in this case, Josh was created specifically to become human, but due to his self-awareness regarding his obscure look, he does not want to. This enables the potential storyline to touch on topics like distinguishing from others, accepting yourself, or even overcoming suicidal thoughts. However, the further story of Josh lies in the hands of theatre directors and performers, as the puppet is only a tool to reignite interest in horror-based child culture.

To ensure that the project is relevant to the theatrical world, the puppet and its story were presented to Emil Veber Rasmussen, an experienced performer, director, and puppet maker (Figure 29). Due to tests exposing the first malfunctions of the construction, we mostly discussed the potential changes to the construction, as aesthetics are considered a personal, artistic decision. Nonetheless, I predicted that some changes might be needed, therefore, the connecting points between the hips, spine, arms, and head were designed to disassemble. Implementation of the changes is currently in progress.



Figure 28. Dressed puppet



Figure 29. Tests with Emil Veber Rasmussen

Chapter VI: Analysis and conclusion

Applying design methodology to an art-dominated field was a difficult task. However, the design through research, and proper positioning of the role of the designer, as well as treating uncanny as yet another form of disruption, and therefore adapting play design methodology, proved that puppet theatre can become a reigniting point of horror-based child culture design. Probably as a niche design field at first, nonetheless, a design field.

The puppet, whose creation process was presented in this report, despite its flaws in construction, due to its functionality and, maybe more importantly, eeriness, allows it to be considered as a professional stage horror humanette, ready to perform. Additionally, the backstory of Josh enables multiple different stories to emerge and touch difficult topics of acceptance and the will to live. However, exposing children to horror is still considered controversial, and the fact that the time needed to prepare the actual theatrical production goes beyond the available timeframe, the ability to show it to a larger audience before finishing this report was limited.

Exact eeriness of the puppet is measured by reactions, and due to a lack of theatre spectators to evaluate it, the success of the scariness can be measured only by reactions of other students. Josh had been exposed in the Kolding School of Design's corridor for around 30 days, and in this time, many students addressed me with concerns that seeing it for the first time was a truly uncanny experience. Not on the stage, the puppet acted disruptively after all. Additionally, the lack of a puppeteer encouraged others to interact with it and add their elements, like an earring on the left ear.

In summary, I consider the project a success. The analysis of the uncanny gave me important insights into the world of horror, and combining it with play design, thanks to many recent studies, opens opportunities for developing the field of horror-based child culture design not as something new, but something

reignited, and what is more, gave me an amazing opportunity to enter the world of puppet-making with a strong, developed project. The process described here may also serve others as a guide for preparing similar projects within the field, as it proved to be both effective and interesting to use.

Presenting Josh to others and the visible curiosity of the surrounding gives a chance that the general affection for the uncanny is still possible to achieve, and horror puppet theatre for children, as controversial as it sounds, could gather a lot of supporters in Denmark, especially considering how there is no fear of studying fear as a recreational experience. Nonetheless, I think that more time and studies are needed for people to familiarise themselves with fear and step outside of their comfort zone. Until then, projects like Josh are going to be only a niche peculiarity.



Figure 30. The latest version of "Josh", Asmus Kromann Bork, 05.2025

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Appendix I

Fear/play tension model

A small survey aimed to characterise the balance between orderly and unruly in a form of visually safe, familiar, and alien/disturbing to the point of potentially causing trauma. By putting to examination 10 characters in a child's horror, or whose purpose is to add a horror element in a non-scary situation, I created charts of uncanniness.

Number of participants: 5 adult designers

Form:

1. Examining pictures of characters.
2. Intuitively positioning them on the chart.
3. Filling in questionnaires regarding the scary points and human likeness of the characters.
4. Summarising data.

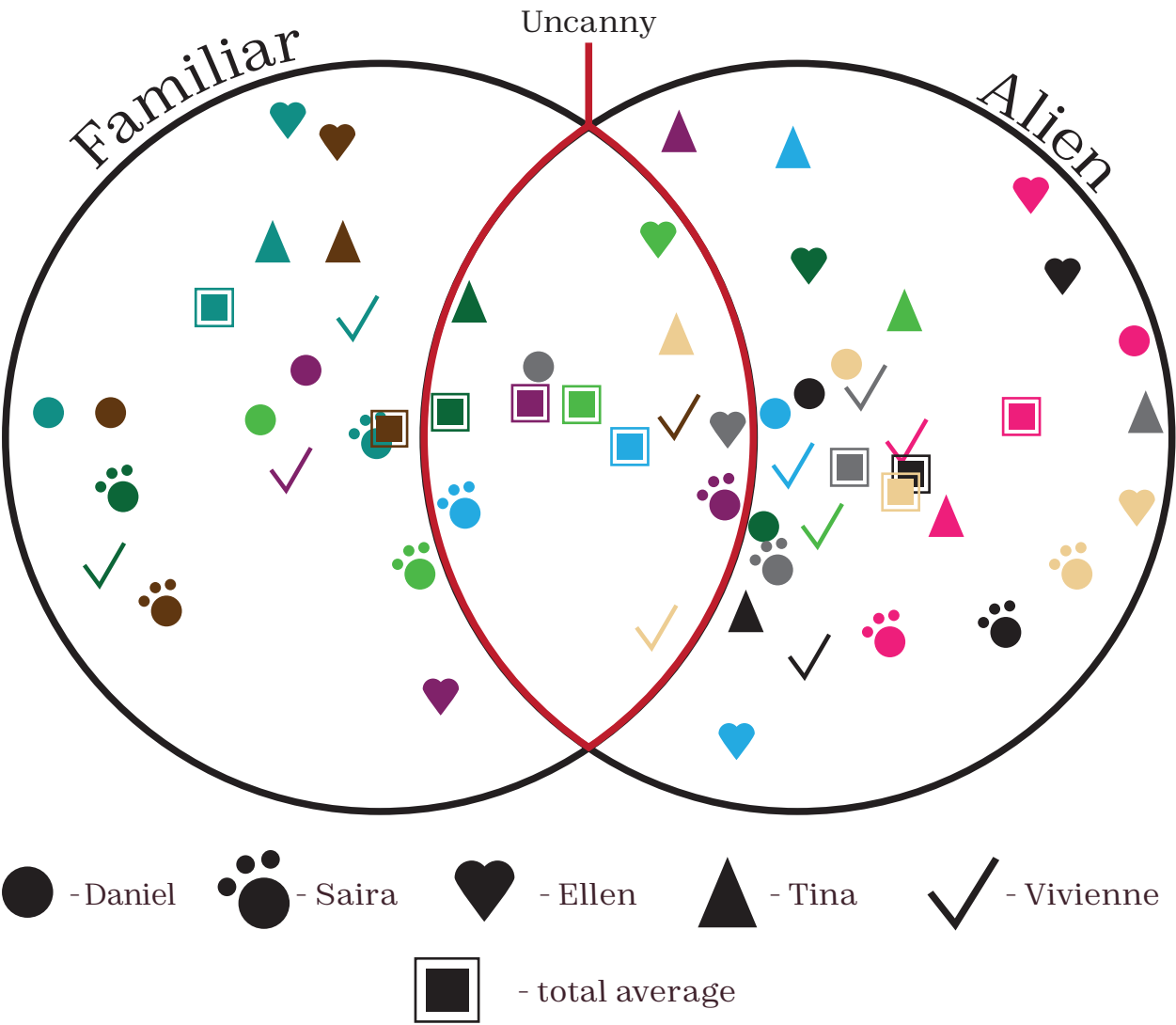
The results are as follows:

1. 1 character (Furbie) felt safe, probably due to its structure's complete lack of human referencing.
2. 4 characters (Other Mother, Dementor, slender Man and Constance) were considered too eerie, and potentially traumatic to the younger audience.
3. Characters that felt out of the uncanny frame were considered the most and the least human-like.

