# uncanny dimple

Mapping the Cute and the Uncanny
in Human-Robot Interaction

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FIGURE 1

A smiling, pudgy otter mascot, wearing a pink turtle for a hat, frantically trashes a room with a baseball bat.

# 0 Introduction

DESPITE THE PERVASIVENESS of cuteness in our contemporary cultures, the subversive power of all things adorable is often misunderstood or trivialised. It is easy to overlook the affect of cuteness, since unlike most aesthetic categories, cuteness calls attention to its own banality and weakness, dramatising the very ineffectuality and frivolity it describes (Ngai 2010). As an attribute most often linked to femininity, naivety, and commercial consumption, cuteness has been deemed too trivial and mundane to draw serious academic interest or discourse until recently (see Harris 2001, Dale 2016, Dale et al. 2017, Ngai 2010 & 2012, May 2019).

However, as Ngai (2012: 32) points out, we cannot deny the cultural importance of cuteness: "Only radically informal and temporally dispersed styles can remain genuine bearers of 'historical' meaning". The study of vernacular and low-brow concepts such as cuteness can expose some of the biases and polarities in the postmodern condition, since the very banality and non-threatningness of cuteness makes it ambiguous enough to take on more sinister meanings and feelings. As Dale (2016) describes: "This flexibility allows cuteness to appear in combination with a host of other qualities, including such oppositional categories as the grotesque, the ugly, the disgusting and so on."

Cuteness itself seems to take a similar amorphous and malleable shape it is often prescribed to; "the squishy or

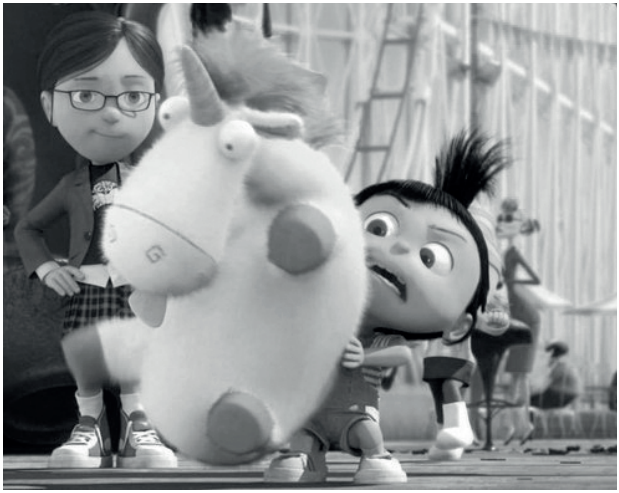

FIGURE 2
"It's so fluffy, I'm gonna *die*!" the adorable orphan Agnes exclaims while squeezing a unicorn plush toy in the animated film *Despicable Me*.

extrasoft blob" (Ngai 2012: 30) of babies, marshmallows, and Barbapapa (FIGURE 4). Like a chubby-cheeked Janus face, cuteness exhibits a curious range of dualisms in the ways it is manifested, perceived and explained, as also the three opening figures exemplify:

1 Cuteness describes an aesthetic category but also the affect it gives rise to.
2 Cuteness is seen as an inherent biological trait but also a culturally specific performance.
3 Cuteness is a result of an anthropomorphising relationship towards inanimate objects, but also the outcome of extreme objectification of living beings.
4 Cuteness might trigger the impulse to nurture and to protect, but also to abuse and to violate.
5 Cute things are often seen as innocent, passive, and submissive, but they can also manipulate, misbehave or demand attention.

In this essay I will examine the aforementioned dichotomies of cuteness especially in the context of human-robot interaction as the site of my own artistic practice and enquiry. As a framework for the analysis of cuteness in this context, I will be applying Donna Haraway's *Cyborg Manifesto* and the *Uncanny Valley* theory by Masahiro Mori.

Sigmund Freud first coined the term *uncanny* in his 1919 essay *Das Unheimliche* to describe an unsettling proximity to familiarity encountered in dolls and wax

FIGURE 3
"Itchy-itchy-itchy-coo," says Ron Abbot, 85, and cuddles a robotic seal at a specialist unit for dementia patients (Griffits 2014).

figures (which neatly mirrors the snug domesticity of cuteness). However, the contemporary use of the word has been inflated by the concept of the *Uncanny Valley* by roboticist Masahiro Mori. Since its conception in 1970, the Uncanny Valley hypothesis has become a widely applied concept in science, art, and popular culture (MacDorman 2005, Royle 2003). Mori's notion was that lifelike but not quite living beings, such as anthropomorphic robots, trigger a strong sense of uneasiness in the viewer. When plotting experienced familiarity against human likeness, the curve dips into a steep recess – the so called Uncanny Valley – just before reaching true human resemblance (FIGURE 5).

As a rejection of rigid boundaries between "human", "animal" and "machine", Haraway's *cyborg theory* touches many of the same points as Mori's Uncanny Valley. Haraway (1991: 59) addresses multiple persistent dichotomies which function as systems of domination against the "other" while mirroring the "self", much like cuteness and uncanniness:

> Chief among these troubling dualisms are self/other, mind/body, culture/nature, male/female, civilized/primitive, reality/appearance, whole/part, agent/resource, maker/made, active/passive, right/wrong, truth/illusion, total/partial, God/man.

