CHARACTER SHAPE AND VISCERAL RESPONSE
Can a figure’s shape alone generate a reaction regarding its nature?

Bachelor Degree Project in Media Arts, Aesthetics and Narration

30 ECTS
Spring term 2015

Veronica Jensen

Supervisor: Lissa Holloway-Attaway
Examiner: Lars Vipsjö
Abstract

This study examines shape language when used in figures representing humanoid creatures and how a viewer can be manipulated by shape language to feel a certain way about a figure. The study focuses on good versus evil expression and how one can utilise shape to knowingly give cues about a figure's alignment or how to mislead the viewer if so desired. Focus is on visceral emotion connected to sharp and soft shapes and asymmetrical or symmetrical features, but it is revealed that its use in character design may be a cultural convention rather than something hard-wired in our brains from years of natural selection and experiences tied to our subconscious visceral response.

Keywords: Visceral, Character design, shape language
Table of Contents

Introduction .........................................................................................................................1

Background ..........................................................................................................................2

Problem .................................................................................................................................10
  Method .................................................................................................................................10

Implementation .....................................................................................................................14
  Pilot Study ............................................................................................................................14
  Progression ..........................................................................................................................14

Evaluation .............................................................................................................................21
  The Study .............................................................................................................................21
  Analysis .................................................................................................................................24
  Conclusions .........................................................................................................................25

Concluding Remarks ..........................................................................................................27
  Summary ...............................................................................................................................27
  Discussion ..............................................................................................................................27
  Future Work .........................................................................................................................28

References ............................................................................................................................30
1 Introduction

This study aims to investigate the effects that shape has when it comes to reading a figures design. The study focuses on shape language, and specifically the emotional values found in shape and how players perceive them when they are applied to creatures and figures. This particular study focuses on the topic of video game character design principles, but the results are applicable to other media as well.

The study will focus on only shape language and if this on its own works when it comes to differentiating figures from one another and to give an impression of their intentions and whether they could be friendly or dangerous to a player. The study focuses on designing characters that would be part of video games. In games it’s often important to be able to read a character quickly and understand their roles and intentions.

Since shape perception to some degree is hard-wired in our genes, it is something that is processed very quickly, and therefore it is a good tool for creating characters with interesting features that also can give the player different kinds of information and expectations. The information is depending on what features the figure has. Figure designs can be read as consisting of the basic shapes, circle, triangle and square, as well as asymmetric or symmetric features and sharp and soft features. The fastest way to read a figure this way is to read its silhouette.

The effects on the viewer or player are examined through the use of qualitative research in the form of interviews. After being introduced to two sets of five figures the respondents answer questions regarding what they felt about them, as well as ranking them from good to evil. The figures consist of silhouettes of humanoid bodies, without faces, with varying degrees of use of the different shapes from round to pointed. The differences between each figure is subtle and gradual, while the opposing softest and pointiest figures are contrasting visibly when placed next to each other. The first set is unified in its design, the other have heads swapped out so they consist of a contrasting design. To test out whether asymmetrical features works for the same purpose a third test has the respondents choose between a symmetrical and an unsymmetrical figures silhouette when deciding on the question of which of these they would trust.
2 Background

Certain adjectives and emotional moods are often associated with straight and curved lines. Most of the other basic visual components don't have preexisting emotional characteristics associated with them, but straight and curved lines do. Generally speaking, a straight line is associated with these qualities: direct, aggressive, bland, honest, industrial, ordered, strong, unnatural, adult and rigid. A curved line is often associated with these qualities: indirect, passive, pertaining to nature, childlike, romantic, soft, organic, safe and flexible.

Block, B. 2001: p.81

Even something as basic as a line can have certain attributes affiliated with it. Because of this, when creating something more complex, such as a character design, one can affiliate emotional qualities to a shape too. Block explain how these shape concepts can describe shapes such as a circle, square and triangle and their 3 dimensional counterparts. These basic shapes, give a circle features akin to curved lines, squares akin to straight lines and triangles feel dynamic because they use diagonal lines (Block 2001: p:85).

When playing video games it is often important to quickly decide if a character is good or evil. If this cannot be determined at a glance, players might become confused and even fail to react the way they should do to a threat. This research aims to investigate if and how one can manipulate the first impression given by a figure’s appearance, purely by making use of its shape language. More specifically, in this research the aim is to examine if a character design can tap into a player’s visceral emotions just by relying on shape alone. Visceral reactions are those that appear naturally and are not consciously controlled. They depend on a hard-wired system in our brain, evident since since birth, and they are part of a perceptive system all humans share to some degree. This will be discussed further later on.

Characters are humanoid or other sorts of creatures or even in some cases objects that have a role in a work of fiction, with a set of defined traits that define them. When it comes to video game characters, a lot of input is combined and presented to inform players of what role the character represents, ranging from pose, voice, expressions and colour schemes. Cultural cues, conveyed for example by the use of different clothing or props, can also give us information about the character. A cigarette, a uniform or a specific type of hat belonging to someone of a certain social position conveys detailed information about a character. These signs are things we learn as we communicate and experience the social culture around us, and they are also signs that also have been established through cultural development. These signs will differ around the world, and change over time. For example, a police uniform may change appearance over time, and look slightly different depending on what country it originates from. Even the camera angle or lighting of the scene a character is introduced in will play a part when it comes to making a first impression. Therefore it is often hard to scrutinise and discover exactly what parts of an available array of impulses help us determine how we feel about a character in question when encountered in a game. The answer could be based on a wide range of them, but possibly one point alone could be enough to assist our decision-making. This research will focus on the shape and silhouette and investigate if meaning can be read from these features alone.

The effect of shape can have on determining a player’s choices is interesting because it is something that we process so fast and naturally that we are not aware of any conscious
decision-making. While colouring or clothing cues draw from experiences or cultural references we have learnt over time, shape can take use of information on a more basic level, and therefore may be quicker to read. One can compare this to the moment upon seeing a soft pillow, where the soft rounded shape tells us that we can touch it and that it will be pleasant and pain free to handle, and to the moment of seeing a knife which looks hard and sharp and dangerous. In an instant their different roles will be analysed and their areas of use recalled, without any particular conscious thinking.

In the book *Emotional Design* by Donald A. Norman written in 2004 he explains why we feel a certain way towards everyday objects and their design, explaining that our brains are “prepared” to deem certain features as positive and certain as negative. These concepts go deeper than our experiences or memories, these are things we can sense viscerally due to a long history of evolution and natural selection. These are genetically determined conditions that are all recognised by sensory information. It is not things relying on reason or experience. Cognitive scientists call this “pattern-matching”. (Norman, D. 2004: p:29) Pattern matching is the constant process of analysing our environment and it’s affordances, by taking use of what we know instinctively and not what we have learnt through experience.

Positive features he mentions that are related to visceral emotions and that can be applied to character design are symmetrical objects, rounded smooth objects and sensuous shapes. Negative conditions include “looming” objects, sharp objects, misshapen bodies (referring to asymmetrical flaws), snakes and spiders (Norman, D. 2004: p. 29, 30). He also explains that while these reactions are part of our biological heritage, we are also individuals, and so not everyone will react the same way to the things he lists. We are also able to overcome some of these pre-programmed patterns by associating them with other things or by not experiencing something negative related to them. Some people for example are not afraid of spiders or snakes, while some people suffer from a crippling fear of them.

By taking advantage of biologically inherited visual cues, as mentioned above, one might be able to control how a person perceives a character. Meanings are produced through the complex negotiations that make up the social process and practices through which we produce and interpret images. This involves three elements in addition to the creator of the image and the image itself. Codes and conventions that structure the image and cannot be separated from them or from the the viewers and their experience and interpretation of the image and the context in which the image is viewed (Sturken, M. Cartwright, L. 2009: p. 49). Therefore we are certain that an image will always be read differently by different viewers. But it may be possible to reach certain “rules” that can always have the same effect, if one attempts to base the rules on a system that all humans have in common to some degree, this is where the visceral emotions come in to play.

Figure 1 shows two items, one sharp and dangerous and one soft and cute. The moment they are in sight, the brain processes them and decides how to respond to them. The spider made out of scissors looks dangerous because it’s recognised as both a spider and a bouquet of razor sharp blades. The crocheted cat looks soft and its small round legs makes it look like it would have trouble even moving around, so it appears cute and defenceless to the viewer.
Figure 1 Two contrasting objects. A round soft crocheted cat and a sharp spider made out of scissors. Which would you rather touch?