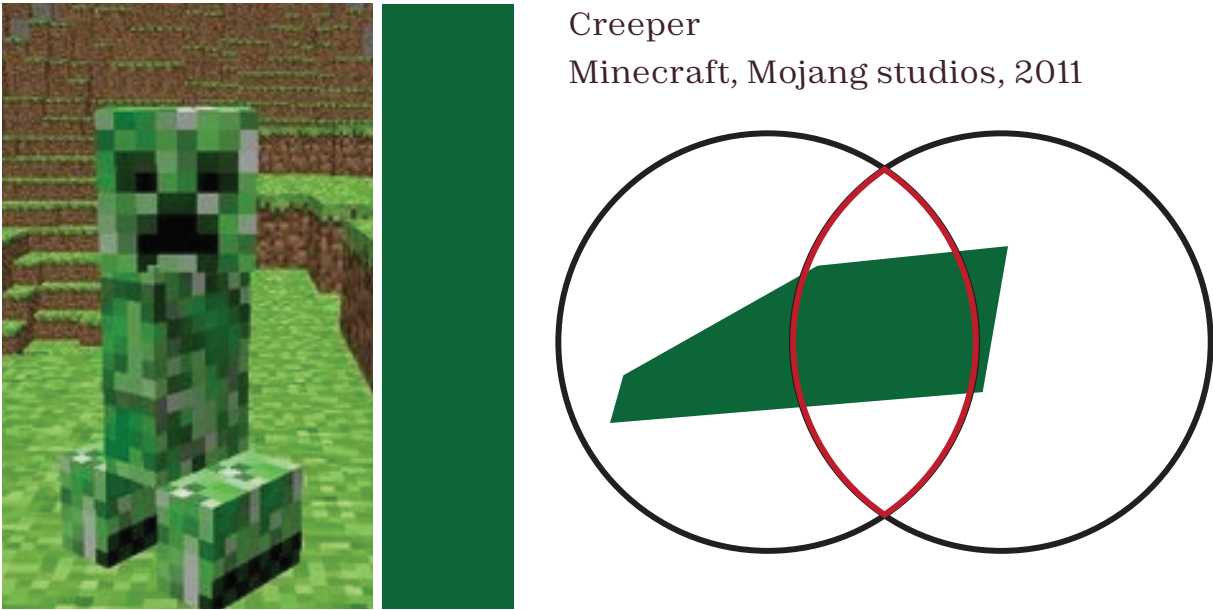
Characteristics of the optimal, eerie character for child culture horror:

1. The most common aspect considered a scary element was the face and facial expression.
2. Next was the shape and structure of the body.
3. The least mentioned aspect was overall colour and eyes.
4. Human-likeness in the most uncanny characters varied.

Chart with positioned answers

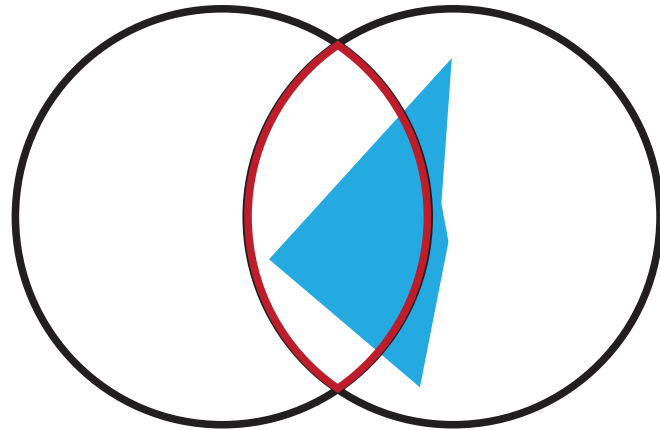


Presented characters and their chart positioning

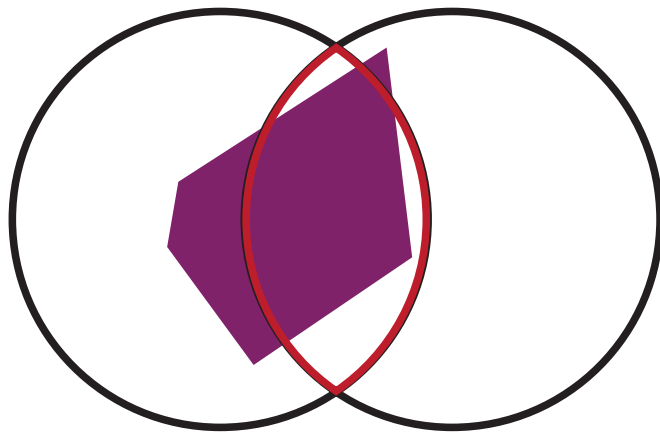




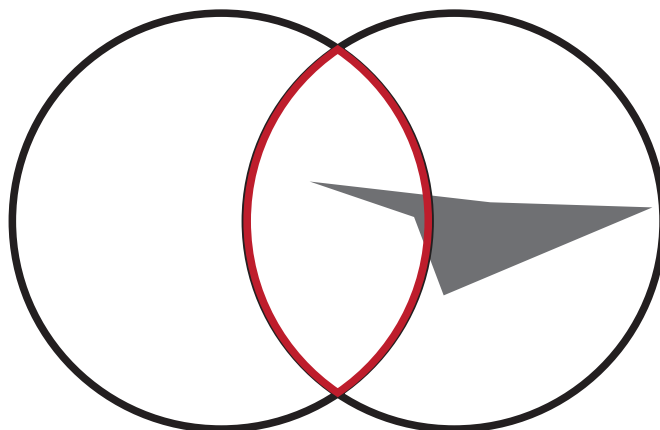
Uncle Deadly
The Muppet Show, Jim Henson, 1976