Haraway's image of the cyborg, despite functioning more as a charged metaphor than an actual comment on the technology, still aptly demonstrates the dualistic nature

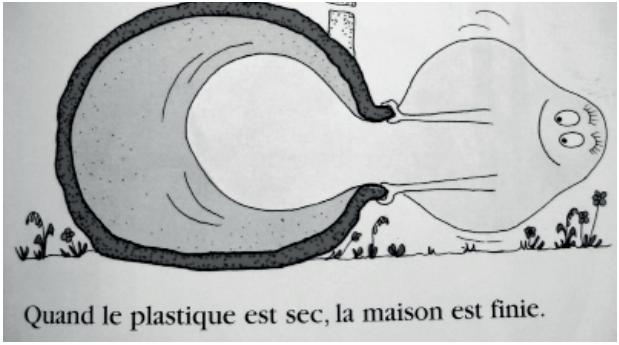


FIGURE 4
The pink, squishy softness and malleability of the children's book character Barbapapa calls to mind the amorphous nature of cuteness.

of cuteness and its entanglements with the uncanny at the site of human-robot interaction. Furthermore, Haraway's cyborg theory grounds our analysis of the cute to a wider socio-political context of feminist studies. In the *Companion Species Manifesto* where she updates her cyborg theory, Haraway (2003: 7) is adamantly reluctant to address cuteness as a potential source of emancipation (which often seems to be the case with other feminists of the same generation):

> None of this work is about finding sweet and nice – "feminine" – worlds and knowledges free of the ravages and productivities of power. Rather, feminist inquiry is about understanding how things work, who is in the action, what might he possible, and how worldly actors might somehow be accountable to and love each other less violently.

I argue on the contrary that some of these inquiries can be answered by exposing the potential of cuteness as a social and moral activator. While Haraway describes a false dichotomy between these "sweet and nice" worlds and "the ravages and productivities of power", I believe that their entanglement is in fact an important site for feminist inquiry. By revealing the plump underbelly of cuteness, we can harness the subversive power it wields.

Mori's Uncanny Valley theory, on the other hand, offers a more pragmatic and situated perspective to human-robot interaction rooted in the practices of cognitive science and industrial design. I argue that

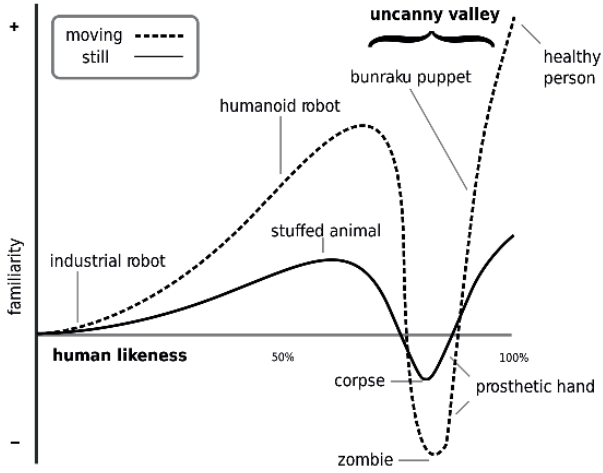


FIGURE 5

Masahiro Mori's *Uncanny Valley* theory describes the unsettling effect of humanlike robots.

the analysis of the Uncanny Valley will make visible the subversive aspects of cuteness and help unpack the aforementioned dualities. In addition, I will examine cuteness through the review of contemporary cute studies, namely Sianne Ngai's (2010 & 2012) definition of cute as an emerging aesthetic category. Again, Ngai's perspective proposes a more temporal and aesthetic approach to cuteness established in literature, art and popular culture.

After Haraway's *Cyborg Manifesto*, the ensuing chapters will map the cute and the uncanny according to following dualisms:

1 Mind / Body
2 Culture / Nature
3 Maker / Made
4 Agent / Resource
5 Active / Passive

In the last chapter I will propose that cuteness exhibits a parallel phenomenon to the Uncanny Valley, which I call the *Uncanny Dimple*. Taking a similar approach to Mori and Haraway, I will introduce the Uncanny Dimple as a *figuration* (Haraway 1997), in a sense that although manifested in a visual form, the figuration is not necessarily representational or directly encoded. In the same vein, the Uncanny Valley theory was originally intended as a rhetorical device for discussing the aesthetics and affects of robots, not as an empirically defined scientific paradigm. Also Haraway's use of

figurations like the cyborg are not intended to be literally representational or mimetic, but perceived as "performative images that can be inhabited" (Haraway 1997: 11). By rejecting static and complete representations of the world and embracing performative displacement and uncertainty (Timeto 2011), figurations like the Uncanny Dimple can perhaps offer a new perspective to the contradictions and comparabilities of the contemporary couplings of humans, animals and machines.

# 1 Mind / Body

TAKING INTO ACCOUNT the widespread use of "cute" and "uncanny" as descriptive terms, it might not seem difficult to reach a somewhat satisfying consensus of what these categories illustrate: One might easily say that creatures with big eyes and chubby, rounded features are cute, and creatures with humanlike but not-quite-human features are uncanny. Especially the earlier studies on cuteness (see Lorenz 1943, Gould 1977) have popularised the notion that certain discreet features trigger definite responses, and that cuteness is something morphologically and quantitatively inherent in the objects we find cute, which is further explored in the next chapter.

However, no aesthetic description is ever truly formalised, comprehensive or universal. Despite "cute" and "uncanny" might be used as objective categories for their respective sets of discreet and definite features, they inevitably entail subjective judgement and evaluation. As Ngai (2012) points out, aesthetic discourse is always about the intersubjective and affective dynamics of making our pleasures and displeasures public and checking them against those of others'. Thus "cuteness" and "uncanniness" appear to be more like rhetorical devices, which "make it *seem as if* value judgements follow from factual ones" (Ngai 2012: 41, original emphasis), as if cute and uncanny *bodies* ostensively affect our *minds* and not vice versa.

