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The Uncanny and the Robot in the Astro Boy Episode "Franken"

Introduction

In the story of 'Franken', by Osamu Tezuka, humans flee in horror at the sight of a robot named Franken,[1] unaware that he is actually on a search for his lost friend, as well as for mechanical pieces to repair himself. Directed by Kazuya Konaka, 'Franken' is an episode of the Japanese animation series *Astro Boy*, from 2003. The story begins with a shot of an interior, in which three thieves from an underground robot theft ring disassemble the parts of stolen robots with the aim of selling them. The sombre colours of the interior without windows and an unidentified, mysterious and eerie voice heard in the background imbue the introductory shot with a frightening and unnerving atmosphere. This consequently acts as an initial tension-builder for the developing story. In deep night, discarded parts of the stolen robots are then disposed of. Out of the pile of these discarded, dismantled robots' parts arises a machine-like one-eyed creature, with extremities that resemble mechanical feelers. Soon after, the episode starts to switch between shots, following the one-eyed creature on the way to Metro-musements, an amusement park near Metro City, with other shots following Astro Boy's class day in this amusement park. The 'Franken' story is an intriguing confluence of Western mythological and literary references, while simultaneously incorporating the animistic component from the Japanese Shinto religion. With its sophisticated use of these references, coupled with a masterful use of 2D animation, 'Franken' delivers an interesting story about humans and robots.

By looking at the horror, present in the interaction of Franken with humans, the paper explores whether Franken elicits an uncanny effect. Here, for the framework, Sigmund Freud's and Masahiro Mori's views on the uncanny are used. The discussion comes to the conclusion that while Franken exercises an uncanny effect on the human characters in the story, he fails to stimulate any sense of uncanniness in the viewer of the animation. This is due to a number of reasons, found in the way in which the animation is directed.

Uncanny, Horror and the Robot

'Franken' is directed in a way that emphasises the horror in the story by depicting Franken as an embodiment of a number of Western literary and mythological references. The first of these appears in the name of the robot himself, Franken, which is also the title of the episode. This is a reference to Mary Shelley's fictional character of Frankenstein[2] – a monster created from human parts. The initial shot of 'Franken,' which shows the thieves working on dismantling stolen robots, bears a strong resemblance to the Frankenstein story. The successive shots show Franken emerging from a pile of discards as a mysterious machine with one red eye. This reveals another Western reference, more precisely a reference to the Cyclops, frightening one-eyed giants from Greek mythology.[3] As Franken approaches the amusement park and enlarges in size, due to his consumption of the metal objects he finds on the way, he resembles King Kong, a terrifying giant

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[1] The name of the robot is Franken, however, in the story he is occasionally referred to as Al. This paper will refer to him as Franken, not Al.

[2] Mary Shelley anonymously published her novel *Frankenstein; or The Modern Prometheus* for the first time in 1818. The second edition followed in 1823 and the third, which was revised by Shelley, came out in 1831 (Joseph 1969, p. xix).

[3] Franken's eye is situated in the middle of his forehead. The eye of the Cyclops also appears in the same place (Scott Littleton c2002, p. 228). In addition, the Cyclops have been often represented in the movies.

gorilla from the Western fictional work.[4] All of these references work on making him a horrific monster. Concerning horror, the importance which the uncanny has in its context should be stressed here. Writing about zombies – a kind of monster – Kyle Bishop notes that

> zombies also have close ties to other, more literary monsters. They belong to a diverse class of creatures that cross the metaphysical line between life and death, where a strong sense of the uncanny inspires unease and fear. (Bishop 2006, p. 200).

Bishop's lines highlight fear's dependence on the uncanny and their close connection with the blurred boundary between the animate and inanimate. The uncanny effect is produced when an entity, believed to be inanimate, suddenly appears as animate – zombies are an example. This kind of uncanniness consequently enables the production of horror as a textual effect or textual construct. The horror that is produced by monsters' uncanniness is not only due to their appearance, which might be frightening and threatening, but, as is later seen in Freud's theory, because there is something familiar about them.