An example of this principle in action is found in the video game Ghost Trick (Capcom, 2010). In it, the protagonist is designed in such a manner that all details, hair, nose, shades, shoulders, etc., are sharp and triangular. (See Figure 2.). Players might discover upon being introduced to him that something seems to be off. And at the end of the game, in a brilliant twist, it is revealed that the character is not really the main character at all, but actually one of the villains of the story. Players who possibly did not see this coming will get an “a-ha!” experience from this reveal, because the design fits so well with the bad-guy role. The expressions he uses as the bad guy are also different from the ones we see when he is controlled by the player, further increasing the image of an evil character. The significant part of the design of the character in “Ghost Trick” is that although the pose and expression might tell us that the character is good, we might still feel there is something that tells us not to trust him. This is most likely the shape language of his design, as he is very triangular and dramatic in appearance, something we relate to danger. Other aspects of his design that hint at the final reveal are that we never see his eyes, as he is always wearing shades. He is also clad in red, white and black which are colours that are often used in combination in villainous characters, due to their powerful nature. Other examples of villains with this colour scheme are Shadow the hedgehog of Sonic Adventure 2 (Sega, 2001) and Cruella de Vil of 101 Dalmatians (Disney, 1961). The simple and direct colouring, taking use of clean monochrome and saturated red certainly gives them a refined dark edge. Still, even if these features were changed he could still appear as a villain, due to his sharp shapes. This is a clever use of character design, leading the player to sense a characters true identity but giving them another impression entirely of who they are until the right moment. But of course, if everyone used it this way, it would no longer have an impact as the outcome could become a cliche and its implications expected, the shock factor would be lost.
Perception of shape has developed through a long line of evolution through natural selection, and favours our basic needs as human beings. It is developed to solve problems our ancestors faced, hunting, mating and surviving and predicting the outcome of actions. This makes us able to experience the world according to what we need to sensor to be able to function as human beings, as this is why the ability to perceive was developed through evolution in the first place. It is not the most optimised system, but rather one that fulfils needs at the level sufficient to survive (Singh, M., Hoffman D., (2013) p. 171). The perception of shapes allows us to for example to see a tiger before it attacks or recognise the body and face of another human that could potentially be a mate. This gives us survival advantages and it has ensured in part our species survival. Since humans are hard-wired to react instinctively to certain kinds of input to avoid danger or make an important decision in a timely manner, perceiving visual shape is an important process that allows for observing affordances and identifying objects or creatures that may be harmful or useful.

This effect can also be harnessed in character designs as also is the case when it comes to designing tools or everyday items. One can say that characters are tools that are used to tell a story more so than they function as real creatures that inhabit the world with us. Some characters are even based on inanimate objects or animals and we accept that without question. Examples of this are *The brave little toaster* (Hyperion animation company inc., 1987.) or the supporting cast from *The beauty and the beast* (Disney, 1991.) that have been turned into objects by a magical spell.

In most cases a face is needed for an object to be recognised as a character and not simply a lifeless object. Figure 3 below is an example of the importance of facial recognition. If it was not for the face, the object would just look like a random array of boxes, but due to the addition of the (rather expressionless) face, it looks like a bored golem or a robot that has been so inactive that it has allowed for items to pile up on it. The square shape makes it look very solid and stable, not very aggressive or dangerous, it seems too slow and immobile to be an immediate threat. The silhouette itself would not give us enough clues to recognise it as a creature, and we would more likely only see it as a lifeless object.

![Figure 2](image)

Yomiel as both the “protagonist” and as the villain of the game “*Ghost trick*”.
The face, even if it is expressionless, dictates most of the feelings towards it. Faces hold very important social cues for both humans and primates. Certain parts of the brain are devoted to process and read faces and facial expressions, it is one of the most important human communication channels. An experiment performed on a monkey used different images of faces, one of a monkeys face, one of a human face, the same human face without eyes, a cartoon smiling face and lastly a random array of lines. They then measured how the monkey reacted to these different inputs. The images in the list took use of the same neurons in the monkeys brain when it came to reading the faces, only the image that consisted of random lines did not awake this process. (Isbister, K. 2006. p.143-144). Even a cheese sandwich that has a burnt pattern on it can be perceived as showing a face, due to the arrangement of the burnt spots, although the face is not really there when looking directly on it magnified, even if it is something that has not been experienced as a face before, it can be read as a face. (Kellman, P., et al. 2013. p.250). Since faces are so important socially, we always try to find them and read them whenever they are in sight, even if they are not actual faces. The twitter account “Faces in things” (@FacesPics) showcase a collection of this concept in action, in addition to some great examples of shape perception in general. An example found on the twitter account follows in figure 4 below.
From this we can understand that as soon as a face comes into play, it activates the part of our brain that reads facial expressions, and as faces are a very important channel of showcasing human emotion, this will certainly affect how a viewer will view an image of a figure or character. The face therefore might control a great amount of how a character is read, since it is so important. The different expressions and emotions read from them are part of a system that also has been established through evolution, and therefore is a part of a common ancestry in humans. Although some expressions inherent meaning might vary depending on region and culture, there are some points that most certainly are universal, such as fear or sadness. (Isbister, K. 2006. p.145) This concept also effect how we perceive shape, for example downward pointing V shapes or triangles can be perceived as threatening since this shape is found in aggressive facial expressions on animals and humans alike (Larson, C.L., et al. 2012).

Charlotta Bävholm, a former student at the University of Skövde, also studied the subject of how shape affects how characters are perceived in her thesis work from 2013. Her study focused on character traits one could read from shape, by creating a design both for a female character and a male character, and then change their appearance by creating versions based on triangular features, round features and square features. Rather than looking at personality traits that one can read from the same design in three different versions, I wish to examine how a figure based on the different basic shape language is perceived, and what alignment they could have toward the player based on these shapes. Instead of changing the outlines of the characters depending on the shape it is supposed to represent, the figures will be given features derived from the different basic shapes, circle, triangle and square, so their
body shapes should also differ, not mostly the contour. This approach of course will make it harder to compare the different designs with each other, which could also lead to discrepancies in the study. However as what is being investigated is the effect of shape, the differences are also important to maintain. The focus will be on symmetry versus asymmetry and sharp versus round shapes, as well as having designs that mix the different shapes. In her research an effect of her designs used in the study is that the facial expressions of the characters changed a lot due to the differently shaped eyes. As mentioned earlier, the face is the most important channel for reading emotions for humans, and even small changes to an expression changes the way we react towards a character. She mentions this herself as well, adding that poses and clothes also affected her research. This paragraph is taken from her paper and addresses this point directly.

It has not been completely established what geometrical shape that represent what personality trait. The answer to that open question showed that other attributes than geometrical shape has an effect, maybe to a greater extent, how a character is perceived, for example facial features, pose, clothes and hair. (Translated from Swedish)

Bävholm, C. 2013

Due to these observations mentioned by Bävholm in addition to the points mentioned earlier regarding the importance of faces, the figures used in this study will avoid faces to allow focus to fall on shape alone. Other aspects to be avoided are clothing or difference in posing on the figures. The focus should be on the silhouette and overall body shape. But by doing this the study is running the risk of not engaging the viewer due to lack of input, or even the figures failing to be recognised as creatures at all. To make up for the lack of face, it has been decided that the figures should have visible limbs and a head attached to the body, that should make it clear that the figure is not an object but rather a creature of some description. Humanoid figures has been decided on for this research to maintain a common theme.

I do not wish to create something that can be explained simply as a comparison of ugly versus beautiful, as these traits have often been used to distinguish evil from good, and they are still used today for that purpose. Richard Twine supports this claim in Physiognomy, Phrenology and the Temporality of the Body from 2002:

In the popular cartoon The Simpsons the ‘stupid’ characters tend to be drawn with their teeth permanently exposed. Another example is the uglification of the ‘bad’ characters in the James Bond genre (Synnott, 1990). Arguably, though, the seminal moment of physiognomy in the popular culture of the 20th century was in the 1930s film The Wizard of Oz: when Dorothy asks the good ‘white’ witch why she is so beautiful, the witch replies ‘Why, only bad witches are ugly.’ All these examples retain the belief in a static correspondence between external image and morality or character.