Ngai (2012: 40) describes how this interpretation of cute shifts the balance from the aesthetic qualities to affective qualities:

> Aesthetic judgement is less like a propositional statement and more like an intersubjective demand … less like a constative than a performative that performs best when disguised as a constative.

Similarly to performative utterances like "I apologise", the aesthetic evaluation of cuteness ("That is *cute*!") thus performs an affectional act itself, while masked as a neutral and true account of affairs ("That *is* cute!"). The same applies for uncanniness on a profound level: the term was conceived to describe a singular feeling, while remaining agnostic about any particular characteristics of its source.

Therefore, both cuteness and uncanniness reside on a doubly subjective level of aesthetic evaluation, since they do not so much describe what things look like, but more what they make one *feel*. This points to an peculiar arrangement of couplings between the mind and the body: The perceptions of cuteness and uncanniness are deemed to originate from the physical characteristics of cute and uncanny bodies, while the recognition in fact arises from the affect of the viewer, experienced as an interplay of mental and physical processes. "It's so fluffy, I'm gonna *die*!" is not as much a comment on the appearance of fluffiness, but a description of the mind and the body experiencing the effects of it.

Judgements of both cuteness and uncanniness are thus dependent on expression and gesture and not just formalisation of visual cues, "whether or not cuteness is a function of subjective judgment, or a quality inherent to the objects we experience as cute, or a complex interplay between these two" (Dale et al 2017: 91). The fact that cute and uncanny emerge from the dualisms of "body" and "mind", and of "subject" and "object", is elemental to understanding the other dichotomies in these aesthetic and affective categories.

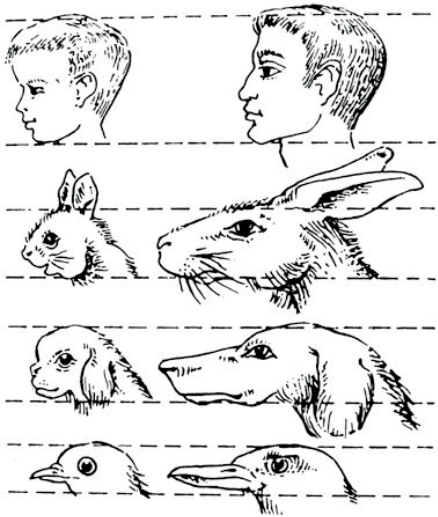

FIGURE 6

Konrad Lorenz's *Kindschenschema* model from 1943 describes how certain physical characteristics in babies trigger parental care-taking behaviour, hence they are considered to be "cute".

THE AFOREMENTIONED GENERALISING use of the terms "cute" and "uncanny" possibly stems from the common tendency to reduce their respective reactions to mere cognitive reflexes underpinned by evolution. Ethologist Konrad Lorenz's (1943) theory of babylike features triggering parental behaviour in animals has dominated cute studies since its conception (Sherman & Haidt, 2011; Dale, 2016). Lorenz was the first to formulate a biological description of cuteness in the 1940's, in a model he called the *Kindchenschema*: He proposed that humans and other animals are programmed by evolution to instinctively take care for the offspring that presents certain triggering characteristics, such as a high forehead, round face, large, low-set eyes, a plump, elastic body with short, thick limbs, and wobbly movements (Lorenz, 1943) (FIGURE 6). So, according to Lorenz, the more "babylike" features a being exhibits, the cuter we will find it.

Despite being criticised for its universalising and mechanistic approach (see Lerman, 1953; Hinde, 1970), multiple contemporary studies from the fields of neuroscience and psychology have since strived to confirm Lorenz's hypothesis (see Volk & Quinsey, 2002; Glocker et al., 2009), by proving that images of babies that scored highly in the Kindchenschema model elicited a higher response for caretaking than babies with less "babylike" features (FIGURE 7). Moreover, some researchers claim that Lorenz's "Baby Schema"

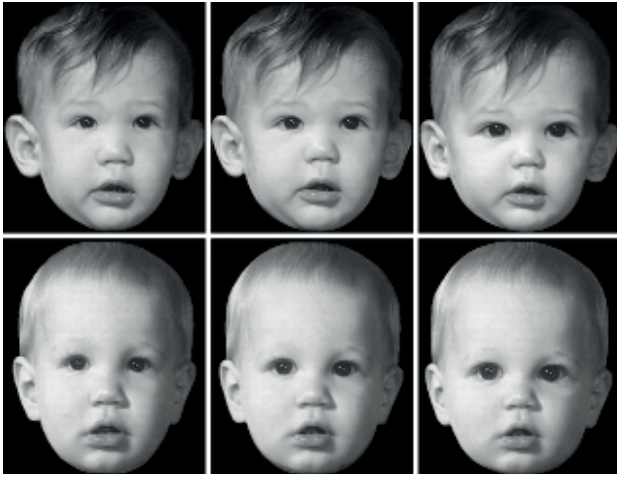

FIGURE 7

A study by Glocker et. al. shows that images of babies that are modified to display features that rank higher on the Baby Schema are considered to be cuter. Examples of low (narrow face, low forehead, small eyes, big nose and mouth), unmanipulated, and high (round face, high forehead, big eyes, small nose and mouth) baby schema faces.