Going back to the monster robot Franken, as the story develops he is represented as terrifying the humans he encounters. The first of these is a couple in the car whom he confronts in a tunnel and whose car he then devours. After he walks out of the tunnel he enters the amusement park, where he causes a great deal of panic and horror in the people there, consuming three roller-coasters and the Super Safari Ride. Even the friend he is looking for, a boy named Jack Fuller, because he does not recognise him, flees in horror in front of him. This brings to mind Freud' view that fright and the uncanny are easily elicited by that which is novel (Freud 1955b, p. 221). Yet, he also adds, 'some new things are frightening but not by any means all.' (Freud 1955b, p. 221). The uncanny, according to Freud (1955b, p. 219), is without doubt related to what arouses dread and horror.[5] Since Freud' views[6] on the uncanny are relevant for questioning the uncanny in relation to Franken, it is valuable firstly to shed light on his views here.

Freud explains that, 'The German word "*unheimlich*" is obviously the opposite of "*heimlich*" ["homely"], "*heimisch*" ["native"] – the opposite of what is familiar' (Freud 1955b, p. 220). In his discussion Freud briefly examines different interpretations of the term uncanny in various languages such as English, Latin and Greek, but then looks more thoroughly at examples from the German language and literature. In analysing the use of the German terms 'heimlich' and 'unheimlich' Freud comes up with an interesting conclusion: 'among its different shades of meaning the word *"heimlich"* exhibits one which is identical with its opposite, *"unheimlich."* What is *heimlich* thus comes to be *unheimlich*.' (Freud 1955b, p. 224). This point at which 'heimlich' equals 'unheimlich' is a crucial point in Freud's theory of the uncanny, for he would later conclude that 'uncanny is in reality nothing new or alien, but something which is familiar and old-established in the mind and which has become alienated from it only through the process of repression' (Freud 1955b, p. 241).

Yet, before he would come up with bringing the uncanny and familiar together, Freud observes that there is a temptation to conclude that being not known and not familiar produces an effect of the uncanny. However, the novel or unfamiliar alone, according to Freud (1955b, p. 221), is not sufficient to elicit the uncanny. Something needs to be added to the novel, unfamiliar

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[4] Merian C. Cooper and Ernest B. Schoedsack produced and directed the first *King Kong* film which premiered in the United States in 1933. The original story was created by Cooper and Edgar Wallace (Gottesman and Geduld 1976, p. 15).

[5] In addition, Freud, in his paper, presents no explicit discussion about what Angela Connolly calls the subtle and important semantic differences between terror and horror (Connolly 2003, p. 408). As Connolly elegantly puts it: 'while terror refers to the mental state associated with fear, horror refers more to its physical effects and has semantic overtones of disgust and repugnance' (Connolly 2003, p. 408).

[6] According to Nicholas Royle (2003, p. 6), the most indispensable text published on the theme of the uncanny is Freud's paper 'Das Unheimliche,' published in 1919 and translated in English under the title 'The Uncanny' - the text used in this paper.

and the unknown, he asserts, in order to make it uncanny (Freud 1955b, p. 221). Freud further observes that the uncanny 'is undoubtedly related to what is frightening – to what arouses dread and horror' (Freud 1955b, p. 219). He further looks at Ernst Jentsch's observations of the uncanny. Jentsch (1995, p. 13) proposes a view that closely connects the uncanny with a feeling of uncertainty. Amongst other things that have the potential to trigger the uncanny, he singles out the doubt regarding whether an entity is animate or inanimate (1995, p. 14). This uncertainty stands on the opposite pole to intellectual certainty, which, as Jentsch observes, 'provides psychical shelter in the struggle for existence' (1995, p. 15). Intellectual mastery over the environment, according to Jentsch (1995, p. 15), represents a strong human desire. Freud, however, finds Jentsch's proposal of the intellectual uncertainty incomplete in explaining the uncanny, and, thus, continues his analysis.

While Freud, as previously mentioned, closely connects the uncanny with the frightening, he highlights that there are different classes of frightening. The uncanny, according to him, belongs to that class of the frightening which relates not to what is alien and unfamiliar, but, on the contrary, to 'what is known of old and long familiar.' (Freud 1955b, p. 220). This leads Freud (1955b, p. 240) to an interesting point, which is the animistic conception of the universe.[7] More precisely, he observes that one of the reasons[8] for the occurrence of the uncanny experience is 'when primitive beliefs which have been surmounted seem once more to be confirmed' (Freud 1955b, p. 249). As he develops his arguments Freud points out a preference for the usage of the term 'surmounted' rather then 'repressed' in the context of this kind of uncanny (Freud 1955b, p. 249).

