*The "Uncanniness"*

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**Abstract**
The Uncanny Valley is a phenomenon first described by Masahiro Mori in 1970. The theory notes that the more advanced our technology becomes the more similar to us robots become, and this human resemblance unnerves us. Back in the 50's, there were many industrial robots, the kind of robots that do not have a human-like face or legs, or any close resemblance to humans. Those robots just rotated, extended or contracted their arms. They still remain machines with specific functions (Mori 1). On the contrary, "the designer of a toy robot puts importance on a robot's appearance rather than its function; the robot will have a somewhat humanlike appearance with a face, two arms, two legs, and a torso. This design lets children enjoy a sense of familiarity with the humanoid toy" (Mori 1). With the thriving of technology, more machines have programs that make them respond to us like humans, such as iPhone Siri. I would like to compare and contrast the relationship between human and robot by closely studying literature that discusses about this subject, and alone with other theses that concerning technology with human. I would also like to discuss, how the technology has been developed, and has caused humans to act more and more like robots. Lastly, I would like to use some examples from movies, dramas or plays such as Kubrick, Stanley's 2001: A Space Odyssey (1968), and Shakespeare's Coriolanus to venture into the Theory of "The Uncanny Valley".

Keywords: Unease, robotic, uncanny, anxiety, technology

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**What is the Uncanny?**

## 1.1       Freud

The essay "The 'Uncanny'" was written by Sigmund Freud in 1919. The essay is a fertile but not exhaustive paper explaining the "uncanny" by first closely studying the German word *unheimlich*. Throughout his essay "uncanny" was used as the English translation of *unheimlich*; the literal translation is "unhomely" (Freud 2; all citations in this section from Freud). In Ernest Jentsch's study of the "uncanny" he presents the fact that people vary, and he puts great emphasis on their sensitivity to the quality of feeling called 'uncanniness' (1). The subject of the "uncanny", according to Freud, undoubtedly belongs to all that is terrible, such as dread and creeping horror (1). Freud first examined the word "uncanny" with Dr. Theodore Reik in different languages, such as Latin, Greek, French, Spanish, Arabic and Hebrew. They found out that in those languages, the word "uncanny" gives a fearful and gruesome impression (2).

Later on, Freud returns to the German Language by carefully studying Daniel Sanders' *Wörterbuch der deutschen Sprache* [Dictionary of the German Language] (1860). He had laid stress on the word *Heimlich*, and found words that share the same root with *Heimlich* (2). According to Gutzkow, "*Heimlich*" means something secret and untrustworthy (3). In general, the word *Heimlich* is not unambiguous; it means 'familiar' and 'congenial', and also 'concealed' and 'kept out of sight' (4).

In order to understand what is "uncanny" and what causes us to feel "uncanny", Freud presents us with numerous examples and stories. "The Sand Man" in Hoffmann's *Nachstücken*, is an example (5). There are two uncanny parts in the story, one is that the strangely silent and motionless girl Olympia turns out to be a wooden doll; the other one is the story that Nathaniel heard of when he was a child: a sand man will come and spread sand in your eyes and take your eyes away (5-7). A study of dreams, myth and phantasies has taught us that a "morbid anxiety" connected with the eye and with the blind is often a formidable substitute for the fear of castration (7). Therefore, the uncanny effect of the Sand Man to a child's [Nathaniel's] fear can be related to "castration-complex", gaining the idea that we could take this "infantile" factor to account for a feeling of "uncanniness" (8). Jentsch believed that an uncanny sensation was created when there was "intellectual uncertainty" about whether an object is alive or not, that is, when an inanimate object becomes too much like an animate one (8-9).

Most stories that make us feel uncanny are concerned with the idea of a "double" or as the Germans refer to it a *Doppelgänger*. According to Otto Rank, the term has to do with the reflections of mirrors, with the shadows, the guardian spirits and with the belief in the "soul" and the fear of "death" (9). The idea of the double does not disappear with the passing of primary narcissism, it becomes our "conscience" and this nourishes us with the illusion of Free Will (10). The double can also become a recurrence, a regression to a time when our ego had not yet become its own entity. The repeated situations, things or events will appeal to us as a source of uncanny feeling because we feel helpless and unfamiliar (11). The reason why we feel helpless is because it is out of ordinary; it appears to us as conflict within natural law.