Mörkö
Pappan och havet , Tove Jansson, 1963

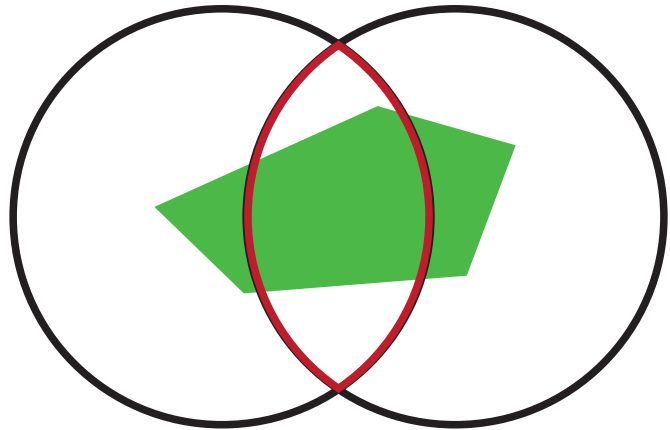


Slender Man
Victor Surge, 2009

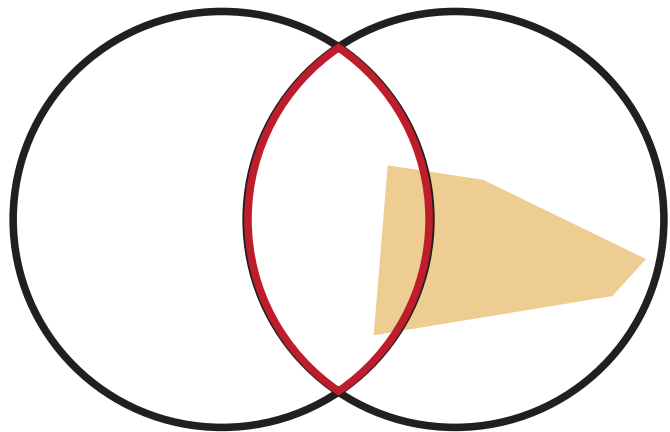




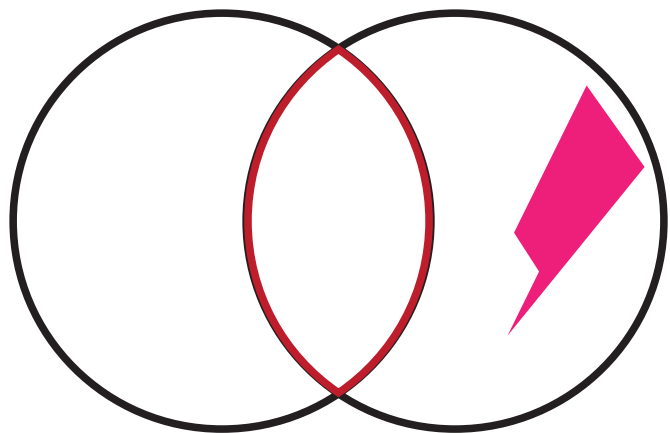
Jumbo Josh
Garten of BanBan, Euphoric Brothers, 2023