Freud (1955b, p. 250) highlights that the uncanny is conditioned by a conflict of judgement. Unless there is a conflict of judgement, the uncanny experience will not occur.

The feeling of the uncanny, in Freud's view, is frequently experienced at its highest in relation to the ancestral beliefs in 'the return of the dead, and to spirits and ghosts' (Freud 1985, p. 364). In Freud's terms, Franken then can symbolically represent the embodiment of surmounted ancestral beliefs, such as, for instance, belief in a supernatural beings[9] or belief that the dead can return to life.[10] The presence of Franken, however, despite his references to Western literary and mythological monsters, fails to reconfirm those surmounted beliefs in the viewer, and, consequently, fails to elicit the uncanny sensation. Monsters, as Steven Schneider puts it, 'are able to produce in many viewers that conflict of judgement necessary for a feeling of uncanniness' (Schneider 1999). Franken's failure to produce this lies in a number of reasons that originate in the way in which the animation is directed. The first of these reasons relates to highlighting that the story is placed in an imaginary world. Some elements from a real world are present but are given a minor importance. Freud observes that there is an important difference concerning the uncanny in the context of the fairy-tale and real life.[11] Fairy-tales represent the imaginary reality, and in them certain things are not uncanny which otherwise would be so if they happened in real

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[7] Animism is the belief that numerous things in nature have souls. In relation to the animistic stage and the scientific view, it is interesting that Freud, in 'Animism, Magic and the Omnipotence of Thought' notes: 'At the animistic stage men ascribe omnipotence to *themselves*. [...] The scientific view of the universe no longer affords any room for human omnipotence' (Freud 1955a, p. 88).

[8] Freud also connects the uncanny with the return of the repressed which refers to coming to the consciousness of the unconscious infantile complexes. To look at additional interpretations by Freud is, however, outside the scope of this paper.

[9] As previously mentioned, Franken bears a resemblance to Cyclops and these can be viewed in terms of a class of supernatural beings.

[10] Franken's name appear to derive from Shelley's monster Frankenstein and Frankenstein can be classified in this group, as he was made out of parts from corpses.

[11] Freud also notes that: 'The imaginative writer has this licence among many others, that he can select his world of representation so that it either coincides with the realities we are familiar with or departs from them in what particulars he pleases. We accept his ruling in every case' (Freud 1955b, p. 249).

life (Freud 1955b, p. 250). Since in the 'Franken' story there is a strong accent on fantasy, the viewer, consequently, is not compelled to take it as if it is happening in the real world. This prevents eliciting the sense of the uncanny as the story does not subject itself to reality testing and, as a consequence, the conflict of judgement – Freud's condition for uncanniness – does not occur. In Freud's view (1955b, p. 250), the viewer of the story adapts his/her judgement to the imaginary reality of the story's author.[12] Franken is not seen by the viewer in the same way in which he would have been seen if the story had been directed in a way that emphasised that it was situated in the real world. While according to Freud, as stated earlier, there is no uncanny in fictional works such as fairy-tales because they do not call for reality testing, on the other hand, Freud does not completely rule out the possibility for the uncanny in the context of fiction. He notes that fiction could indeed be a fertile ground for the production of the uncanny (Freud 1955b, p. 249).[13] Looking at the 'Franken' story in this light, it could be said that if the story had been directed in a way that accentuated the elements that belonged to the real world, then this would have increased the possibility for the viewer to experience the uncanny.[14] This brings into perspective an important point, which is the relationship between reality and fantasy.

The world of reality has its laws, possibilities and limits – it is the world of the finite. On the other side, fantasy, as Richard Mathews writes, 'enables us to enter worlds of infinite possibility' (Mathews 2002, p. 1). Reality is governed by the laws of logic, while, on the other side, fantasy, as Mathews points out, 'does not require logic – technological, chemical, or alien – to explain the startling actions or twists of character and plot' (Mathews 2002, p. 3). Although reality and fantasy could be seen as dialectical opposites, interestingly, Rosemary Jackson sees a symbiotic element there.