extends also to the development of fully grown individuals: Gould (1977) suggests that natural selection has lead modern humans to retain juvenile features – such as a hairless body, a small nose and a relatively large head – well into adulthood because of their instinctively care-inducing appearance. The tendency for mature individuals to maintain infantile appearance or behaviour, also called *neoteny*, has been proved to appear in multiple domesticated animals: Studies have shown that tamed silver foxes start to display neotenic features, such as wider and shorter skulls and floppy ears, in just a few generations. (Trut, Oskina & Kharlamova, 2009)

Even if we disregard some of the blatantly racist undertones of theories like Lorenz's and Gould's (see Dale 2017), the evolutionary explanations of cuteness appear somewhat problematic. As Dale (2016: 7) points out, "studying cute affect in terms of sameness – how it affects everybody – is not nearly enough". Reducing complex societal phenomena to positivistic models of stimuli and reflex undermines the high level of subjectivity apparent in all aesthetic judgements, as discussed in the previous chapter.

In consequence, Sherman and Haidt (2011) contest Lorenz's fixed action pattern by claiming that cuteness should be viewed equally as a social and cultural feature, and not merely as a cognitive and morphological one. They argue that cuteness also motivates sociality and childlike responses, such as playfulness and "baby talk", in addition to those relating to parenting and protection.

Sherman and Haidth also point out that if cuteness was merely a trigger for caretaking, helpless and vulnerable newborns should display peak cuteness, which they (arguably) have disproven to be the case. On the other hand, Dale (2016: 8) draws attention to the performative nature of cuteness: "In my view, to experience the 'Aww' factor is to participate in a performative act that expresses affinity." (SEE CHAPTER 5) This can be seen as an allusion to the fact that cuteness is as much formed with nurture as with nature.

The behavioural study of the uncanny bears a striking resemblance to that of the cute: Despite the vagueness and over-simplicity of Freud's and Mori's hypotheses, they are still heavily cited in contemporary research (see Royle 2003, MacDorman 2005, Bartneck et al. 2007, Rozin et al. 2008). Also similar to Lorenz's Kindchenschema, multiple empirical studies have been carried out in retrospect to either prove or disprove Mori's graphical notation of the Uncanny Valley (see MacDorman 2005, Bartneck et al. 2007). Seems that the study of the uncanny can not escape resorting to ethology and evolution biology any more than its counterpart: MacDorman (2005) argues that the feeling of disgust elicited by the lifeless, anthropomorphic robot is an instinctive response to the unnerving reminder of our own biological mortality. More generally, Rozin et al. (2008) claim that many sources of disgust, especially those relating to death or sexuality, cause revulsion because they allude to our repressed animal nature.

Despite (or maybe because of) originally intended more as an anecdotal thought experiment than a fully developed scientific theory, Mori's Uncanny Valley hypothesis has also met criticism. Hanson (2006) contends that Mori's theorem does not have enough empirical proof and unnecessarily limits the design space for anthropomorphic robots. He continues to argue that the core attribute of "human likeness", which Mori takes at face value, is too elusive to be defined in any set of fixed terms (and even less on the unambiguous linear scale of Mori's graph, one might add). In addition, Bartneck et al. (2007) show evidence that conversely to Mori's hypothesis, non-humanoid toy robots were considered more likeable than highly anthropomorphic robots or even real humans.

The research of Bartneck et al. points toward the problematic and contradictory relationship between the "natural", the "normal" and the "uncanny". Royle (2003: 1, original emphasis) defines the uncanny through its distance from the status quo:

> The uncanny is the crisis of the proper: it entails a critical disturbance of what is proper (from the Latin *proprius*, "own"), a disturbance of the very idea of the personal or private property … It is a crisis of the natural, touching upon everything that one might have thought was "part of nature".

So in effect, uncanniness is supposed to be a departure from the "normal", "familiar" and "natural"

FIGURE 8
The design of mimetic robots like Sony's Aibo often strives to censor all the biological features that might cause revulsion, such as genitals.

to the "abnormal", "strange" and "unnatural", but simultaneously an adverse reaction to the very "naturalness" of our organic bodies. In the same vein as Bartneck et al., Gn (2017) demonstrates how the escape from the uncanny actually estranges us from the unaffected: The design of cute companion robots, such as Aibo (FIGURE 8), often strives to censor all the realistic features of living beings that might elude to reproduction or bodily functions. Its appeal in fact stems from the sanitised smoothness of its artificiality, where biological bodies are reduced to the visual language of gleaming sports cars.

Ultimately, in our thoroughly mediated current existence marked by human influence and interference, dichotomies such as "natural" and "artificial" can hardly bear any deeper scrutiny:

> Biological and cultural determinism are both instances of misplaced concreteness — i.e., the mistake of, first, taking provisional and local category abstractions like "nature" and "culture" for the world and, second, mistaking potent consequences to be preexisting foundations. (Haraway 2003: 6)

In the manner of Haraway's cyborg, both the uncanny and the cute evade the strict boundaries between nature and culture, making way for the natural-cultural human-machine interactions in the sites they overlap.

THE BLURRING OF BOUNDARIES between the "natural" and "unnatural" points toward another commonality between uncanniness and cuteness: Both of these affects rely on our tendency to humanise or de-humanise beings and objects based on our preconceptions of their social value. The process of "mentalising" – perceiving another being possessing a mind (Frith & Frith 2006) – occurs with entities we find cute or uncanny, but in opposite directions: Cute objects are hyper-mentalised (Sherman and Haidt 2011), or seen as more (than) human, while uncanny objects are hypo-mentalised, or seen less (than) human.