Constance
Moster House, Gil Kenan, 2006

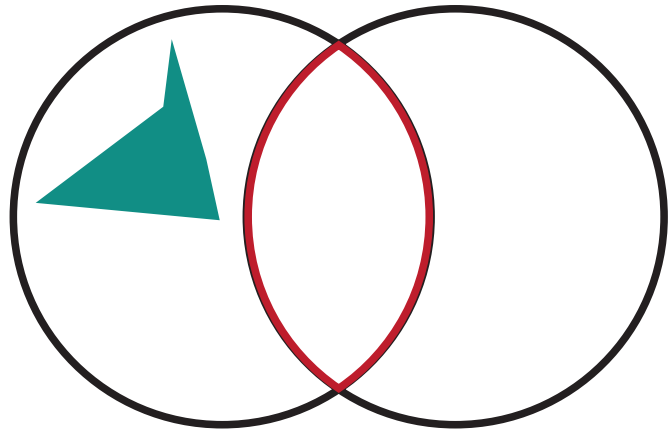


The Other Mother
Coraline, Henry Selick, 2009

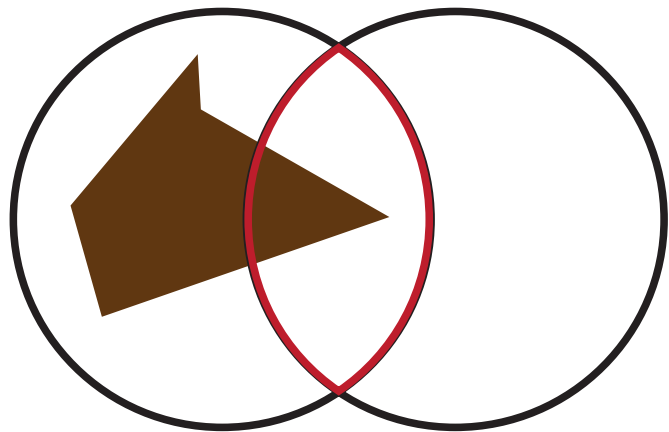




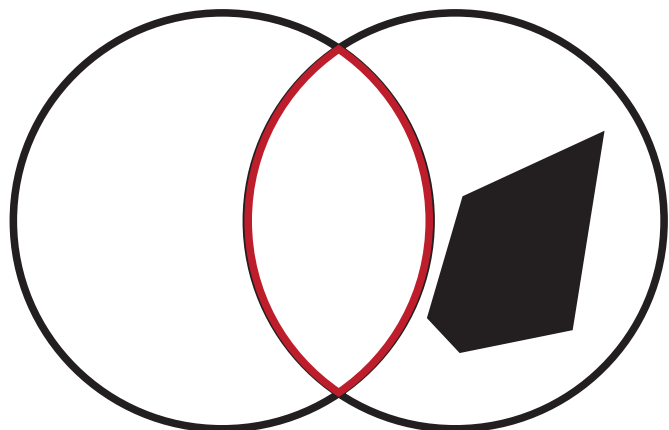
Furbie
Tiger Electronics, 1998



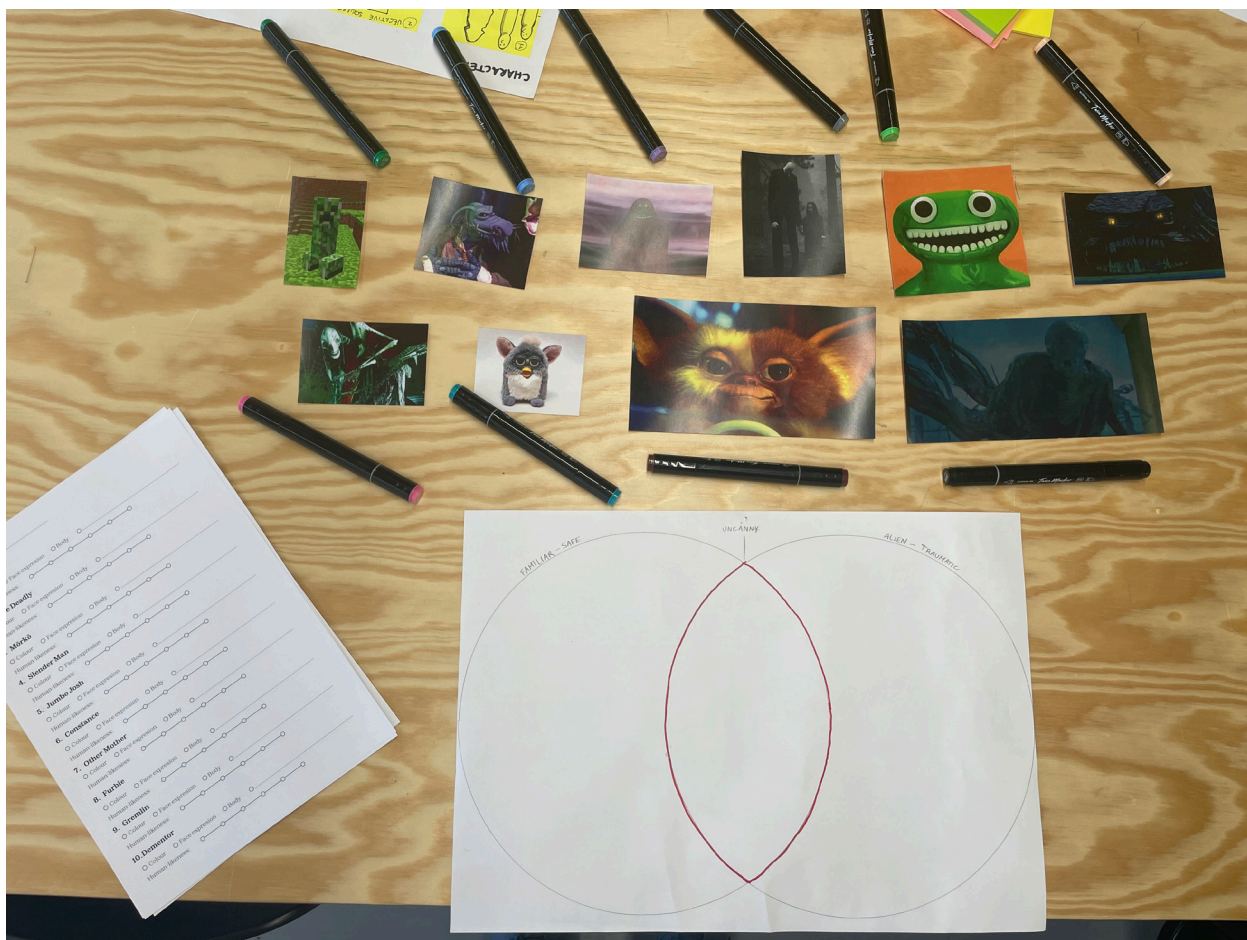
Gremlin
Gremlins, Joe Dante, 1984



Dementor
Harry Potter and the Prisoner of Azkaban,
(book) J. K. Rowling, 1999,
(film) Alfonso Carón, 2004



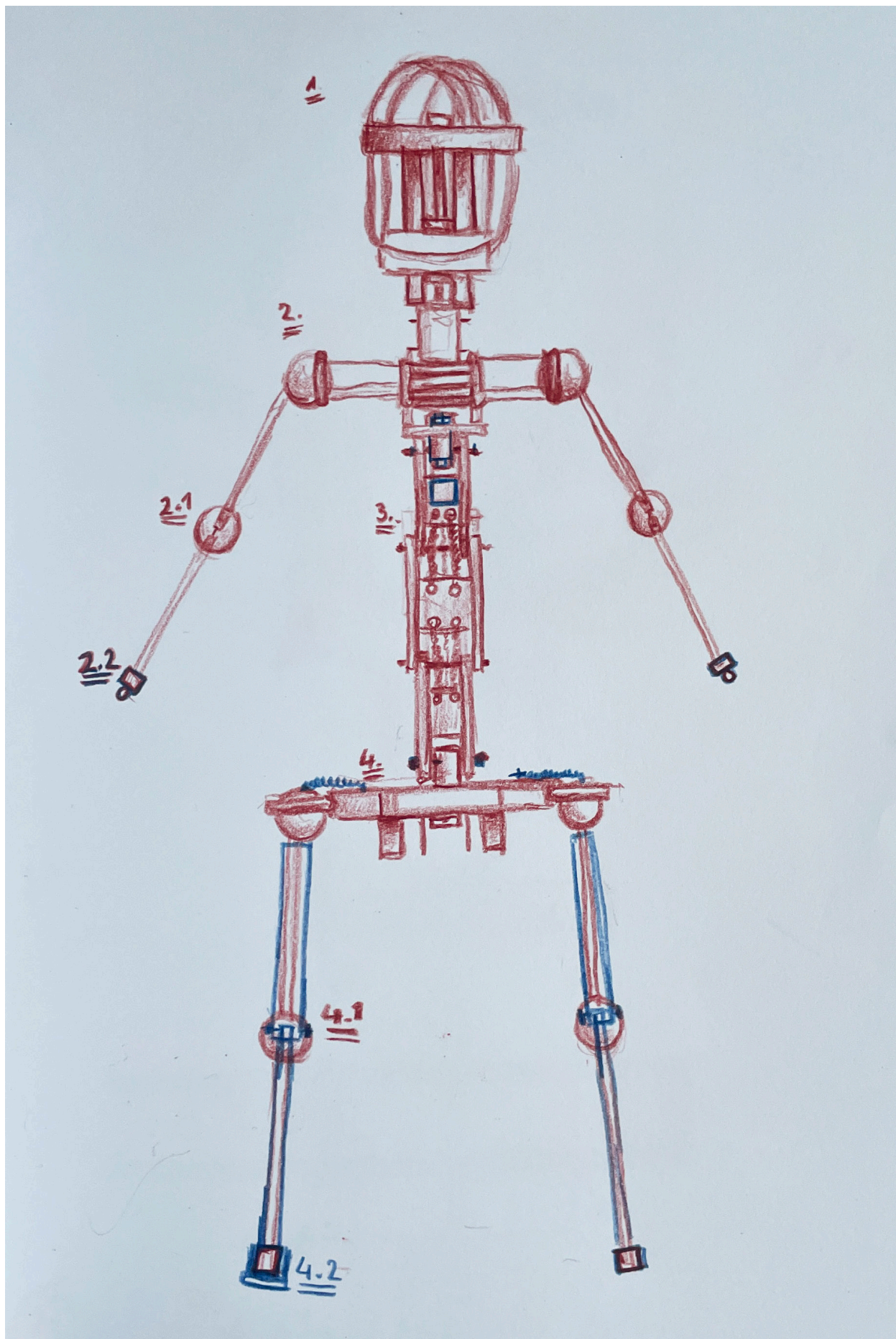
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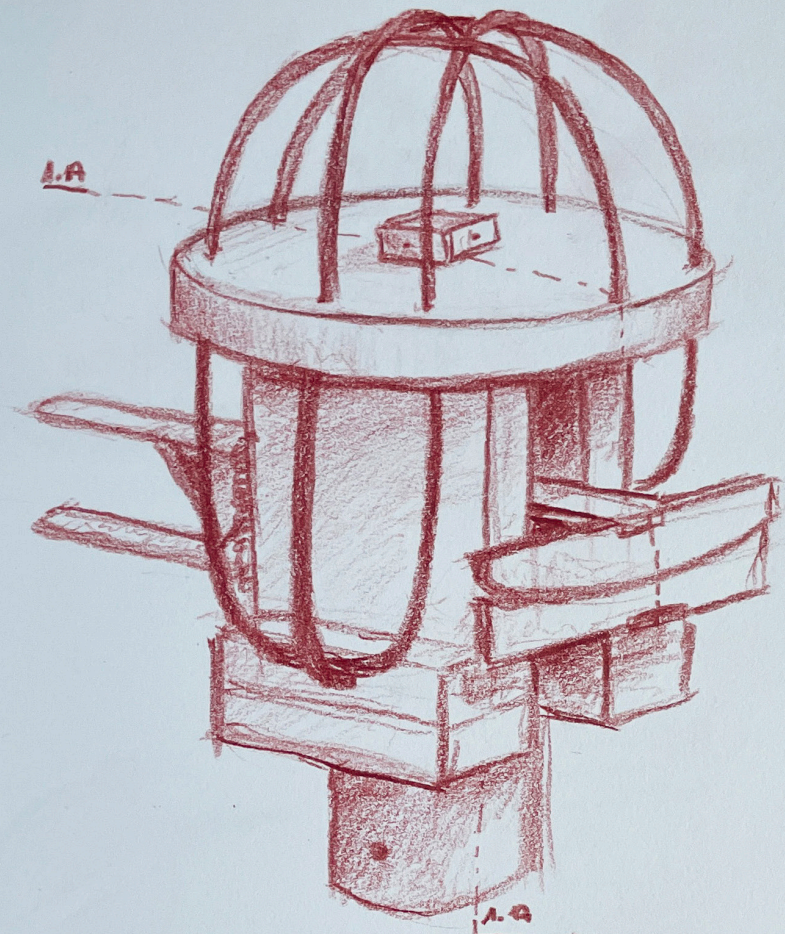
Appendix II