> Fantasy re-combines and inverts the real, but it does not escape it: it exists in a parasitical or symbiotic relation to the real. The fantastic cannot exist independently of that 'real' world which it seems to find so frustratingly finite. (Jackson 1981, p. 20).

Thus, for Jackson, reality and fantasy are neither mutually exclusive nor incompatible.

Stories that are set in the real world impose the necessity of complying with its laws in order to convey the sense of reality to the viewer. Contrary to this, stories that are situated in the context of a fantasy world do not have this necessity.[15] That is, the lack of restrictions of various kinds is one of the main features of fantasy.

While the worlds of fantasy and reality have their differences, fantasy, as Jackson pointed out, feeds off the world of reality. Stories set in either of these worlds, though, do have one thing in common – they are both interested in inviting an emphatic response from the viewer.[16] If the

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[12] Freud's discussion of Oscar Wilde's *Canterville Ghost* greatly illustrates this point. He says that even the 'real' ghost in Wilde's work loses the potential to elicit even only gruesome feelings at the point in which the author of the story, by being ironical, begins to amuse himself (Freud 1985, p. 376).

[13] Freud comes up with what he calls a 'paradoxical result' - not only that numerous events could be uncanny in real life while appearing non-uncanny in their fictional context; but also that fiction has many more ways to create the uncanny (Freud 1955b, p. 249).

[14] This finds further ground in Freud's following thought: 'We adapt our judgement to the imaginary reality imposed on us by the writer, and regard souls, spirits and ghosts as though their existence had the same validity as our own has in material reality. In this case too we avoid all trace of the uncanny. The situation is altered as soon as the writer pretends to move in the world of common reality. In this case he accepts as well all the conditions operating to produce uncanny feelings in real life; and everything that would have an uncanny effect in reality has it in his story.' (Freud 1955b, p. 250).

[15] This important point of distinction between reality and fantasy is nicely articulated by Jackson: 'Literary fantasies have appeared to be 'free' from many of the conventions and restrains of more realistic texts: they have refused to observe unities of time, space and character, doing away with chronology, three-dimensionality and with rigid distinctions between animate and inanimate objects, self and other, life and death' (Jackson 1981, pp. 1-2).

[16] Tzvetan Todorov, for instance, talks about how in the context of the fantasy work the integration of the reader with the characters' world is, to use his term, 'implied' (Todorov 1975, p. 31).

fictional works succeed in suspending acceptance in a viewer, that what is happening is not fictional but real, then, in the case of horror movies, for instance, the viewer is likely to have an experience of the uncanny. Thus, it cannot be easily concluded that an experience of the uncanny is exclusively related to stories set in the real world, while works of fantasy and fiction in general are eliminated from this context.[17] If a viewer's acceptance that s/he is watching a fantasy story is suspended, and instead s/he is led to believe that the story is set in reality, this opens a space for an experience of the uncanny within the fantasy. In the 'Franken' story the viewer is not stimulated to suspend her/his acceptance and thus this is one of the reasons which prevents the viewer from experiencing the uncanny.

While the facial expressions of the humans in this story are used to depict them as experiencing uncanny moments when they encounter Franken, the viewer is not empathising with them – and thus not experiencing the uncanny. This is because the animation is directed in such a way that the viewer is not following the story from the perspective of these humans. What furthermore adds to the viewer's not experiencing the uncanniness, in relation to the 'Franken' animation, is the choice of presenting it in a 2D style. Franken's character does not convince the viewer that, in Freud's terms, beliefs that are considered surmounted are possible. In other words, he is not stimulating in the viewer either a conflict of judgement or doubt about the reality of these beliefs.[18] The choice of a realistic 3D style would have had a different impact on the viewer, and thus, a different effect concerning the idea of the uncanny, as 3D would significantly influence the realism in this animation.