If uncanniness stems from an innate urge to avoid disgust-eliciting factors, such as corpses or contaminated food, it was originally concerned only with the material world of non-sentient things. However, as "disgust follows the law of contagion – contact with disgusting material renders one disgusting" (Sherman and Haidt, 2011: 3), so does uncanniness trickle from things to people, from Mori's valley uphill towards the "human likeness". Cuteness, on the other hand, trickles from humans to things: If we take as our starting point the notion of cuteness as a trigger for social bonding as suggested by Dale (2017), then mentalisation is the process that allows us to impose this relationship to the abundance of cute commodities around us.

The unnerving underside of this realisation is noted by Ngai (2012: 92), who paraphrases Marx's analysis of fetishisation of consumer goods and commodification of human labour: "If things can be personified, persons can be made things". Humans are often desensitised to violence against other people, while remaining strangely empathetic towards anthropomorphised animals, machines and objects (Dale et al. 2017): The YouTube video *Every time Boston Dynamics has abused a robot* (Estrada 2017) has over 3 million views (of June 2019) and a plethora of compassionate comments siding with the creations of the American tech company.

According to Gn (2017: 189) robot designers often make use of this distanced sense of affection:

> Humanization is not concerned with how "human" a robot may appear to be; rather it is focused on the extent to which humans may come to regard it as an affectionate, approachable other.

Instead of aiming for Mori's "true human likeness", cute design acts to nullify the effects of the uncanny otherness by enhancing the difference between the object and the subject. As a product "cute design becomes a paradox concerned with an anthropomorphism traversing the boundaries (or differences between) humanization and dehumanization." (Gn 2017: 185)

Ngai (2012), too, draws parallels between the mimetic qualities of cuteness and uncanniness: She points out how cute commodities are often humanlike enough to

forge an affectionate connection, but not human enough to endow them with equality. Therefore mentalisation is not necessarily a means for sympathising with the object, but motivated by the need to reduce unpredictability and regain control (Sherman & Haidt, 2011) – or as Merish (2000: 194) describes it: "turning transgressive subjects into beloved objects". Leyda (2017) recounts a similar trend in her analysis of android characters in cinema: When a machine attains something akin to consciousness, it becomes uncanny, because it can no longer be subjected to distancing objectification. Therefore the neoteny of the cute robot is comparable to the neoteny of the tamed silver fox: "cuteness similarly 'domesticates' the female robot – making her less 'other' and more acceptable" (Leyda 2017: 165). So it seems that anthropomorphising is not an act of empowerment after all – blessing the nonhuman with rights as well as rapport – but an act of domination. Despite the humanising effect inherent to cute beings and things, this unbalance of power inevitably pushes them to the pit with the dehumanised uncanny:

> With its exaggerated passivity, there is a sense in which the cute thing is the most reified or thinglike of things, the most objectified of objects or even an "object" par excellence." (Ngai 2012: 93)

FIGURE 9
Taking care of the robotic seal PARO can have a therapeutic effect on dementia patients.

THE DIFFUSION OF POWER AND AGENCY between the subject and the object is essential for both cuteness and uncanniness. As Ngai (2012: 54) states: "Cute depends entirely on the subject's affective response to the imbalance of power between herself and the object". Cute objects seem to call for intervention in their helplessness and passivity, might it be the loving care between a parent and their child, the benevolent subjugation of a master and a pet, or the practical patronisation of a machine and its creator. According to Ngai (2012), cuteness is eroticisation of powerlessness and a desire to belittle or diminish. Harris (2001: 179) ties the meekness of the cute to the dismissive dehumanisation discussed in the previous chapter: "Something becomes cute not necessarily because of a quality it has but a quality it lacks, a certain neediness and inability to stand alone." This lack, that is the incompleteness of "not-quite-human", is shared by the uncanny and the cute.

*Kawaii*, the Japanese word for cute, originally comes from *kawaisou*, meaning "pitiable" (Dale 2017), which illustrates the dependent invalidity that makes cute even cuter. As Burke (cited in Ngai, 2012: 54) claims, "Beauty in distress is much the most affecting beauty". We swoon over the practically deformed features of a pug, and the mute immobility of mouthless and stub-limbed Hello Kitty, because their powerlessness excites us. Drawing from this same excitement, the therapeutic robot seal

FIGURE 10

The clumsy stumbling of Boston Dynamics' robot Atlas resembles the cute and awkward movements of a baby.

PARO (FIGURE 9) has been found to increase activity and interaction in dementia patients (Šabanovic et al., 2013). With its quivering body and needy whimper, PARO fulfils the fundamental human urge to nurture and foster, and perhaps restates its handler with some of their foregone agency.

In the same vein, Leyda (2017: 153) demonstrates how robotic cuteness is not so much derived from pathetic features, but pathetic behaviour, such as "vulnerability or awkwardness, linguistic weaknesses, and/or cognitive neoteny". The clumsy stumbling of the bipedal robot Atlas (FIGURE 10), or the endearing stupidity and servitude of a robotic vacuum cleaner Roomba (FIGURE 11) call for the same infantilisation and care-taking as small children or pets.