One of the most uncanny and wide-spread forms of superstition is the dread of the "evil eye", the fearful feeling of a secret intention of harming someone and the concept of animism and the belief in the "omnipotence of thought" (12). "Morbid anxiety" can be the gist of the uncanny feeling, or to use the German expression "an *unheimliches* house" or "a *haunted* house". We are all afraid of death and cadavers, of the return of the dead, and of spirits and ghosts (13). Most of us strongly believe that it's possible for the dead to come back as an enemy and share their new lives with the living, but to the living it generates a feeling of "uncanniness" (14). To many people, the thought of being buried alive while appearing to be dead is the most uncanny feeling of all (14). A lot of men declare that they feel there is something uncanny about the female genital organs, because it brings to mind an uneasy and deeply rooted memory from the day they were born. The deeply rooted memory has to deal with the ideal of us being alive, while we were in our mother's womb and unable to break out; we were trapped inside. That connection is so deep that it is as if it's part of our genes, this creates the uncanny feeling to us when we face the thought of being buried alive. Thus the *unheimlich* place is the entrance to the former *heim* [home] of all human beings. In this case, the *unheimlich* is what was once *heimisch*, familiar and homelike (15).

In the real world, an uncanny experience can be connected with the repressed "infantile complex", "castration complex", and hence darkness can makes us scared (17). In fairy-tales, the world of reality has often been left behind from the very start, therefore in the realm of fiction many things are not uncanny (18). A feeling cannot arise unless there is a conflict of judgment, or a conflict with reality, that's why if the fairy-tales took place in the world of reality they would become uncanny to us (18).

Stories of fiction present a lot more uncanny sensations than real life, because we can use our imagination in stories (19). However, in real life, a sense of uncanniness only occurs in relation to darkness, silence, solitude and death. This can relate to "infantile morbid anxiety" from which most humans have never become quite free since they were at one time in their mother's wombs (20). Masahiro Mori, a Japanese roboticist, further developed Freud's theory of "The Uncanny" in his essay "The Uncanny Valley" which we will discuss in 1.2.

**1.2 Mori**

The essay "The Uncanny Valley", written by Masahiro Mori, was published in the well-known magazine *Energy* (1970), and is separated into four parts: valley of familiarity, the effects of movement, escape by design and the significance of the uncanny. Let us take a look at the common mathematical function of the form $y = f(x)$ [see the chart below] for which the value of y increases/ decreases continuously with the value of x. This equation can be applied to everything in our daily lives, however the Uncanny Valley does not conform to this equation (Mori 1).
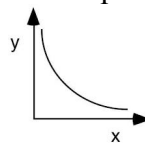


Chart. 1.2-1

Of course, the final goal of the human race's research into the field of robotics is to enable the replacement of ageing bodies/body parts, while retaining that which makes us inherently human, the soul. Through this research scientists may be able to guarantee the goal of everlasting life, which is why we make an effort to build humanlike robots. At this point, we are acutely aware of any details that are different from the real human hand (2). Furthermore, for all creatures, including robots, movement is generally a sign of life. For moving creatures or moveable prosthetic hands the valley gets deeper, and the whole Uncanny Valley chart becomes much more dramatic (3).

To avoid this confusing and uncomfortable feeling, we can have artists design prosthetic hands with wood instead of trying to achieve the exact likeness of a real human hand. Another example we can draw upon is a glass eye. A healthy person is at the top of the second peak. As we die, we fall into the trough of the Uncanny Valley; our body becomes cold and the color changes [see the chart in the next page]. Mori asked himself "Why do we humans have such a feeling of strangeness? Is this necessary?" It may be important to our self-preservation (4).
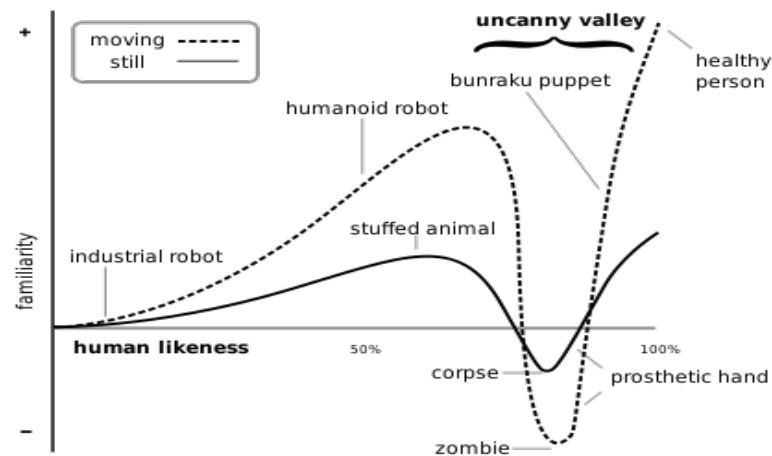