This is a very socially inappropriate way to separate evil from good, as this method of character design upholds the unfortunate notion that ugly people are inherently evil. It might be impossible to remove this line of thought completely, but I will work to avoid designing characters based on these problematic associations, by differentiating them using other means than making them appear less or more attractive. However I will draw on the use of some features that are affiliated with unattractiveness so I am able to utilise visceral responses, as the concept of beauty is also something that is hard-wired in human nature.
and has been established through evolution. Beauty is usually what is seen as something healthy and symmetrical features for example is an important aspect of this. (Isbister, K. 2006. p.8). This will need to be used in this study as it is an interesting trigger for visceral emotion.
3 Problem

The study’s aim was to find out how people would react to certain character design choices, and specifically how they would relate to a character’s shape. And whether focusing on shape is a way to design characters to get a desired response by the player.

The focus of the study was on the notion that body shape alone can be utilised to suggest alignment, or if other input such as facial expressions, poses, clothing or colours are needed in addition to the shape to make such an impression, or lastly if shape actually can not be used for this purpose at all. Another interesting aspect that was examined is how long time it takes to decide the figures alignment, particularly if this duration changes when the design is less clear in its execution and is mixing the different types of shapes.

Basic geometric shapes, such as triangles, circles or squares can be incorporated into any part of a character’s design, for example in facial features, body shape or other details of the character. A successful character design should incorporates similar shapes to some degree in almost all aspects of the character, creating a unified message to the player and appearing as a more well-planned and clean design. This is usually apparent even in a character’s silhouette, their overall shape, which allows the player to quickly read the character and determine how to react. For example, all the commonly found enemies in the video game Kingdom hearts (Square Enix, 2002) use spirals and pointy appendages and limbs as a key identifying factor, this in stark contrast with the main character Sora’s big round shoes, face, and costume. This contrast makes it easy for the player to determine what to attack, and it also follows the notion that round shapes are interpreted as friendly and pointed ones are perceived as aggressive. This leads to the questions:

- Could a figure’s shape and subtle details alone be enough for it to be perceived as hostile or friendly?
- If the overall shape and silhouette is made up of mixed signals, will it be harder to analyse the characters alignment and role?

3.1 Method

The time estimate given for performing the research process was five months. During this time period a pilot study was performed to make sure that a functional figure design style was used in the study, the content needed to perform the research was created and then the actual research itself was performed.

As mentioned earlier, material for the research interviews contain neither clothing nor facial features, and the characters were placed in neutral poses, avoiding any props or objects that could give a viewer an impression of character beyond what could be read from the shape. To avoid creating figures that had faces but still make sure that they are recognised as creatures rather than objects, they were humanoid in appearance, and had four visible limbs and a head.

The figures were given features with matching combinations of the different basic geometric shapes, circles, triangles and squares which made them vary in roundness and pointedness. Another pair of figures had a difference between them in the form of an asymmetrical detail. The theory is that the symmetrical or softer looking figures would get positive reactions from a viewer, while the opposite is true for an asymmetrical and pointed figure. Figures that contain a lot of triangular shapes will seem hostile, while rounder shapes will make the figure
seem friendly. When combining these features it was interesting to see if the figures were judged by the shape of their heads or their bodies. The figures will be analysed through use of formal and style analysis, which means the images will be read according to it’s expression, balance and content and from this the meaning is read. (Eriksson, Y., Göthlund, A. 2012 p.25) Iconographical and iconological analysis will be used to some degree, where one looks at a group of images and analyses their common traits and important aspects to make a decision regarding their meanings, as well as reading their inner meanings and connotations. (Eriksson, Y., Göthlund, A. 2012 p.31-33)

The figures ranged from round and based on circles, which should appear friendly, to pointed and based on triangles, which should appear aggressive and dangerous. In the middle we have a more square shape where it might be harder to determine. Five figures were presented in this “scale”. A round figure, a more pointed round figure, a square figure, a pointed square figure and a completely pointed triangle based figure. They were ranked by the respondent from least to most dangerous and this action was timed. Versions of the figures where the opposing shapes, round and pointed had switched heads were also manufactured, and the same study was performed with this option. To examine the effect of symmetrical versus asymmetrical shapes, a symmetrical square (neutral) figure were presented together with an asymmetrical square figure and questions asked regarding its appearance and which of the figures could be trusted. By creating the figures in this manner, one should be able to ask the respondents regarding how they feel about the different designs, and also have control over how they are expected to be perceived.

During the pilot study it was decided that the figures created worked for the intended purpose. Silhouette was the method selected for depicting the figures as a silhouette is an effective tool for relying information on shape.

Silhouettes alone have extended my physiognomic knowledge, more than any kind of portrait. . . . We see in it neither motion, nor light, nor colour, nor rising, nor cavity. . . . The silhouette arrests the attention: by fixing it on the exterior contours alone, it simplifies the observation, which becomes by that more easy and accurate. . . . The silhouette is a positive and incontestable proof of the reality of the Science of Physiognomics. (1789: 176–8) Thus for Lavater the silhouette took motion out of the face and represented the ‘true’ physiognomy on which ‘scientific’ character judgements could be made.

Twine, R. 2002: p.83

The pilot study was a qualitative research where it was discovered if it worked to use figures that had no facial features or if the figures did need a face for them to be perceived as creatures or humanoids and not lifeless objects. The figures met this criteria without the need for adding a face or a cross indicating where the face would be, as they were recognised as creatures and not objects by the respondent. The pilot study was rather small, only 1 person was interviewed. The interview was performed over Skype to test out the functionality of the method, but it turned out that it did not yield satisfactory results and was hard to control timing of the different tasks. Due to this the idea of performing the interviews over Skype was scrapped, and it limited the number of people available for the research severely.
Qualitative research was chosen for this study because the answers that are interesting is “why” rather than “if”. (Östbye, H., et al, 2003. p. 99) Questions like that cannot be asked in binary questionnaires. By doing a quantitative survey-based study one can just find the answer to whether the method works or not, but not what the defining factors where, and why. It would have been the best to interview people of different parts of the world if it was possible, as the results should be the same no matter where the study was performed. This could not be done due to the issue with timing when performing the test over Skype, and as such the result might have been coloured by the fact that the study was being performed in Sweden. Around 10 respondents was a goal to be interviewed for this study, and 9 was interviewed. It would be beneficial to reach people with less media experience to see if the shape language actually is more than a cultural construct and functions on a visceral level, however it would be hard to track down respondents that could fit this description in this day and age.

Structured interviews were performed and open questions were asked regarding how the attendants reacted to the different designs, and what kind of alignment the figure was inclined to have. The reason a structured interview format had been chosen is because I wanted to make sure that the same questions were asked each respondent so that the data could be presented in a table and in such a manner could be gathered for analysis. (Östbye, H., et al, 2003. p.104) Hopefully enough input was given only by the shape, and hopefully there is no other information given that would disturb the impression of the shape. Another interesting question asked was regarding what gender the different figures were perceived to have. For example would a figure with a softer shape be seen as female regardless or are there instances where this would not hold true, and why. However it turned out that the figures probably did not have enough attributes that could make them appear feminine, or the issue were that not enough women were interviewed during the research. Whatever the cause, the figured were predominantly perceived as male. Only two out of nine respondents were female which could have affected this result however these women also responded that the figures were male in appearance. It might be an indication that our views on feminine aspects of a figure is of a stereotypical nature, and that they would need overly feminine attributes to be placed in that category rather than as male when dividing gender neutral characters into groups based on their perceived gender. That or the figures failed to be gender neutral enough in their execution. As this was not the main aspect being researched in this study too little time was put into making sure that this was the case. Another interesting aspect that was investigated is if there were any time differences in how long it took for the respondents to make up their mind about the designs. More mixed figure designs should have taken longer to figure out theoretically, but how long the time difference actually would be was unknown, but should have been only mere seconds considering the time it takes to recognise items and patterns and decide on first impressions. This should have been the case if the theory was correct that visceral reaction could be used in character design. The point was to draw out a persons initial reaction for the design. However the first test was performed on respondents who had not done any similar tests before, which made the time taken for it possibly higher than it should have been and the figures also were too subtly differentiated and some respondents took longer simply to decide which of the figures that were closer to each other in shape were to be placed farther up or down the scale. When the second test was performed they had gotten used to the nature of the test and although the test was in some instances performed faster it could actually be that it would have taken longer had the premise been clear to the respondents during the first test. This however is not something one can analyse further, as it would be hard to measure, but it certainly is an aspect one cannot ignore regarding the nature of the test.
As the study consists of interviews it was made sure that the questions were formulated clearly and that the interviews were done as quickly as possible to not be too time consuming for the participants, it was decided that 10 to 15 minutes would be optimal, and most interviews stayed within this timeframe. Guidelines were followed to make sure that the attendants personal data were not compromised, and they are not in any way identifiable from their answers given. Upon starting the interview each attendant was read a disclaimer regarding the nature of the interview and asked if they were ok with being recorded as part of it. (Östbye, H., et al, 2003. p.125-126) The figures were presented in a random manner, so that the results were not affected by which design was shown off first. This was made sure of by shuffling the cards and utilising Japanese letters on the back for identifying the order, which to most would not give off clues to their expected positions in the scale. If a clear answer or trend could not be found when it came to the different designs then that could indicate that the method did not work as it was expected to do. Also, through the use of interviews it was possible to find out if it was the persons “cultural luggage”, for example the characters they had already seen, that made them give the specific answers, rather than something common to all humans. Questions were included regarding if the figures reminded them of any existing characters. The main question was regarding the figures alignment, as it was the most interesting aspect to research whether shape alone could make a character seem like a friend or foe. The concept that rounder things appear friendlier and sharper things appear more evil, has been used in characters for some time, and therefore should hold true. (But it might also hold true simply due to it being in use for so long.)