Construction of the puppet

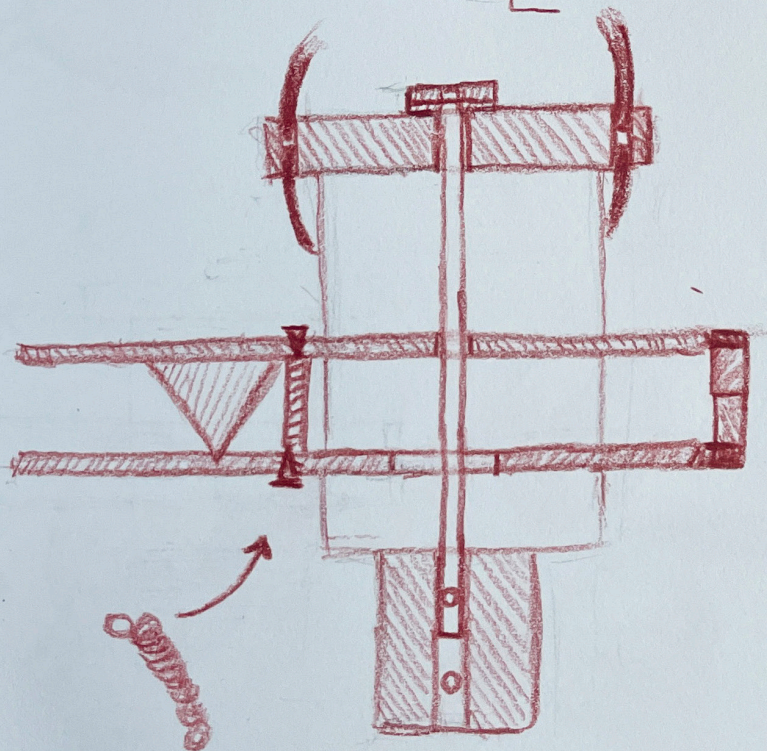




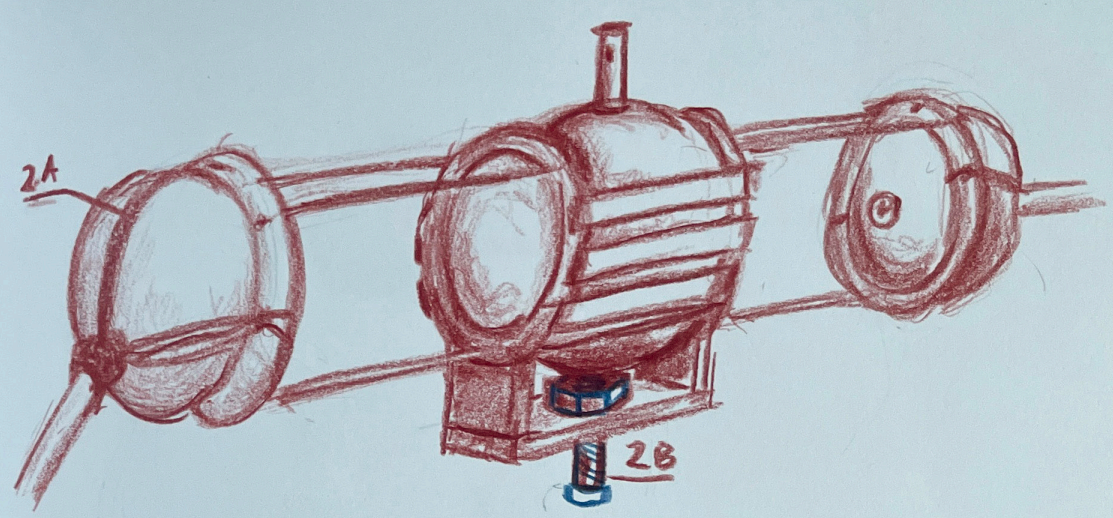
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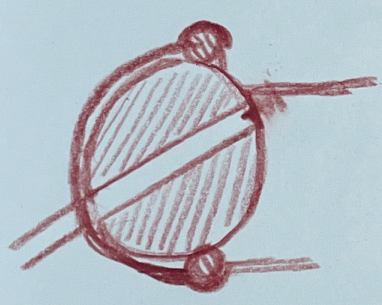
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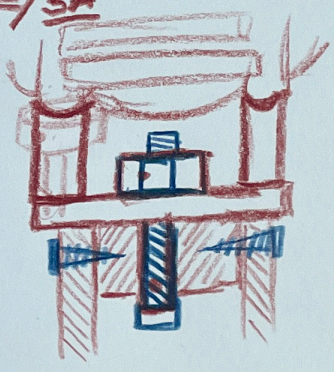
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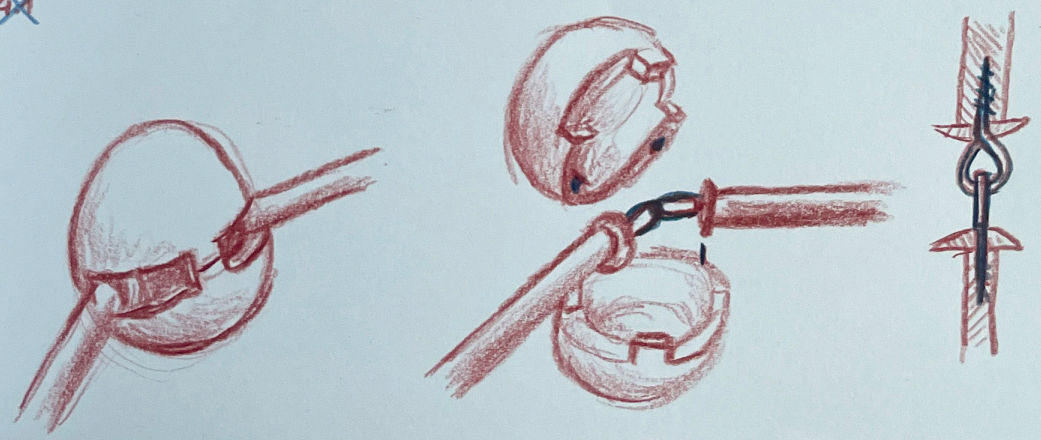
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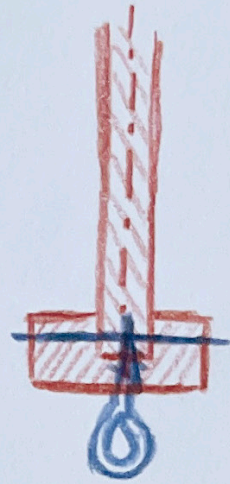
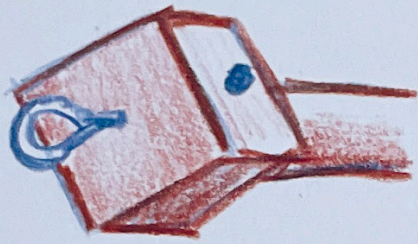