Chart. 1.2-2

*The demonstration of the 'valley' created by a feeling of 'uncanniness'.*

Freud stressed the importance of psychoanalysis in allowing us to understand the true reasons why human beings are afraid of darkness, tight spaces and so on. He discovered this might have to do with the "infantile" stage, when we were all not quite free and we were imprisoned in our mother's wombs. Moreover, he believed the reason why we have this "uncanniness" feeling toward other objects has to do with our deep seated fear of death, it's our "morbid anxiety". On the other hand, Mori thinks that the "uncanniness" is due to the fact that objects, such as humanoid robots, are becoming too similar to us, we can no longer tell if there is a soul in the robot or it's merely a machine.

Michel Foucault in *Language, Counter-Memory, Practice: Selected Essays and Interviews* stated that transgression is not as crystal clear as black and white; but rather a blurry line a form of a spiral, where there is no certain way to distinguish differences (Foucault 35).

Rather the existence of 'uncanniness' is subjective as not every individual will react in the same way to the conduits that create this feeling. Also whether or not the theory developed by Freud and Mori applies to other fields such as art is unclear. The connection between the theory of The Uncanny Valley and the development of robots is like a double helix where there is no exact way to distinguish the differences, and everything is inextricably linked. Due to the fact that robots are becoming so similar to humans, the differences that separate robots and humans have become obscure, leaving us confused and dissatisfied. That's the Uncanny Valley.

**Films in the Uncanny Valley**

**2.1 Films**

Compare the blockbuster movie *Avatar* by James Cameron with a small production three minutes animation called "Marcel the Shell with Shoes On" by Dean Fleischer-Camp. "No matter how much art and technology we threw at this thing, if it wasn't in the eyes of the characters- if you didn't see a soul there- it would just be a big clanking machine" said Cameron (Weschler275). "In fact, researchers currently debate over whether they should try to overcome the uncanny valley or simply design robots that are more mechanical in appearance" (Kageki 1). "The [U]ncanny [V]alley as described by Masahiro Mori is a phenomenon that arises when setting human likeness in relation to familiarity" (Mewes 2). Only when robots approached human likeness in near perfection, "familiarity" rises again and "ultimately reaches a level where it is on-par with the perceived familiarity of a real human (Because of the thing being actually indistinguishable from those at that point)" (Mewes 3). Moreover, "[w]hile the incremental approach is useful for gaining insights for social science and to improve upon the human likeness of androids, it may not always be the right approach for maximizing the familiarity of robots" (Mewes 9-10). In conclusion, "Because of the [U]ncanny [V]alley phenomenon, very human like androids have a high probability of becoming eerie and therefore unfamiliar" (Mewes 10).

However, for *Avatar*, there was a catch; the skin color was blue; it was very unlike human skin, so it was easy for people to feel comfortable with the movie and Avatarians wouldn't be considered stuck in the "Valley" as their skin had no resemblance to ours (276). "Conversely, the effect of the uncanny can easily be achieved when one undertakes to reinterpret some kind of lifeless thing as part of organic creature, especially in anthropomorphic terms, in a poetic or fantastic way" (Jentsch 12).

On the other hand, films such as *Futurama*, *Toy Story 1.2.3* and *The Stapford Wives* can be related to the little shell, Marcel, with only one eye and wearing a pair of pink dolly shoes, walking around with a clump of lint and draping that clump of lint around like her pets, is much closer to human. The affection we share with Marcel is greater than what we saw with *Avatar* (Weschler278). "There are many industrial robots, and as we know the robots do not have a face or legs, and just rotate or extend or contract their arms, and they bear no resemblance to human beings" (Mori 1). "The different approaches to familiar robots can be observed in Hollywood features" (Mewes 11).