Since the effect of the uncanny is closely related to realism, it is important to interrogate here the conditions of realism within animation in general. Alice Crawford notes the close relation between computer animation and realism when she says that, 'Developments in computing technology have, among other effects, put an unprecedented capacity for realism within the reach of many animators' (Crawford 2003, p. 115). Lev Manovich holds a similar view when he says that, '"Realism" is the concept that inevitably accompanies the development and assimilation of three-dimensional computer graphics' (Manovich 1997, pp. 5-6). Realism, as Manovich nicely articulates, is achieved when the distinction between the computer image and a photograph of an object cannot be made (Manovich 1997, p. 6). Thus, viewed from the perspective proposed by Crawford and Manovich, realism within animation refers to animation's visual style mimicking the physical world via the technical aid of 3D software. While the narrative in the 'Franken' story does exhibit certain elements from the physical or real world, on the other side, the visual style of the story created in 2D greatly lacks the realism to which Crawford and Manovich refer. This consequently contributes to preventing the viewer from having an experience of the uncanny as related to Franken.

Since this paper highlights that the experience of the uncanny in relation to the 'Franken' story also depends on the realism of its visual style, it is important here to explore reality and the conditions of realism within sub-genres such as science fiction, adventure and drama, within which this story is situated.

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[17] As Freud says about the writer: 'he deceives us by promising to give us the sober truth, and then after all overstepping it. We react to his inventions as we would have reacted to real experiences; by the time we have seen through his trick it is already too late and the author has achieved his object' (Freud 1955b, pp. 250-251).

[18] Freud explains this conflict of judgement and the return of these old beliefs in the following way: 'it is as though we were making a judgement something like this: "So, after all, it is *true* that one can kill a person by the mere wish!" or, "So the dead *do* live on and appear on the scene of their former activities!" and so on' (Freud 1955b, p. 248).

Views differ concerning the question of whether science fiction occupies a space within reality or fantasy. For Christine Cornea, it is in between these two that the genre of science fiction is situated (Cornea 2007, p. 4), whereas according to Karl Kroeber, 'The genres of science fiction and fantasy overlap and interpenetrate.' (Kroeber c1988, p. 9). Thus, for Kroeber, science fiction and the world of fantasy are closely connected. John Rieder's view comes close to Kroeber's when he says that the narratives in science fiction disconnect themselves from the experienced reality (Rieder 2007, p. v). Although Rieder rightly points out that the events in science fiction stories do not occur in reality, they frequently have their ground in it, in the sense that they represent what might be futuristic achievements of humanity.[19] The choice of 2D or 3D software, again, plays an important part in the context of the realism of science fiction stories. That is, their realism greatly depends on the degree of the lifelikeness of their visual style, apart from a more realistic narrative. Concerning reality in the context of adventure – another sub-genre within which the 'Franken' story is placed – Brian Taves says that, 'In adventure, ideals are achievable within the real world; in fantasy, humankind must ultimately call upon more powerful forces' (Taves c1993, p. 10). Adventure in the 'Franken' story is not a real-world adventure, but it belongs to the realm of a fantastic adventure, as Franken is not a creature from a real world. There is a lack of realism in this adventure; realism would have been most likely achieved if the story had been not only created using 3D software but also had changes made to its narrative. That is, the story would not have been about a human encounter with Franken, but instead represented a kind of real-life adventure, for instance, an example drawn from humanity's history. Furthermore, drama, as Keith Sanger rightly states, 'denotes conflict, contradiction, confrontation, defiance' (Sanger 2000, p. 6). These are some of the most general characteristics of drama also found in the 'Franken' story. Dramatic moments are recognisable throughout the story, such as, for instance when Franken falls into a hole in the ground. Yet many of these dramatic moments do not belong to the realm of the real, as the story involves the Franken creature. A number of points would have contributed to the realism of drama in this story. These include making its narrative reflect a humans' drama that is likely to happen in the real world – thus rendering its situation more realistic. Also, not only choosing to express its visual style by means of 3D software, which has already been highlighted in this paper, but also rendering the characters' appearance more realistically, instead of choosing a cartoon style.

Going back to the story, Franken – a vicious monster, as described in the episode by Inspector Tawashi – is attacked by the special military forces. During the attack his monster features are destroyed, and at this point he appears as a humanlike robot. Questioning whether, as such, Franken has the ability to evoke an uncanny response on the part of the viewer brings the theory of Uncanny Valley by Mori into the discussion.