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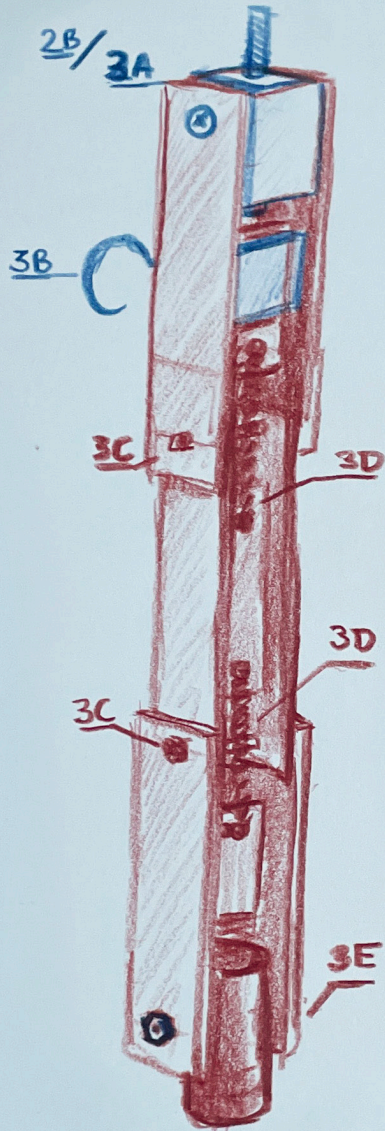


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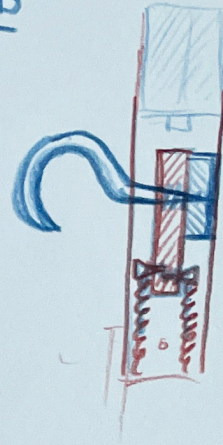




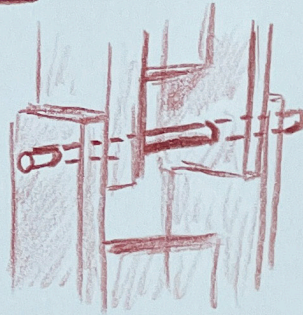
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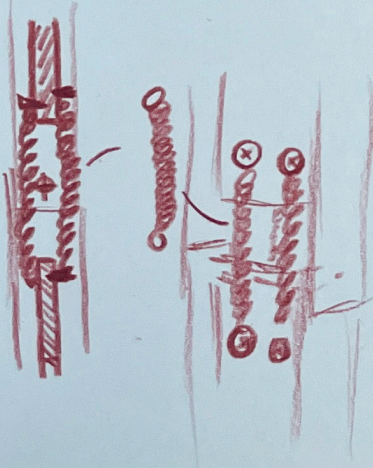
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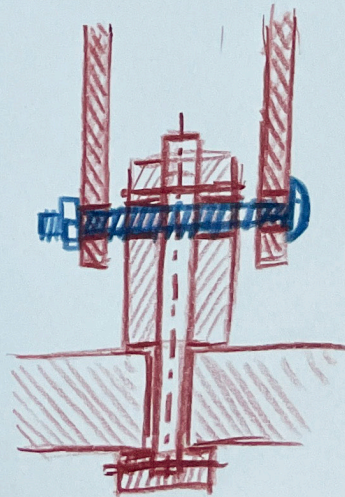
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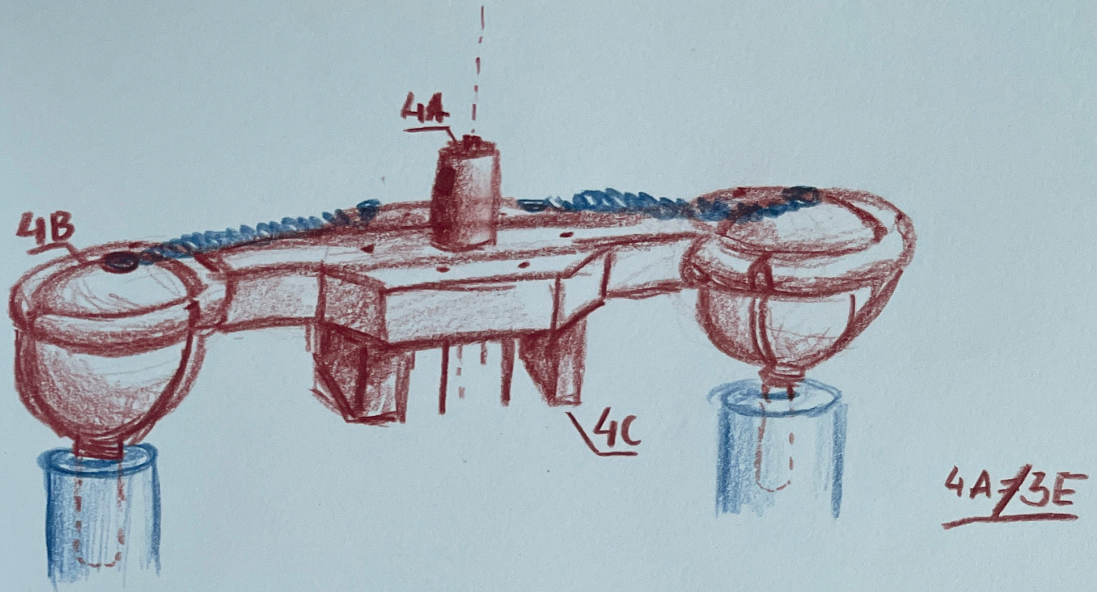
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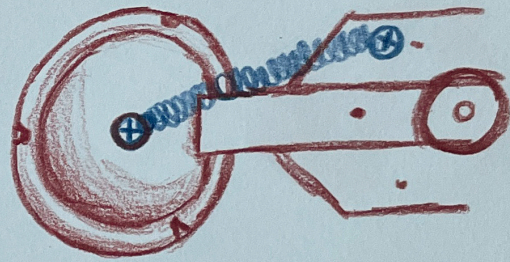
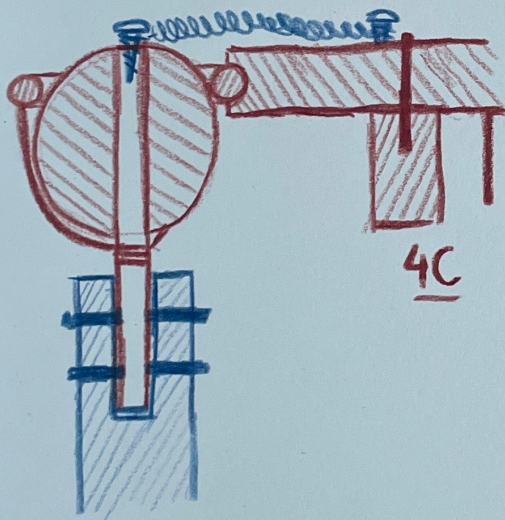
3E/4A



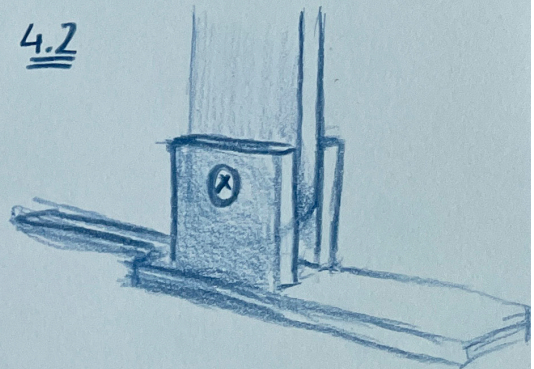
4.