Just like the Specialist (evolved mecha) said to David in the movie *Artificial Intelligence: A.I.*, I often felt a sort of envy of human beings, of that thing they call 'spirit'. Human beings have created a million explanations of the meaning of life- in art, in poetry, and mathematical formulas.

There are a lot of films which stumble across the notion of Uncanny Valley, such as *2001: A Space of Odyssey* (1968), *Alien* (1979), *The Alien Legacy* (1999), *Modern Times* (1936) and *I'm a cyborg, but that's OK* (2006). The very first scene in *I'm a Cyborg, but that's OK* shows that Young-Goon is at an electronic device assemble factory where human are made to looks like robots and just do the same thing over and over again day after day. This scene evokes Charlie Chaplin's classic film *Modern Times* which is set at the beginning of the technologic revolution, when, machines began to replace humans and humans become machines-like. At the end of the scene, Young-Goon says "I certainly am [a cyborg]". *Coriolanus* by Shakespeare can also be put into this category. Coriolanus went mad and became a killing machine, and all he did and thought about was killing. All of the examples above generate a different yet equally powerful feeling of "uncanniness".

*I'm a Cyborg, But that's OK!* is a Korean film about a girl called Young-Goon who firmly believes that she is a cyborg. The film begins by showing Young-Goon's mother working at a sausage factory, and the level of dirtiness makes Young-Goon dislike food more and more each day. On top of that, Young-Goon's grandmother believes that she is a mouse, she says to Young-Goon that the mice in the kitchen are her family and she is taking care of them. Due to these abnormal events which happened when she was growing up and in order to avoid eating filthy food, she "became" a cyborg.

Young-Goon listened to the radio with her grandmother when she was growing up. The radio became a voice in her head just like a motherboard is the key to operating a whole computer. The "program" inside her head is so strong that she acts like a cyborg. She then refused to eat because cyborgs do not need to eat; cyborgs are like robots, they just need to charge their batteries. Her belief enables her imagination to run wild; she can shoot bullets from her finger tips and her mouth. For a period of time the movie portrays her as a real robot; the audience begins to notice that Young-Goon's emotionless behaviors really resemble those of a manufactured robot. "The cyborg is a condensed image of both imagination and material reality" (Haraway 292). It was the abject feelings she had toward food that traumatised her, and she became insane, driven by madness. The emotionless feelings associated with being a "cyborg" begin to take over, leading her to seek revenge, and she begins to kill human beings. In Charlie Chaplin's *Modern Times*, the male actor similarly becomes robotic. However in contract, he frees himself from being a robot, by doing something impulsive and creative.

Donna Haraway mentions in her essay, "A Cyborg Manifesto: Science, Technology and Socialist-Feminism in Late Twentieth Century", that "[b]y the late twentieth century, our time, we are all chimeras, theorized and fabricated hybrids of machine and organism. In short, we are cyborg" (292). The first scene in which Young-Goon appears shows her at an electronic device assembly factory. The factory makes the humans behave like robots, doing the same thing over and over again every day.

In Shoshana Felman's "Madness and Philosophy or Literature's Reason" she states that "[m]adness can only occur within a world of conflict, within a conflict of thoughts. The question of madness is nothing less than the question of thought itself" (Felman 206). This illustrates the odd circumstances of Young-Goon's childhood. "What characterizes madness is thus not simply blindness but a blindness 'blind to itself', to the part of necessarily entailing on 'illusion of reason' (Felman 206). Young-Goon came to the point that she had to create an illusion to deal with the conflict that had built up inside her over eating grotesque food. In fact, she believes her illusion so deeply that she created a safe place in her own mind, that safe place being the world of robots. Perhaps to her, the robot world is full of order and no conflict, and this can help her to cope with the reality of chaos. "To the extent that insanity is traceable to mental maladjustments due to psychological experiences it would appear that modern civilization is a cause to a very large extent of serious psychological maladjustment on the part of mankind" (Ogburn/Winston 822).