By testing the different figures created from the design principles outlined in this paper, a common thread could be found regarding shape that can be extrapolated and taken advantage of in character design process. Due to the inherent nature of shapes that are round and ones that are pointed, soft versus sharp edges, characters that are more triangle shaped and pointed should be perceived as evil while rounder characters are perceived as friendly. If this result was not achieved, it could come down to one of two things, either other character attributes are needed in addition to shape in order to achieve a result, or the study had failed to utilise the shape language in a correct manner. If this was the case it would have surfaced during the interviews.

It was interesting to find out if the head or the body were the determining factor for the decisions, and if it would take longer time to determine alignment when a figure was a composite of mixed signals. The results of this study, if it proved to adhere to what was presumed beforehand, when used intentionally, could be used to create a clear design and a clear message to a player, but also it could be used to add an air of mystery when such is desired. If one finds out how one can create a solid design with a clear message, one can also find how one can intentionally create a hard to read and muddy design if such is needed for storytelling purposes.
4 Implementation

The images created for the study was done in black and white, as colours can affect greatly how a figure is perceived. A few steps of iterations was used to find the best design strategy possible. After deciding on the most successful style to base the research on a series of character designs with varying body and head shapes were produced. These varied in degree of roundedness and pointedness, utilising the different basic shapes. Silhouettes or line drawings of the figures, neutrally posed with no facial expression are used in the study. To avoid the use of faces but still make sure the figures are recognised as creatures rather than objects, they are humanoid in appearance. It was decided against to use a t-pose for posing the figures as it was important that the pose felt natural. Instead the pose itself is as neutral and natural as possible so that the pose is not perceived as neither threatening or overly harmless.

The final figures used in the study were twelve different versions. Five of these are unified in their design, both the head and the body matches the shape language. Another five have a contrasting head and body design. The differences are subtle except when comparing the extremes on each end of the scale. The scale goes from rounded shapes to square shapes and then towards pointed triangular shapes. The bodies are also attempted to be genderless, and could symbolise both a man and a woman. The last two figures demonstrate the effects of asymmetrical features and are created in the same manner as the earlier ten, but with one asymmetrical feature. The neutral middle of the scale of unified figures (the first five) is used as base for these figures.

The figures were presented in person during interviews that happened face to face, printed on paper and cut out so they could be moved around. In this manner they could easily be handled by respondents and also shuffled at the start of each interview.

4.1 Pilot Study

The pilot study was attempted over Skype, as Skype would be valuable in reaching people of different cultural backgrounds and ages. The figures that were created for the test worked as intended and the answers to the questions were relevant to the questions in the study, however there were some technical issues, and due to some misunderstandings of when the person received the image of the figures it got hard to actually time the tests. Also to make sure the image was random each time more work had to be put in and different numbering conventions had to be used. These issue would not happen if the tests were performed in person and with paper versions of the figures. Because of the extra problems, the method of performing the interviews over Skype was scrapped. The questions were also more finely tuned after the interview.

4.2 Progression

The first thing that was decided upon when creating the material for the study was the design of the silhouettes and figures. To find a suitable style to utilise, some different examples of characters from existing games were gathered and examined. Four very different designs were looked at in particular. Animal Crossing (Nintendo, 2001), Kingdom Hearts, Ghost Trick and Diablo 3 (Blizzard, 2012). Examples follow below. These styles were picked because they were very different in execution and looked very interesting when it came to their shape language.
The characters from *Animal Crossing* are very stylised and have unrealistic proportions. They are as tall as two heads. They make for a very expressive style, but also rather childish. This style could affect the result of the study due to the playful nature, as well as the fact that the small bodies would not as clearly show off the different shapes needed to be added to the different figures for the study. Test run was performed as seen below.
As expected the figures looked very cute and naive, and the differences between them were too subtle and unnoticeable. Figures with bodies made up from the length of three heads were also tried out, but these would also have the same effect on the viewers and they could colour the results. They were however better and had more room for details.
Instead of creating examples done in the *Kingdom Hearts* style as well, which was five heads tall, a small overview over the different head to body ratios was created and showed how they would look. It was easier to look at these small examples and try to foresee how they could feel when finished rather than spending time on drawing them and then finding out they do not fit the bill.

**Figure 8**  The small chart of the different head to body ratios that I had chosen to examine.

From this it was gathered that the bodies from the *Ghost Trick* style would be the most suited for the study as they were seven heads tall. The *Diablo* characters were a bit too elongated, at eight heads tall. Although the number of course is not set in stone, it is common to say that the average human is about seven and a half heads tall, and so seven heads would still mean a slightly bigger head which is good for keeping it a bit on the cartoony side and give room for more details, while eight would mean something with a smaller head than the median and could give off a more noble or heroic vibe. Between seven and eight heads tall is the most attractive range, which means that these proportions work well for human figures (Naini F.B., et al, 2008).

The first test performed after deciding on the size of the figures was done completely viewed from the front, and the character was mirrored along the middle so they were totally symmetrical. It felt like this view did not generate any interest toward the shape of the character, and it gave off a very bland and uninteresting look. It could be very closely controlled but it was hard to give it different looking features as very few shapes could be seen from the front view. It was therefore decided to step back and again use the quarter view as the earlier examples had been using.
Figure 9  The test of figures with seven head tall bodies but seen from the front.

And this time a good result was on the way. The head to body ratio seemed natural and neutral, cartoony but still close to human proportions. The quarter view pose allowed for some more details on the shape language and felt natural and calm. Five different versions of this version was created, ranging from sharp to square then soft shapes.

Figure 10  The silhouettes using a quarter view and bodies with a body to head ratio of seven parts.
From these figures another set was made with the contrasting head shapes, by simply switching the heads from left to right. These designs seemed confused but also interesting. Figures with softer shapes should feel friendlier, square shapes should feel a bit bland and rigid while the more triangular shapes should appear more dangerous and untrustworthy. However, it seems as though this does not function the same way on the figures with swapped heads.

**Figure 11** The silhouettes with interchanged heads, so the roundest shaped head is on the most angular and pointy body and the most angular head is on the roundest body.

The changes between the figures are subtle and at first glance it’s hard to tell them apart when they are standing in the order they are intended to, as the variation of shapes is so gradual. This could possibly be an issue as the figures are not different enough to give different impressions of character to the viewer, but at the same time this is needed to be able to compare the results. If the figures were too different in body size and build as well as shape, the shape itself could take a smaller role, and not be the only affecting factor but also size of the figure or perceived strength could come into play. It is therefore necessary to keep the same kind of character build and overall shape for the study. These figures follow all the outlined criteria for performing the study. No facial expression, face marked by lines (or not at all), neutral pose, no colouring or clothing articles or hairstyles, all input is in the form of shape-language of the body and heads overall shape.
After more feedback the final silhouettes were finished, the shoulders and other features were toned down even more as to not give a too unnatural impression.