On the other hand, the unresponsive meekness of the cute might invite aggression in return, since witnessing the cute object experience and endure distress enhances its cuteness: "The apparent ability of the object to withstand the violence that its very passivity seems to solicit" (Ngai 2012: 89). It appears that the sentimentality of cuteness starts to mix with antisentimentality (Ngai 2012): Empathy turns into pity, pity leads to contempt, and contempt into disgust. In their bulging Bibendum deformity of stacked rolls and smushed-in faces, the extreme cuties start to border on the grotesque, "fall into the category of the freak, the other" (Ngai, 2012: 60), and slowly slip to the Uncanny Valley.

The cognitive phenomenon of *cute aggression* calls into attention this subversive side of extreme cuteness. In


FIGURE 11

The dumb servitude of the robotic vacuum cleaner Roomba makes it endearing, and even more so when fitted with a maid's costume.

neuroscience cute aggression is described as an example of a dimorphous expression, which implies an emotional display that is opposite to the currently experienced emotion. Often experienced as an overwhelming impulse to squeeze, bite or otherwise cause harm to cute things (Aragón et al. 2015), the affect has been anecdotally acknowledged, but not seriously researched until recently (see Aragón et al. 2015, Dale 2016, Stavropoulos & Alba 2018). According to Stavropoulos and Alba (2018), this misplaced aggression might be the overwrought nervous system trying to balance off the debilitating affection towards the object, or an exaggerated physical manifestation of the urge to take care of the cute being.

Dale (2017: 41), on the other hand, argues that cute aggression actually implodes towards the subject in stead of the cute object:

> The aggression that accompanies the feeling of being overwhelmed by cuteness is directed away from the cute object and towards the subject. Here we discover a subject who, faced with an excess of cuteness, discharges affective energy away from the cute object and towards itself, to the point of embracing infantile behavior and the reduction in higher cognitive functions. … In my view, this process serves to protect the cute object from potentially harmful aggression while simultaneously allowing further engagement with it.

FIGURE 12

The anime character Aggretsuko by the creators of Hello Kitty demonstrates how the potential for aggression can make cute characters even cuter.

Eventually to Dale, cute aggression is not sadistic but masochistic in its incapacitating intensity. Perhaps the subject exposed to cuteness is not the dominator after all, since cute objects exert their own power by demanding care and attention (Ngai, 2012). The affective demands of cute can border on the aggressive — and the aggression makes them even cuter — as demonstrated by the anime character Aggretsuko, a cute, anthropomorphic red panda who loves death metal (FIGURE 12).

Similar to the cute, also the uncanny shows the same, incremental change of affect and the demand for attention. Unlike the frightening or the appalling, uncanny does not make itself visible instantly, but calls attention to minute details: A barely noticeable stiffness of a prosthetic leg, or a slight fluttering of an android's eyelash can turn the affective response from neutral to eerie and eerie to disgusting. Our aptitude for projecting a mind where none exists is one of the very reasons for the Uncanny Valley itself: Silvera-Tawil and Garbutt (2015) propose that the uneasiness one experiences in the presence of a lifelike robot is caused by the mismatch of expectations and reality. We subconsciously expect the robot to match our mental image of a human being, and are thrown off balance when the preconception proves false.

The uneasy ambiguity of a being's true nature — which Silvera-Tawil and Garbutt call "radical uncertainty" — applies also to cuteness. The etymological root of the English word "cute" comes from "acute", which can mean shrewd or cunning (Ngai 2010). Cuteness is often

associated with a sense of mischief (Dale 2017), taking the form of an adorably impish baby cupid, or on a more sinister note, a devil in disguise. In fact, the Uncanny Valley proves right the fears of deceptive cuteness; of something vile and unnatural posing as familiar and appealing.

# Active / Passive

IN THE INTERACTION BETWEEN the cute object and the subject affected by cuteness, the cunning cute might not be the only one pretending. Cuteness in fact elicits cute behaviour: A mirrored performance acted out by the subject who regresses to unintelligible baby-talk and infantile peekaboos. The subject exposed to cuteness (cutee?) wants to be cute themself, "conflating desire with identification" (Ngai 2012: 5). Similarly, Adorno (1970) claims that art incites mimetic behaviour in the viewer or listener, so that the experience of art becomes a re-enactment of said piece of art. Furthermore, cute and uncanny objects are deemed cute or uncanny because of their mimetic abilities of seeming "almost human". The performance of cuteness then becomes an infinite loop of imitation between the "cuter" and the "cutee", both becoming increasingly more cute in the process.

Sherman and Haidt (2011) argue that this ability of cuteness to elicit playful "cute behaviour" disproves Lorenz's idea of the cuteness response consisting exclusively of parental urges. Therefore cuteness can be seen as an activator for social inclusion and dialogue as much as care-taking and nurture (Sherman & Haidth, 2011). When considered as a medium for communication, cuteness becomes an iconic device that can be filled with various interpretations and meanings, and used as a tool for self-expression (Gn 2017: 177), hence the multitude of cute emojis and stickers embellishing our online discussions.