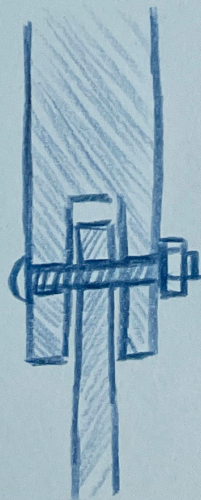
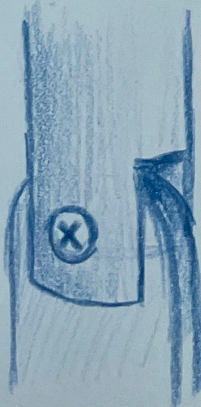
4B

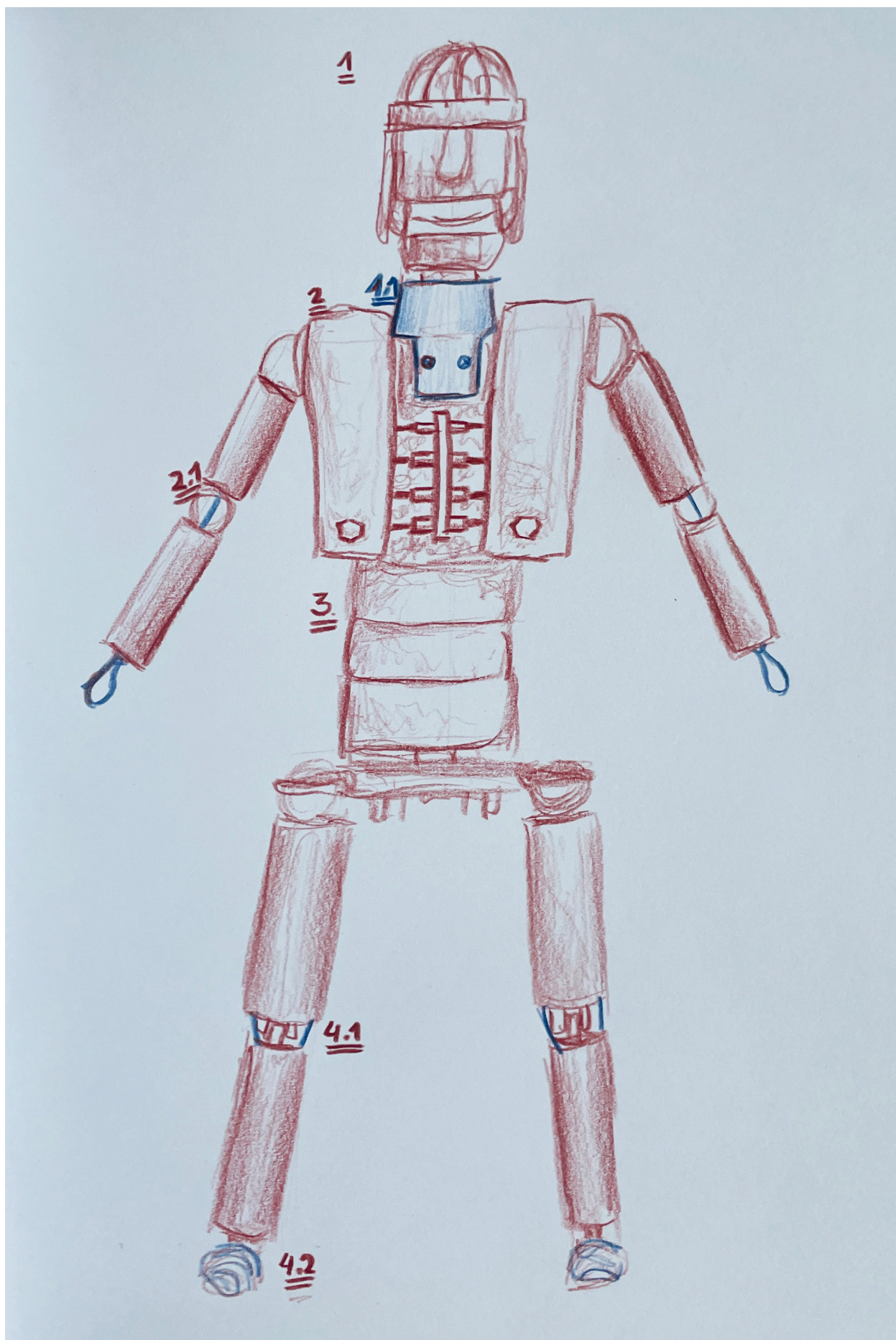


4.2

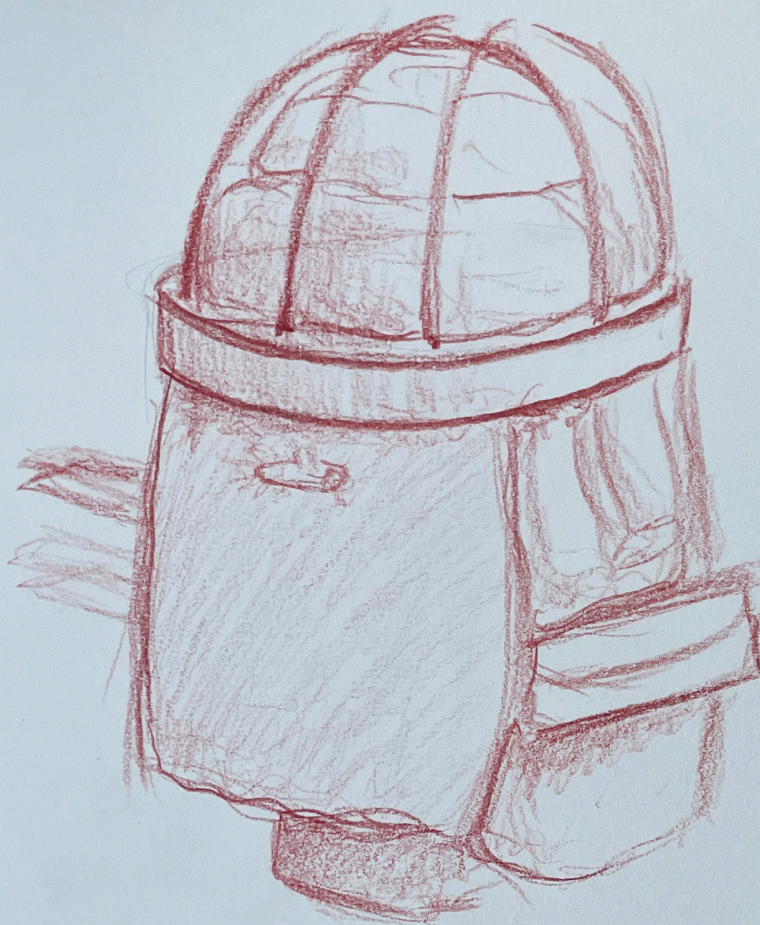


4.1