The final figures that were used in the study can be found in full in appendix part B, C and D.

After the iterations and process to create the silhouettes, they should be good enough to perform the study, but of course they could always be better, they are not perfect. However they at least fulfil the criteria decided for them. It was interesting to see how the subtle differences between the figures affected the answers and what attributes they were assigned by the respondents in my interviews.

**Figure 12** The final silhouettes with matching heads and bodies

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>あ</td>
<td>い</td>
<td>う</td>
<td>え</td>
<td>お</td>
</tr>
</tbody>
</table>

![Silhouettes with matching heads and bodies](image)

**Figure 13** The final silhouettes with contrasting heads and bodies

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>あ</td>
<td>い</td>
<td>う</td>
<td>え</td>
<td>お</td>
</tr>
</tbody>
</table>

![Silhouettes with contrasting heads and bodies](image)
5 Evaluation

Respondents were at the start of the interview first given the five cards depicting the set of figures that had a matching overall shape language. The cards were shuffled between each interview and effectively randomised. They were asked to lay them down in order where good figures were on the left and evil figures were on the right, and then let me know when the task was performed. In this manner the decision making could be timed.

To make sure that the order the figures were laid in was not in any way affected by the order they were thought by me to follow, they were numbered on the back first for which set they belonged to, set 1 or set 2, and then the first five signs of the japanese hiragana syllabary were used for the order of the cards themselves, あいうえお (a, i, u, e, o). Doing this gave a way for me to note their order without giving away any information about the expected order to the respondent. It was presumed that most respondents would not understand the order of the signs or the reason for them being there. This way if they accidentally looked at the back of the cards, the intention of the test would not be revealed. For discussing the results of the test, あいうえお has been replaced in all instances with A B C D E, the first five letters of the alphabet.

In both tests, the expected order were that the good figures would be the ones that were overall rounder and softer, while the more evil figures would be more pointy and hard. As the second test were one were the heads were switched, the figures that had rounder bodies were expected to be considered good and the sharper bodies evil, and the head shape would have less impact, since it was a smaller part of the image.

5.1 The Study

Nine respondents total were interviewed for the study. Sadly there was an uneven balance in genders represented, seven were male and two female. The oldest were 36 years old, and the youngest 22. Six of the people that were interviewed were either studying or working with graphics while the three people that were not still had a lot of exposure and experience with different character design conventions through media such as movies or games as revealed by a question regarding their habits of consuming such media.

The first task where the bodies and head were made to match took at the longest: 1,25 min, and shortest 0,15 min to perform. The mean was 0,45 min. The result followed more or less the expected outcome, the softer figures were placed at the left as good, while the harder figures ended up on the right and evil side. Some of the figures got swapped around a little, but A, which was the softest figure was not represented anywhere other than as the most good, while E would only appear either as neutral (middle) or as evil (to the right on the scale). A line can be drawn clearly through A - E, from good to evil, following the order that the figures were placed in. Nine respondents placed A as good, eight B as the second most good, six placed C in the middle, six placed D as the second most evil and seven placed E as the most evil figure.
Figure 14 The result of the first test presented as a spread graph. The number next to the markers indicates how many of the respondents that placed the figure in that spot.

The respondents usually only moved a figure one step when deviating from the expected order, except from one respondent who had placed the figure E in the middle. He explained that he did so because it was constructed to look evil by exaggerating the features to such an extent that it in itself became a caricature of evil, which gave it a tinge of humour and made it look dumb. He mentioned that the features reminded him of Frankenstein’s monster (Mary Shelley, 1818) which meant that he did not see it in particular as evil. The other three respondents that had moved around some figures did not give any particular indication that this was done on purpose, so it might have been due to unclear execution in the artefact itself that made the figures appear too similar and the gradient changes too subtle for them to notice they had placed them a bit contradicting to what they were explaining. All the respondents mentioned they had placed the good characters based on them being rounder and the evil characters because they were square or blocky or pointy. The features the respondents mentioned that they looked at in particular were the shoulders, heads and hands.

Among the points that were brought up were that figure A looked young, while E looked old.

For the second test, as expected, the result was not as clear-cut as the first. Four of the respondents had placed the figures in the expected order, ABCDE, while the other five had jumbled them dramatically around as seen in the spread graph below. Still, the figures overall were most represented in the order ABCDE, with four ranking A as most good, six B as second most good, five C as neutral, six D as second most evil and seven E as most evil.
Figure 15 The result of the second test presented as a spread graph. The number next to the markers indicates how many of the respondents that placed the figure in the spot.

Now even the softest figure, A, would be placed as the most evil by two respondents, or as neutral by three. It was not represented as a middle-ground between the options but one of the three “extremes”, so A could be read as any kind of figure, good, evil and neutral. E however was still never represented as the most good character, and still was almost exclusively placed as the most evil one. The respondents used the same logic as the earlier test, and mentioned that they looked mostly at hands and shoulders to make their decisions. The test took at the longest: 1,10 min, and shortest 0,20 min. The mean was 0,43 min. Although the mean time is shorter for this test, it did take six of the respondents longer or equal amount of time as test one to decide on, and during the first test many had to reaffirm things during decision making which slowed them down. Therefore I am sure that this test in actuality did take longer time for the respondents to decide on the actual figures themselves than test 1. During the second test it was mentioned by respondent 2 that they all felt a bit more like enemies and that they all in all felt like they were more pointy and dangerous in appearance. She also mentioned that they did not feel like main characters designs.

Test 3 was a smaller study, where the respondent chose between figure A and B, and decided which one they would trust. (The wording was not very specific, but most of the respondents were able anyway to make a swift decision.) This test was not timed. The respondents then were asked to explain why they had chosen as they did. After the first two interviews I held a second question that was added out of curiosity based on the earlier answers regarding whether they would want to have figure A or B as a team-mate in a video game, and also explain why they decided on the figure in question. The reason for this was comments about how the enlarged arm on figure A seemed like a useful tool more than a defect, which was an unexpected development that I had not foreseen when creating the design and testing it in the pilot test.
Figure 16  The third test, two figures where one of them has an asymmetrical feature. In this case I chose to enlarge the arm on the figure to the left.

5.2 Analysis

When comparing the results and answers from the interviews, there are a lot of differences but also a lot of common points. The first test played out almost exactly as expected while test two gave a lot of interesting points. The last test where asymmetry was tested turned out to be a lot more important and interesting than was expected from the beginning.

One of the points that arose quickly from the study was the fact that the figures were not truly gender neutral as was attempted in their design. Most respondents answered that they initially thought of them as male figures, although they were not sure why. Only a couple of the figures which were on the softest side were seen as possibly female. This can as mentioned earlier be because of the relation shape has to gender, but it can also be an issue with the execution of the figures themselves, that they are not genderless enough to be perceived as both. Maybe it would have been for the better to pick a gender and use it for the study.

The first test as mentioned followed the order almost completely, softer figures were seen as good and harder and pointier more evil. However this of course is in the context of the test, so at least in a situation when placed they were placed in the context of other figures that were softer. If one had shown figure 1E on it’s own with no context, it could be hard to give it any specific traits whatsoever. 1A was also seen as young while 1E looked old. 1E was perceived as a stereotypic evil character by many respondents. Examples of characters it reminded of were Nosferatu (Film Arts Guild, 1922) as well as Gollum from Lord of the rings (Tolkien, J.R.R. 1954), Frankensteins monster (Mary Shelley, 1818), Megamind (DreamWorks, 2010), “some pale evil character” and “evil german with monocle stereotype”. It was also more related to existing characters than 1A was, as 1A was only perceived as “a young child” or a nameless anime character. So the more harder and pointier figures were more defined and interesting than a very soft and one can say bland figure. The more pointed shapes the more distinct the design became which is an interesting point when talking about character design.
It did take longer than I expected for most respondents to perform the tests, it can be understood as that they put more thought into their decisions than what was actually needed, probably because the silhouettes are so subtly differentiated. One respondent mentioned he was stuck at the end for some time deciding between two of the figures that he placed next to each other. So the subtness of the designs may have affected the time aspect of the test, as they are hard to read even after the decision of what shapes are affecting the outcome have been taken by the respondent. This means that the respondent might have decided to place rounder as good and more angular as evil but is slowed down by deciding whether B or A are more round. It could have taken a much shorter time to arrange only 3 of the figures, skipping the middle figures between the round, square and pointy figures, but at the same time arranging five figures does give a more interesting result I believe.