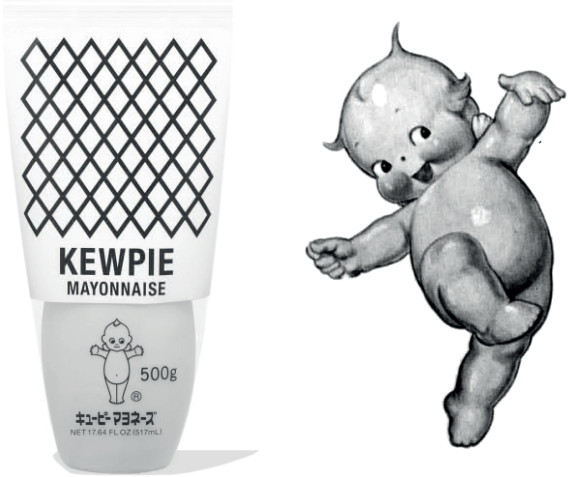


FIGURE 13

The Kewpie mayonnaise mascot, modelled after Rose O'Neill's cartoon from the early 1900's, was described by Lorenz as having "the maximum possible exaggeration of the proportions between cranium and face which our perception can tolerate without switching our response from the sweet baby to that elicited by the eerie monster." (1981:164)

Dale (2017), too, emphasises this performative aspect of cuteness as a form of communication, in a sense that cuteness is not so much embedded in the physical features of cute object but in the affective reaction of the subject. Ngai (2012: 28) agrees by defining cuteness as an "aesthetic artifact conflated with or upstaged by the aesthetic response", and continues to point out how all aesthetic judgements are in fact performative utterances. However, compared to other aesthetic categories, cuteness has a uniquely activating effect. Ngai (2012: 54) brings attention to Adorno's "sphere of untouchability" that surrounds the cool and lofty category of the beautiful, which is very unlike the tangible and warm friskiness of the cute driven by the domestic performances of care, play and consumption.

As an aesthetic category habitually associated with consumer goods, cuteness has a somewhat utopian outlook on consumption: Ngai (2012) recounts how cuteness doubles the Marxist notion of consumer fetishism by trying to forge an even more intimate relationship between the consumer and the commodity. By anthropomorphising inanimate objects, cuteness causes a shrinking of distance between the subject and the object that intensifies the desire to consume – also physically. De Vries (2017) notes the peculiar relationship between the edible and the adorable in the way we address cuteness; may it be the use of "mouth-wateringly" cute characters in the marketing of food items, like Kewpie mayonnaise (FIGURE 13), or cute aggression staples such as "You're so cute I

could just eat you up!". Ngai (2012: 79) even suggests that edibility might be the "ultimate index" to prove an object's cuteness, which further establishes the uncanny idea of devouring what you love, in the manner of female dogs sometimes eating their own puppies. Steve Jobs famously extended the edible-as-desirable design ideology to the traditionally immaterial world of software when introducing Mac OS X's new user interface in 2000: "We made the buttons on the screen look so good you'll want to lick them." (cited in Rayson 2010). Perhaps "lickability" is an even more accurate testament to the persuasiveness of cute design, combining the corporeality of cute aggression with the utopian consumer goal of "having your cake and eating it too".

The peculiar shrinking of distance between the consumer and the commodity through the anthropomorphising effects of cuteness also resembles the slippage on "human likeness" in the Uncanny Valley. It is relevant to note, that as a commercial roboticist, Mori was probably financially motivated to use his theorem to help bridge the valley and devise more commercially appealing robots. Moreover, robots as commodities have a unique proximity to consumers because of the socially activating effects of machine cuteness. Sherry Turkle (2011: 39) describes how animated smart toys stimulate stronger relationships that traditional merchandise:

> Such relational artefacts do not wait for children to "animate" them in the spirit of the Raggedy Ann doll or a teddy bear. They present themselves as already

> animated and ready for relationships. They promise reciprocity because, unlike traditional dolls, they are not passive. They make demands. They present as having their own needs and inner lives. They teach us the rituals of love that will make them thrive. For decades computers have asked us to think with them; these days, computers and robots, deemed sociable, affective and relational, ask us to feel for and with them.

On the other hand, if these artefacts are "already animated" and have an agency of their own like Turkle suggests, that means the human agency in this relationship is diminished, and the cute robot commodity becomes passivating in stead of activating: "Our machines are disturbingly lively, and we ourselves frighteningly inert." (Haraway 1997: 11) Also Gn (2017: 189) brings attention to the passivating effects of robotised cuteness:

> Cuteness in this context becomes less a product of human agency than a controllable variable of machine affection, where the perception of a personality tends not to be construed as part of a dynamic narrative, but is already fabricated beforehand.

The consumer, drawn by the promise of delicious cuteness and anthropomorphic affection, is met with an uncanny agent, pre-programmed like the living dead, performing a standardised relationship marketed as unique.

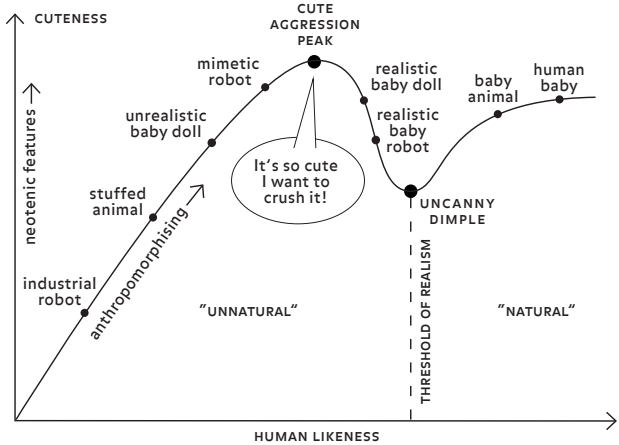


FIGURE 14

*Uncanny Dimple* describes the Uncanny Valley phenomenon for cuteness.