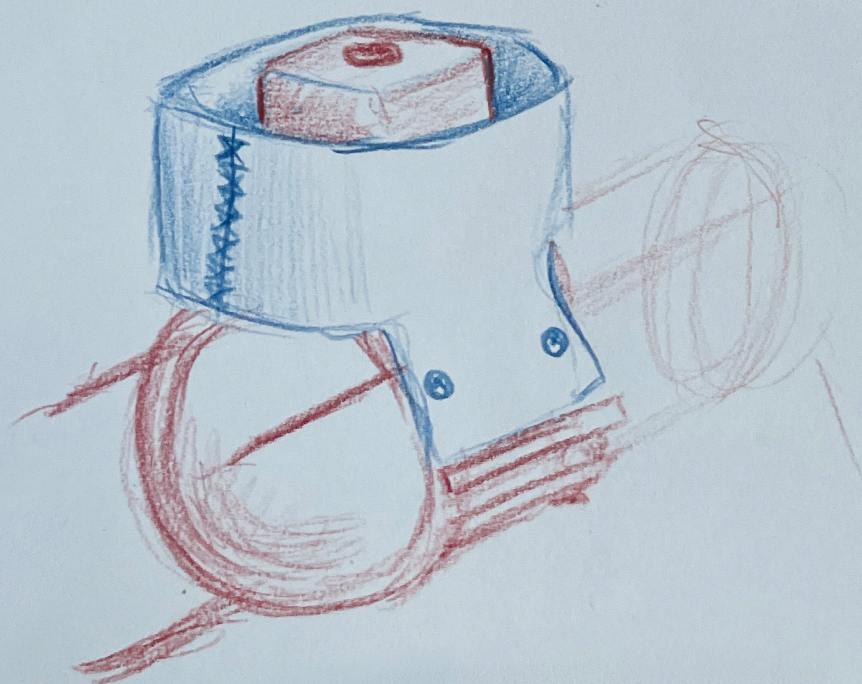




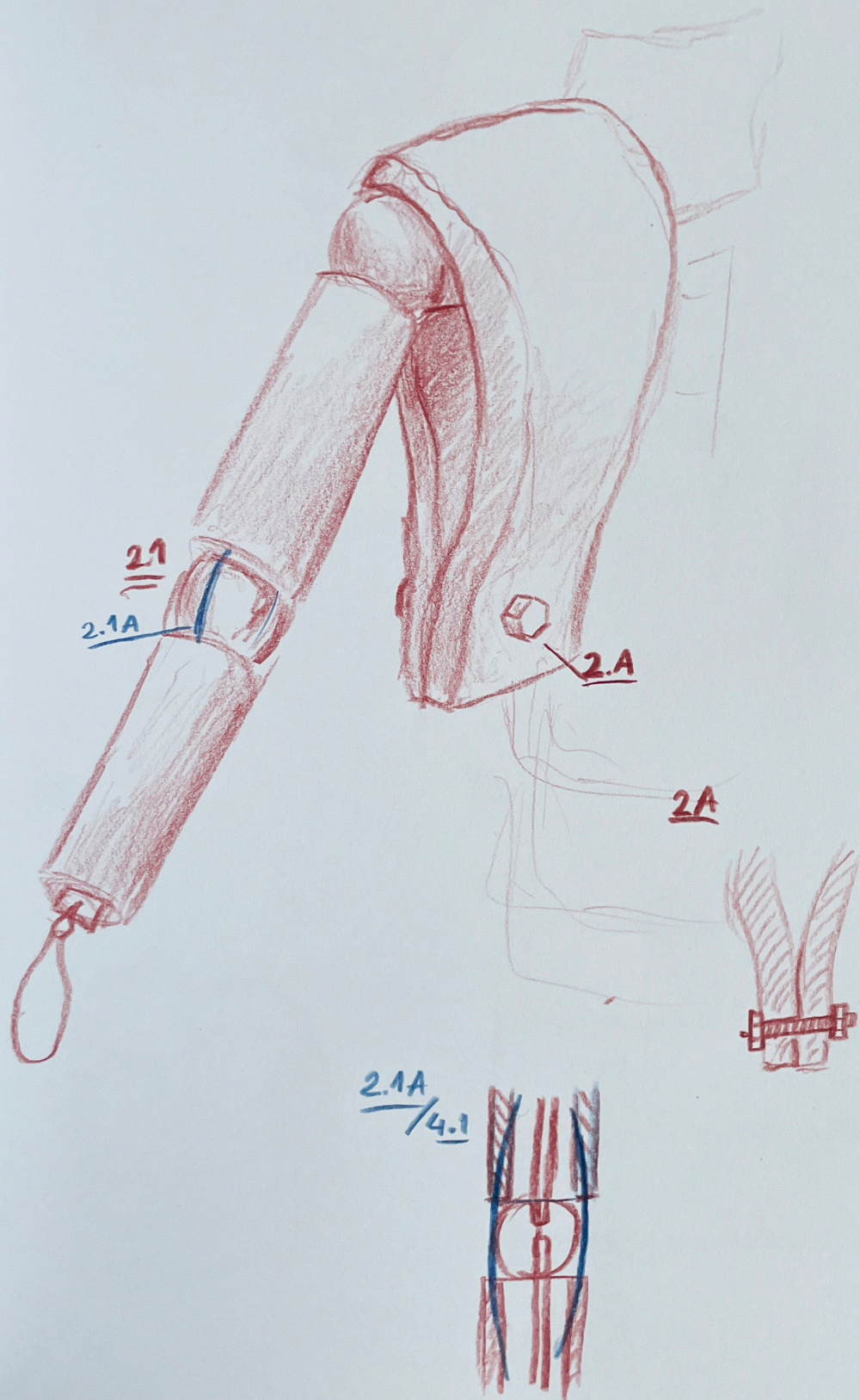
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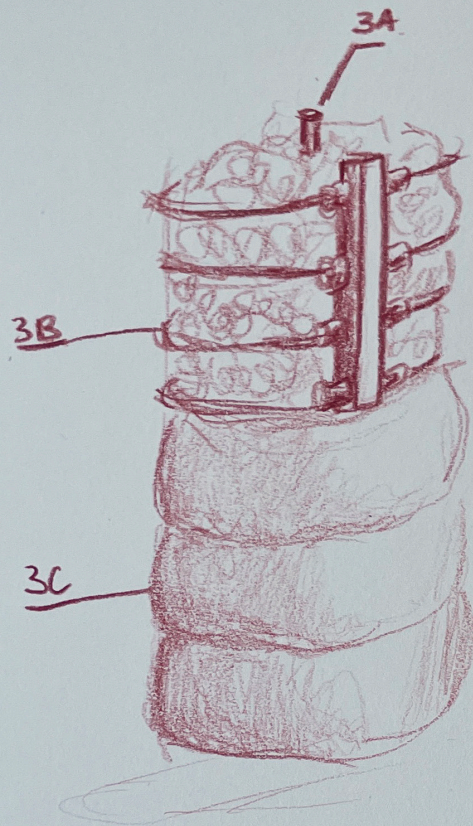


1.1



2





3B

3C