The second test was found to be harder than the first by the respondents. It took most respondents a little longer to organise the figures, although they had just performed a similar test which should have prepared them and made them more ready for the task as they now understood the concept of it. Since the heads were switched on the bodies the shape language of the figure were no longer clear. However many respondents also pointed out that these felt more like characters than the earlier set, as they had more interesting combinations of shapes and contrasts. The roundest head placed on the hardest and pointiest body made for something that the respondents mentioned looked like a horror character, a murderous kid.

The third test was meant to simply test if one were bound by visceral emotions when it came to relating to asymmetrical features in a figure, and whether one felt secure with trusting a figure that had a visible asymmetrical deformity, in this case the left arm was enlarged. The responses were interesting. Although just three responded they could trust figure A due to the arm deformity, seven of the respondents were positive to have him as a teammate in a game since the arm seemed like a useful enhancement rather than a flaw and defect. The people who would trust A even gave the figure some traits and backstory that they made up on the fly purely based on the design that was basically a simple silhouette of a figure with an enlarged arm. An example from respondent number 6 follows.

Seems like a guy, because he has one ginourmous arm, he would had some hardships in life and hopefully that would have turned him a bit humble. Also it feels like he would be excellent in sports such as arm-wrestling or baseball and therefore perhaps he could be rich and take me to exotic locations and buy me nice things. I get a good feeling about A.

Of course I would have the one with the large arm, because that character obviously has some kind of superpower or is very strong, that is how I read that character, so if I need someone to punch through a wall or give someone a firm handshake I can always trust in A.

Respondent 6 regarding Figure A in the third test.

A couple of respondents did not care about the difference at all, and seemed to be confused over judging someones trustfulness based on appearance. Some questioned the situation and setting more, and felt that the question lacked context so it could not be answered.

5.3 Conclusions

The first test did follow the notion that sharp edges and features did indicate to some degree that a figure has bad intentions when compared to a softer figure. As the two most
contrasting figures were placed on the farthest ends from one another by almost all respondents we can say that it seems likely that this holds true. However the number of respondents interviewed were not enough to say this for sure, and since most of the respondents were related to graphics in different ways and partook in popular media where characters might have these design principles it might be a cultural trait rather than actually based on visceral emotions. All of the respondents had lived in Sweden for some time, although some had different backgrounds. More varied test subjects and a bigger amount of respondents would be important to take the study to the next level.

The second test as expected did turn out a more vague result as the figures were more vague in their design execution due to mixing the shape language up. However the figures did end up following the same pattern to a degree so there were still the same connection between overall shapes and the outcome of a figures role. Most respondents looked at the body shape when deciding, and mostly on the shoulders, possibly since this was the most noticeable feature of the figures when it came to shape. Many of the respondents added that after having decided on the order that they also looked at the hands, with sharp nails, which might have affected them to a degree subconsciously.

The third test turned out to gain interesting responses as the result itself on two simple questions gave very different answers. Yes to some degree trusting someone with an asymmetrical feature might be harder for some, while others cannot see how (at least not in this case) it would affect the person and their liability and trustfulness. Other respondents saw the figure with the different arm as more than a figure, and created elaborate backstories to go with the design, essentially bringing the figure up to such a level that it could be considered a character rather than a simple silhouette with an enlarged arm. So all it took in this case to make for a more interesting design was changing one feature and imaginations were running wild as to what this feature was and why it had come to pass and who the mysterious figure could be, how they had lived their life and who they were. Most people said they would trust figure B that was a normal figure with no special features but almost all the respondents wanted to have figure A as a team-mate in a game. When asked if they would be ok with having the figure on their team they saw the asymmetrical feature more as a tool and gave it attributes such as it being supernaturally strong and robotic. Of course if a different feature than the arm had been chosen to be altered, or it had been done as a more realistic and negatively perceived defect (for example if the arm was missing) rather than what can be seen as an enhancement so to speak, this result might have been very different, but it was still interesting to see how the respondents decided that even though they trusted B more, A was a more interesting and fun character design in a video game setting. This may of course more stem out of a cultural connotation where an enlarged arm could indicate certain character types rather than a reaction to the design that would stem from a visceral response. The answers are also interesting on an ethical level, as this can be seen as an attitude towards, and presumption about, people that have different kinds of disabilities that make them have an asymmetrical appearance. But at least the notion that we viscerally feel a bit uncomfortable with asymmetrical features seem to hold true as Norman mentioned in his list of what input in form that is reacted to viscerally (Norman, D. 2004: p. 29, 30). Even if the asymmetrical feature might be a positive one it is still something unnatural about it that makes us more likely to doubt. Of course in this case as well, many more respondents would be needed to be able to be sure this is a true statement.
6 Concluding Remarks

6.1 Summary

From the data collected, we are able to answer the questions outlined in this study, at least to some degree.

- Could a figure's shape and subtle details alone be enough for it to be perceived as hostile or friendly?

Yes, at least when the figures are in context with other figures they can be compared to. A lot of existing characters already utilise this concept and this might be why it works, it could be culturally inherited rather than felt on a visceral level.

- If the overall shape and silhouette is made up of mixed signals, will it be harder to analyse the characters' alignment and role?

Yes, the mixed designs might be read very differently by different people, and it no longer is as clear as a unified figure only consisting of one kind of shape. For some respondents although they had already done a similar test the second test did take longer to perform, which might be because of the mixed signals of the designs.

From the study one can say that softer figures are generally perceived as friendlier than more pointy, hard and square figures are. However it is hard to pin-point if this effect is based on cultural notions more so than visceral emotions and instincts. As all the respondents lived in Sweden and took part in popular culture to some degree, either by studying characters and graphics or by watching movies/series and playing games, it is impossible to say if their perceptions are based on existing character design conventions which follow the same concepts as the study does, but might not stem from visceral emotions.

However it is interesting to note that it seems that most respondents exclaimed that when a figure was given a contrasting feature, for example the asymmetrical feature of the third test, the figure becomes something more, and is given more meaning when in the context of a more simple figure. It almost already becomes more of a character than a figure. Contrast makes for interesting character design, and shape do say a lot about a figure's character.

6.2 Discussion

Since all the respondents were in some way familiar with media containing the design concept soft equaling friendly and sharp equals dangerous, it is hard to say if the answers given were based on their intuition and not what they have been taught as they have interacted with said media over a longer period of time. It would certainly be hard to track down people to interview that had not been exposed in some manner to this, as the concept has been around so long (for an early example we can mention Mickey and Pete's ears in Steamboat Willie (Disney Brothers studio, 1928) and even Popeye and Brutus chins/beard in the old Popeye cartoon (King Features Syndicate, 1919).) Therefore it would be hard to run the tests on a clean slate mind so to speak.

It is therefore still quite unclear if the reading of the characters' shape is done viscerally or in relation to already observed cultural conventions, as the figures were definitely judged by earlier observations regarding similar characters and features. It is clear however that to some degree, the visceral emotion does play a role when deciding the role of a character, at
least in the third test this was quite clear in most answers, since most respondents felt uncomfortable with asymmetrical features on bodies as was mentioned as one of the visceral reactions. However the visceral emotion was often overridden by earlier experiences, for example when one had seen a figure, feature or character earlier that had given them a different impression. For example, the big arm was not seen as a bad thing by many of the respondents because it seemed like a bionic enhancement and a useful tool rather than a defect. This appeared when they were asked more directly if the figure could be of use, and the figure was then given a different meaning. There was also the aspect of social emotions, when they felt sorry for the figure, as he was different from what was normal he might have had a tough life and that might have made him friendlier than the normal looking figure.

Some of the placements of figures in test two was also due to them being recognised as certain figures. For example, one respondent placed one figure as the most good due to the similarity to Aang in Avatar the last airbender (Nickelodeon 2005).