According to the definition in the Oxford English Dictionary, "trauma is a deeply distressing or disturbing experience, and emotional shock following a stressful event or physical injury which may lead to long-term neurosis". Young-Goon was horrified by the filth that she saw at the sausage factory, and the horrifying images of how disgusting the factory was traumatized her. Trauma is "the moment of break down, the sudden confusion of impact, of being overwhelmed by the stunning shock where everything adaptive fails, expect for the obliteration of knowledge" (Nachmani, qtd. in Henke 27). People respond to their dissociating traumas in two basic ways: they either learn to traumatize themselves, or they learn to traumatize others. In this case, Young-Goon began to traumatize herself. She suppressed her feelings and created the illusion of being a cyborg, and this eased her conflict in life and helped her deal with the feeling of "uncanniness".

Films such as *Mon Oncle 'My Uncle'* (1958) and *The Matrix* (1999) can be related to Uncanny Valley. The movie *Mon Oncle* has not only explored the alienation that technology brings to people, but also portray human becoming machinic. We do the same thing over and over again, we go on to the same path, wear mostly the same clothes and say the same words, just like in "In the Penal Colony": "These uniforms are really too heavy for the tropics" (Kafka 3). Or as Agent Smith in *The Matrix* said: "Did you know that the first Matrix was designed to be a perfect human world? Where none suffered, where everyone would be happy. It was a disaster. No one would accept the program. Entire crops were lost. Some believed we lacked the programming language to describe your perfect world. But I believe that, as a species, human beings define their reality through suffering and misery. The perfect world was a dream that your primitive cerebrum kept trying to wake up from. Which is why the Matrix was redesigned to this: the peak of your civilization".

However, in order to understand the feeling of "uncanniness" created by the Uncanny Valley, we must analyse *Pietà*. At the beginning of the film, *Pietà* Kang-do encountered a woman who claimed to be his birth mother. Kang-do, who has no family and has had no friends throughout his whole life, works for a loan shark as an enforcer. He cripples people if they cannot repay their debt to the loan shark. A woman shows up in Kang-do's life claiming to be his long lost birth mother. Due to the inescapable and unbreakable bond between a son and his birth mother the two should have a feeling of great closeness.

However Kang-do is conflicted, he has both a familiar and an unfamiliar feeling towards this woman who claims to be his mother, he is caught up in a *heimlich* [homely] but yet *unheimlich* [unhomely] feeling.

When Kang-do tried to find proof that this "unfamiliar' mother was in fact his own birth mother, his actions could be described as "uncanny". Kang-do first cut off a testicle and said to the woman "if you really are my mother, you would eat this". This is Kang-do's "castration complex", in order to take away his "unfamiliar" yet "familiar" feeling, he offers up something that belongs to him. Another incident which creates an "uncanny" feeling occurred when Kang-do tried to go back to where he came from. He said to her [the woman who claimed to be his mother]: "I came out of here? […] Then Can I go back in? I am going back in. Hold still. I'm going in". Kang-do's desire to go back to his mother's womb is an "infantile" factor that causes his "uncanny" actions.

According to Freud's essay "Beyond the Pleasure Principle" there are numerous occasions and events that cause "tension" between people, and our emotions change by the "motion by an unpleasurable tension". This tension only leads to two methods in which to ease the tension, which is "an avoidance of unpleasure or a production of pleasure" (Freud1920-22 7). In this situation, Kang-do eased his tension by 'producing pleasure'; however the mother attempted to 'avoid an unpleasure' and block Kang-do's unwanted advances but she failed to do so. From this point on Kang-do started to get used to the company of this 'mother' and he began to feel an attachment to her.

Most stories that make us feel uncanny are all concerned with the idea of a "double". Repeated situations, things or events will appeal to us as a source of uncanny feeling because we feel helpless and unfamiliar (Freud1990 11). When Kang-do walked through those zigzagging, crowded alleys to find those who had not paid he encountered an eerie sense of Deja-vu. On his trawls Kang-do would search for young couples who had failed to pay up, another young couple who refused to pay up, soon to be parents that can't pay up but are willing to be crippled, to an old man who question Kang-do "what's death" and jumped off the building and killed himself, all these different scenes are a recurrence, repetition of a tight, dark, small places. In real life, a sense of uncanniness only occurs in relation to darkness, silence, solitude and death. This can be related to "infantile morbid anxiety" from which most humans have never become quite free since they were in their mother's womb (Freud1990 20). All of the points discussed above are concerned with the "uncanniness" and can be related to modern technology and life.

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