Mori, a Japanese roboticist, wrote an article titled 'Uncanny Valley' in 1970, in which he explored human reactions to humanlike robots. Here he suggested that the human reaction to robots is in proportion to the degree of their human likeness in terms of their appearance and movements. Mori mentioned the example of a humanlike robot which had twenty-nine artificial facial muscles, and that the speed of these moving muscles was important in conveying a feeling of familiarity.[20] If the speed of the muscles changed, he noted that the robot's laughing looked unnatural. He concluded this observation by saying that, 'This illustrates how slight variations in movement can cause a robot [...] to tumble down into the uncanny valley' (Mori 1970). While

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[19] Humanity's history contains countless examples which demonstrate how fantasy became reality. For instance, for the ancient world, humans' landing on the Moon would have been only fantasy.

[20] It was at the World Expo held in Osaka, Japan in 1970 where Mori saw this robot, which had twenty-nine artificial facial muscles.

humanlike robots have the potential to elicit, in a human, a kind of response directed toward other humans, Mori observed that as soon as subtle differences come into the awareness of the humans, their sense of familiarity is substituted by the feeling of strangeness.[21] At this point the robot falls into the Uncanny Valley. Thus, such a robot, which begins to rather resemble an animate corpse, falls into the same place where Mori also placed zombies and corpses – at the bottom of the Uncanny Valley. The Uncanny Valley, as Dave Bryant puts it, 'is where dwell monsters, in the classic sense of the word' (Bryant 2006). Mori, surprisingly, made no explicit mention of Freud.[22] In order to prevent a robot falling into the Uncanny Valley, Mori suggested that robot designers should not aim for a total human likeness.

Observing Franken from the perspective of the Uncanny Valley, at the point in the story in which he has a humanlike appearance, this paper suggests that he does not fall into the Valley. This is due to the fact that although Franken is a highly humanlike robot, dressed as a human, with behaviour, movements and even a heart like humans, the artificial side of him presents itself to the viewer through his visibly metal skin and ears. Thus, it is his noticeable artificial side that prevents him from falling into the Uncanny Valley. In other words, the degree of artificiality that his character shows precludes Franken from resembling an animated corpse. If he had been created in a realistic 3D style and with a higher degree of humanlike appearance, this would open the possibility for him to fall into the Uncanny Valley, and thus to evoke the sense of the uncanny in the viewer.

Conclusion

This paper has addressed the question of whether Franken, a robot in the 'Franken' episode of *Astro Boy*, evokes a feeling of the uncanny. It has reached the conclusion that, based on the depictions of humans' reactions to Franken in the story, he appears uncanny to them. However, he fails to produce an uncanny effect on the viewer of the animation. In other words, from the perspective of the viewer, there is, in Freud's terms, a representation of the uncanny,[23] but not an experience of it. This is due to a number of reasons, identified in the way in which the animation is directed. These include the accent on situating the story in an imaginary world, rather than highlighting its elements from the real world. As a consequence, the viewer is not confronted with the need to undertake a reality check. Furthermore, if the viewer was stimulated to put herself/himself in the place of the humans encountering Franken, this scenario would greatly impact on the viewer's perception of the uncanniness of Franken. In the part of the animation where his body appearance reflects references to monsters from the Western cultural heritage, he does not trigger a sense of the uncanny. One of the reasons for this is due to the choice of the 2D style of animation. If Franken had been made in a realistic, 3D style, with the characters looking more real, the chances of him evoking an uncanny effect on the viewer would greatly increase. Although Franken appears as a highly humanlike robot, his metal skin, noticeable despite the human clothes he wears, reveals his artificial side. This consequently prevents him from falling into Mori's Uncanny Valley. ✑

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[21] While in his article, Mori placed healthy human beings on the highest point of the curve in the Uncanny Valley diagram, he made a statement in 2005 which reflects the change in his thinking about this particular point. According to Mori's new observation, not a human being but something else should indeed occupy the highest point of the curve. This in his view is 'the face of a Buddhist statute as the artistic expression of the human ideal.' (Mori 2005).For more details on Mori's the Uncanny Valley see MacDorman (2005).

[22] Mori questions the reason for the feeling of strangeness, and whether it is necessary. Without going further into the research, he supposes that it may be related to self-preservation.

[23] Seen in the facial expressions and reactions of the people who encounter Franken in the story.

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