The shortcomings of this study in particular were many. The group that were interviewed was a convenience sample that were picked because of availability rather than relevance for the best results mostly due to the issues with performing the interviews over Skype. Many of them are studying graphics or working with concept art and had therefore been taught first-hand about shape language in characters as it is seen as a sort of unwritten rule that it follows the functionality that this study is based on. This kind of selection of respondents is called a strong convenience sample and is not something desired to use when performing any kind of study as it is hard to make generalisations based on the data collected (Deacon, D., et al, 1999, p. 54). There were also only nine respondents which is too few to be able to draw any kind of conclusion from, so although the result did follow the expected outcome, and to some degree was successful it has in no way been confirmed. At least 1000 people might be needed to be interviewed to be able to say anything about how the population would respond to the study (Östbye, H., et al, 2003. p. 152). There is also the issue with the figures, as they are in no way a perfect representation of the concepts and has flaws that affected the answers. For example the heads were mentioned as a little too big, which gave them a childish look. There were also some features that were more noticeably altered then others which may have given the figures looks that could remind of a pose or stance. For example the slumping shoulders on both A figures could make it look like it is sad or relaxed while the sharp flat shoulders of figure E looked unnatural and sadly did remind some respondents of an armour-piece or science fiction clothing. Although E had been altered from an even more extreme state, this change was not enough for this effect to disappear, and probably it would be hard to make the figure follow the concept without this effect occurring to some degree as most humans do not have sharp features, unless they wear sharp objects. Organic shapes are soft, and humans are organic objects.

6.3 Future Work

If more research were to be done on this subject an important aspect would be examining the impact of culture and of exposure to existing characters as it seems that this affects the result. To what degree is interesting to find out more about. The methods of examining this particular area would possibly be hard to come up with but there should be ways to at least investigate it further than this particular study managed to do.

Also one should probably decide on one gender for the figures used in the test, as the genderless figures still were predominantly seen as male, and the execution might have been less clear due to this. As they were lacking defining female features they were not seen as
female, only the very softest figures by a couple of respondents. This might have been an
unnecessary distraction from the study itself, rather than a valid point to bring up. If
something akin to this study was performed again if possible two sets of figures should be
produced representing both genders. Another very important aspect of the gender issues in
this research was the number of female respondents as well. If the study was performed
again, an equal number of female and male respondents would have been interviewed so that
the answers could not in any way have been influenced by this fact. This was an important
oversight of the research that could have been easily avoided had more thought been put into
it. Another aspect is that the male body is seen as the default and normalised version of a
human body. This has been the case since before the Classical Antiquity era, where the male
body was worshipped as an ideal and depicted in its full glory while the female body was
covered. When the sculpturist Polykleitos described the body's proportions he only
mentioned the male body. Even through renaissance and medical artworks the male body
was the norm, the female body was depicted as a deviation from the norm and focus was
mostly on the genitals. The male body was seen as the beauty of creation, the perfect
proportions (Vipsjö, L., Bergsten, K. 2014: p. 14 - 16). So during our social history, focus has
been on the male body as the norm, and this still has a firm root in today's society.

Although effort was put into narrowing down the field of research and to some degree was
successful in removing some aspects, the subject was still a bit too broad to handle. Creating
characters is a highly complex matter and even in simplifying one need to take into account
certain effects of choices made. For example the figures used in the artefact had no hair, as
hairstyles give cultural impressions. However since they to this effect were effectively bald,
this could have affected the outcome of the gender neutrality attempted as culturally most
women have some hair, while men are the ones that tend to bald. These unspoken facts are
handled and processed when analysing an image of a figure or character and affect the
results. All impressions and signs will be taken into account by someone viewing an image. If
the study was more focused on a single question and expression of something relating to a
visceral response then these specifics could have been avoided by taking a different approach
to creating the figures, possibly as mentioned creating two sets of male and female figures.
The test of asymmetrical features relating to visceral response as mentioned by Norman
(Norman, D. 2004: p. 29, 30) although yielding interesting results could possibly have been
scraped in favour of more focus on shape language instead.

The study should also be performed on a lot more different kinds of people, and preferably
from other cultures as well, to find the core which was attempted, the visceral nature of
shape language. With a lot more respondents and an even better artefact, maybe the study
could be successful in giving a better understanding on if shape language is cultural or
visceral and if it’s a go to trick in character design because of the right reasons.

The creation and perception of characters are to a big degree built on stereotypes, especial
within popular culture. These stereotypes can be negative. (Vipsjö, L., Bergsten, K. 2014: p.102) They are however recognised and therefore also works for giving a desired effect, which
is why they are in use. The roundedness and pointedness could be a cultural stereotype
rather than a visceral effect, and this might be why it works for characters. More study on
this subject would be necessary to find the essence and core of this matter, if at all possible to
define. Both visceral and cultural cues and history of character creation are definitely
important aspects and none of them can be ignored or separated from one another.
References

Blizzard (2012) Diablo 3 [Video Game] Blizzard


Disney brothers studio (1928) Steamboat willie [Motion Picture]


DreamWorks Animation (2010) Megamind DreamWorks


Film Arts Guild (1922) Nosferatu. Film Arts Guild


Nickelodeon (2005) Avatar the last airbender. Nickelodeon

Nintendo (2001.) Animal Crossing [Video Game] Nintendo


Segar E. C. (1919) Popeye [Cartoon strips] King Features Syndicate

Shelley M. (1818) Frankenstein or the modern Prometheus. Lackington, Hughes, Harding, Mavor & Jones, London.


Appendix A -

Interview questions:

Age:

Gender:

Do you play a lot of video games?

Do you watch a lot of movies/tvshows?

Set 1.

Arrange these figures in an order from good to evil and let me know when you are done. Good to the left and evil to the right.

What keywords would you assign these figures?

Why did you decide on this order?

Did any of the figures remind you of existing characters?

Did any of the figures give an impression of it’s gender?

Set 2.

Arrange these figures in an order from good to evil and let me know when you are done. Good to the left and evil to the right.

What keywords would you assign these figures?

Why did you decide on this order?

Did any of the figures remind you of existing characters?

Did any of the figures give an impression of it’s gender?

Set 3.

Which figure would you trust, A or B?

Why?

(Which of the figures would you want on your team in a game?)
Appendix B

Set 1.

A  B  C  D  E
Appendix C

Set 2.

A  B  C  D  E
Appendix D

Set 3.

B

A
Appendix E

<table>
<thead>
<tr>
<th>respondent 1:</th>
<th>respondent 2:</th>
<th>respondent 3:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender: M</td>
<td>Gender: F</td>
<td>Gender: M</td>
</tr>
<tr>
<td>Age: 23</td>
<td>Age: 26</td>
<td>Age: 22</td>
</tr>
<tr>
<td>Tvgames: yes</td>
<td>Tvgames: Sometimes</td>
<td>Tvgames: yes a lot</td>
</tr>
<tr>
<td>Movies/tvshows: no</td>
<td>Movies/tvshows: more tv-shows</td>
<td>Movies/tvshows: yes a lot</td>
</tr>
<tr>
<td>1Order: あいえお ABDCE</td>
<td>1Order: あいうえお ABCDE</td>
<td>1Order: あいうえお ABCED</td>
</tr>
<tr>
<td>Time: 1:10 min</td>
<td>Time: 0:20 min</td>
<td>Time: 0:45 min</td>
</tr>
<tr>
<td>1Keywords: E looks old. Spiky on hands and head. D has a manly pronounced jaw. A looks female. AB and DE looks equal. Childish proportions.</td>
<td>1Keywords: A round shapes, welcoming approachable. E pointed shoulders, pointed hands, cold hard.</td>
<td>1Keywords: A - child, larger head, rounder. D stiff - square.</td>
</tr>
<tr>
<td>1Reason: Smoothness in silhouettes. decided by hands and head features, evil. E spiky jaw.</td>
<td>1Reason: Looked at overall shapes shoulders - round vs. pointy</td>
<td>1Reason: More sharp edges</td>
</tr>
<tr>
<td>1Characters: None, might be cultural cues, related to games/movies.</td>
<td>1Characters: E reminded of dracula, A rounded main friendly not strong, tale of two sons, young children</td>
<td>1Characters: not really, none had any features.</td>
</tr>
<tr>
<td>1Genders: D manly, A female.</td>
<td>1Genders: All guys</td>
<td>1Genders: Most male, except the left one, rounder, waist.</td>
</tr>
<tr>
<td>2Order: えいあうお DBACE</td>
<td>2Order: あいうえお ABCDE</td>
<td>2Order: あいうえお ABCDE</td>
</tr>
<tr>
<td>Time: 1:10 min</td>
<td>Time: 0:20 min</td>
<td>Time: 0:30 min</td>
</tr>
<tr>
<td>2Keywords: A old, E evil child - spiky fingers, baby face.</td>
<td>2Keywords: They all feel more like enemies than main charas. bad. masculine A</td>
<td>2Keywords: -</td>
</tr>
<tr>
<td>2Reason: Looked at the same things, harder to rate, not as stereotypical, more character.</td>
<td>2Reason: Shapes, pointy feels evil. They were more hard edged, first one boxy. more sharp edges.</td>
<td>2Reason: Same way - sharp edges - head and body different.</td>
</tr>
<tr>
<td>2Characters: none - pale child E character.</td>
<td>2Characters: none</td>
<td>2Characters: no</td>
</tr>
<tr>
<td>2Genders: BA looks like men, rest neutral.</td>
<td>2Genders: E could be female, rest male.</td>
<td>2Genders: -</td>
</tr>
<tr>
<td>Trust: As big arm looks friendly, does not mind either of them.</td>
<td>Trust: B Feels more friendly, approachable.</td>
<td>Trust: B</td>
</tr>
<tr>
<td>Team: A feels useful and strong.</td>
<td>Team: B</td>
<td>Team: B depends on team. hard to judge without context.</td>
</tr>
<tr>
<td>respondent 4:</td>
<td>respondent 5:</td>
<td>respondent 6:</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Gender: M</td>
<td>Gender: M</td>
<td>Gender: M</td>
</tr>
<tr>
<td>Age: 23</td>
<td>Age: 23</td>
<td>Age: 32</td>
</tr>
<tr>
<td>Tvgames: yes</td>
<td>Tvgames: yes</td>
<td>Tvgames: yes</td>
</tr>
<tr>
<td>Movies/tvshows: yes</td>
<td>Movies/tvshows: yes</td>
<td>Movies/tvshows: medium much</td>
</tr>
<tr>
<td>1Order: あいうえお ABCDE</td>
<td>1Order: あいうえお ABEC</td>
<td>1Order: あいうえお ABCDE</td>
</tr>
<tr>
<td>Time: 1:10</td>
<td>Time: 1:25</td>
<td>Time: 0:25</td>
</tr>
<tr>
<td>1Keywords: rounded and sharp</td>
<td>1Keywords:</td>
<td>1Keywords: A looks like a kid, round head.</td>
</tr>
<tr>
<td>1Reason: mainly shoulers and figures, angular had pulled up, often evil, clawlike hands.</td>
<td>1Reason: softer instinctually kinder, shoulders, knees, chin.</td>
<td>1Reason: more round- kids, pointy- made bad.</td>
</tr>
<tr>
<td>1Characters: Megamind E</td>
<td>1Characters: E, thinks of characters that are too evil looking, humorously- dumb-caricature - Frankenstein. C+D = Loke  A = Kid, innocent</td>
<td>1Characters: E = Gollum increasingly gollum to the right, small child to the left.</td>
</tr>
<tr>
<td>1Genders: Not really.</td>
<td>1Genders: Man, thighs? long and thin.</td>
<td>1Genders: boys, can't say why.</td>
</tr>
<tr>
<td>2Order: いうえお BCADE</td>
<td>2Order: ウィエオオ CBDEA</td>
<td>2Order: あいうえお ABCDE</td>
</tr>
<tr>
<td>Time: 0:45</td>
<td>Time: 1:05</td>
<td>Time: 0:35</td>
</tr>
<tr>
<td>2Keywords:</td>
<td>2Keywords:</td>
<td>2Keywords: deformed children, shoulder plates, children of the corn, shapes mixed. made him think of what trait, shoulder unormal, flat shoulders.</td>
</tr>
<tr>
<td>2Characters: reminded of batman the penguin, three sharp fingers.</td>
<td>2Characters: C= Ang from avatar E looks like a zombie A= Alien</td>
<td>2Characters: Penguin batman, Frankenstein heroic haircut, baseball cap. rounder</td>
</tr>
<tr>
<td>2Genders: none</td>
<td>2Genders: men, alien is undefined.</td>
<td>2Genders: Boys</td>
</tr>
<tr>
<td>Trust: B because not deformed arm</td>
<td>Trust: A, more stable, B looks tense due to pose.</td>
<td>Trust: A Seems like he had hardships, humble, excellent at activities, rich</td>
</tr>
<tr>
<td>Team: A. seems strong</td>
<td>Team: A. useful</td>
<td>Team: A large arm, super power or strong firm handshake.</td>
</tr>
<tr>
<td>respondent 7:</td>
<td>respondent 8:</td>
<td>respondent 9:</td>
</tr>
<tr>
<td>--------------</td>
<td>--------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Gender: F</td>
<td>Gender: M</td>
<td>Gender: M</td>
</tr>
<tr>
<td>Age: 26</td>
<td>Age: 34</td>
<td>Age: 27</td>
</tr>
<tr>
<td>Tvgames: Some</td>
<td>Tvgames: no</td>
<td>Tvgames: yes, mostly pc</td>
</tr>
<tr>
<td>Movies/tvshows: Medium</td>
<td>Movies/tvshows: a lot of movies</td>
<td>Movies/tvshows: yes a lot</td>
</tr>
<tr>
<td>1Order: あいうえお ABCDE</td>
<td>1Order: あいうえお ACBDE</td>
<td>1Order: あいうえお ABCDE</td>
</tr>
<tr>
<td>Time: 0:15</td>
<td>Time: 0:40</td>
<td>Time: 0:35</td>
</tr>
<tr>
<td>1Keywords:</td>
<td>1Keywords:</td>
<td>1Keywords: The more evil, blocky face, sharp edges. Soft face. Evil - talons noticed later. Facial features, stereotypical bad guys, superhero movies</td>
</tr>
<tr>
<td>1Reason: Think the good are rounder and softer, evil more square. Rounder heads.</td>
<td>1Reason: Thought of sharp shoulders, felt like that was what separated them. Headshape. Rounder softer=friendly, sharper and harder evil. Hands, sharper noticed this afterwards. Feels like age from young to old. Young good, old bad.</td>
<td>1Reason: Shoulders are more round = good, sharp = evil.</td>
</tr>
<tr>
<td>1Characters: none</td>
<td>1Characters: general, could be anyone. Nosferatu E.</td>
<td>1Characters: E = stereotypical german evil guy, anime rounded A.</td>
</tr>
<tr>
<td>1Genders: Square masculine, round feminine.</td>
<td>1Genders: Thought men.</td>
<td>1Genders: Not really, male</td>
</tr>
<tr>
<td>2Order: あいうえお ABCDE</td>
<td>2Order: いうあえお BCADE</td>
<td>2Order: えおういる DECBA</td>
</tr>
<tr>
<td>Time: 0:20</td>
<td>Time: 1:05</td>
<td>Time: 0:45</td>
</tr>
<tr>
<td>2Keywords:</td>
<td>2Keywords:</td>
<td>2Keywords:</td>
</tr>
<tr>
<td>2Reason: Thinking of square shapes on the shoulders- evil characters, evil, rounder heads - shoulder is indicator.</td>
<td>2Reason: Straight shoulders, deformed head, sharper, hands are claws. Sharp shoulders, soft are good.</td>
<td>2Reason: Switched facial features - more evil. Round face with claws A+B were hard to decide on. Pointy shoulder on B. Facial features, visualized stereotype.</td>
</tr>
<tr>
<td>respondent 7:</td>
<td>respondent 8:</td>
<td>respondent 9:</td>
</tr>
<tr>
<td>----------------</td>
<td>----------------</td>
<td>----------------</td>
</tr>
<tr>
<td>2Genders: Less gender, bodies, not specific</td>
<td>2Genders: no, more male. ə deformed head.</td>
<td>2Genders: No all male.</td>
</tr>
<tr>
<td>Trust: B, A is unproportionate, asymmetrical. Feels like it is going to attack.</td>
<td>Trust: overdimensional deformed arm. Hard to see how you could not trust on that basis. Feel sorry for him. Cannot answer this.</td>
<td>Trust: Depends on the task, more towards A. Both are ok. Enlarged arm.</td>
</tr>
<tr>
<td>Team: A because the arm seems mechanical and powerful-tool, useful.</td>
<td>Team: depends on the task, A has a tool (bionic arm) strong. Can throw far.</td>
<td>Team: Depends on the game. Brawler enlarged arm, stealth nope., The setting important. Cyborg, A.</td>
</tr>
</tbody>
</table>