# 6 The Uncanny Dimple

In the previous chapters we have examined the close proximity between cuteness and uncanniness through their attitudes to properties described in Masahiro Mori's Uncanny Valley theory, and the dichotomies presented in Donna Haraway's *Cyborg Manifesto*. We have found that cuteness and uncanniness are both defined by their distance to what we consider "human" or "natural", and shaped by the distribution of power in our relationships with objects that we deem having a mind or agency.

Considering these parallel characteristics of cuteness and uncanniness, I propose that a similar phenomenon to the Uncanny Valley can be described in regard of cuteness, which I call the *Uncanny Dimple* (FIGURE 14). Much like Mori's valley and Haraway's cyborg, Uncanny Dimple is here presented as a *figuration*: It does not necessarily try to make any empirical or quantitative claims about the experience of cuteness, but strives to utilise the diagram as a rhetorical device for better understanding the entangled affects of cuteness and uncanniness. As discussed before, these aesthetic judgements are always highly subjective, and manifest themselves as an interplay of culturally specific performances and "natural" dispositions.

Similar to Mori's visualisation of the Uncanny Valley, the Uncanny Dimple is mapped in a diagram where the horizontal axis denotes "human likeness", but Mori's

vertical axis of "familiarity" is in this case replaced with cuteness. Unlike Mori's discretely valued variable that spans from 0 to 100 percent, peaking at "healthy person", we consider the axis infinite and continuous, leaving open the possibility of "more-than-human" or transhuman approaches (Atkins 2012). Similar to Mori, I propose that cuteness first increases proportionally with anthropomorphic features. According to the biological lock-key principle supported by Lorenz and the like, cuteness should also increase proportionally in the presence of neotenic features. I suggest that this applies only to some extent: When the neotenic features have reached a point where they are over-exaggerated beyond realism, but the *total* human likeness is still below the *Threshold of Realism*, cuteness climaxes at what I call the *Cute Aggression Peak*. When human likeness exceeds that point, cute aggression becomes unbearable, the experienced cuteness is surpassed by uncanniness, and the curve dips to the Uncanny Dimple.

The idea that "unnatural" bodies rank higher in the cuteness graph than "natural" bodies is also supported by Bartneck et al. (2007): They proved that non-humanoid and only slightly anthropomorphic toy robots were considered more likeable than highly anthropomorphic humanoid robots or even real humans. According to Bartneck et al. (2007: 372), Mori in fact points toward this in the Uncanny Valley diagram, while not fully acknowledging it: "the most dominant feature in the graph is not the valley, but the cliff preceding it". Also Genosko (2005, n.p.) notes that Lorenz's "innate release

mechanism" triggered by cuteness can be in fact stronger in the case of over-exaggerated and "unnatural" bodies.

As the figuration of the Uncanny Dimple shows us, both cuteness and uncanniness push the restrictive boundaries of "normal" and "natural", celebrating the empowering "other". In the times of increasing intolerance and conservative conformism, these queer couplings of heterogenous inheritance – Furbies, furries and other furiously uncanny cuties – defy definition and domination. Therefore we must agree with Haraway (1991: 7) in her praise of the cyborg as an image for unifying existence and egalitarian disruption:

> We are all chimeras, theorized and fabricated hybrids of machine and organism – in short, cyborgs. The cyborg is our ontology; it gives us our politics. The cyborg is a condensed image of both imagination and material reality, the two joined centers structuring any possibility of historical transformation.

If Adorno (1970) claims that the inherent social ineffectuality of art makes it ridiculous and childish, then perhaps the small and shallow cuteness, as the very antithesis of the grandiose ideas of the beautiful and the sublime, is the new aesthetic of emancipation and inclusion. In its fervent frivolity, cuteness does not claim to make a difference, but it makes us look at and feel with natural-cultural cyborgs and chimeras, and reconsider our ethical judgements of "self" and "other". According to Sherman and Haidt (2011), cuteness can function as

a motivator for morality and altruism: by activating the process of mind perception, cuteness expands our social circle and promotes empathy. Haraway (1991: 15) describes this utopia of cyborg kindness and kinship:

> A cyborg world … about lived social and bodily realities in which people are not afraid of their joint kinship with animals and machines, not afraid of permanently partial identities and contradictory standpoints.

Like Haraway urges, we must embrace the contradictions and uncertainties in the figurations of the cute and the uncanny, as we adjust to our future lives that are perhaps increasingly smaller but more connected, progressively automated but more artificial, and more precarious but hopefully more collective. Haraway (2003: 30) claims that this "co-habiting does not mean fuzzy and touchy-feely", but I must disagree. I want to find empowerment in the fluffy softness of the cute and the sticky otherness of the uncanny, and feel my way down to the Uncanny Dimple.

7a

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FIGURE 1
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FIGURE 2
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FIGURE 3
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FIGURE 4
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FIGURE 5

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FIGURE 6

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FIGURE 7

GLOCKER, M. L., LANGLEBEN, D. D., RUPAREL, K., LOUGHEAD, J. W., VALDEZ, J. N., GRIFFIN, M. D., ET AL. (2009). *Examples of low (narrow face, low forehead, small eyes, big nose and mouth), unmanipulated, and high (round face, high forehead, big eyes, small nose and mouth) baby schema faces*. [image] in "Baby schema modulates the brain reward system in nulliparous women". *Proc. Natl. Acad. Sci. U.S.A.*, 106, pp. 9115–9119.

FIGURE 8

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FIGURE 9

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FIGURE 10

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FIGURE 11

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FIGURE 12

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FIGURE 13

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FIGURE 14

RUTANEN, E. (2019) *Uncanny Dimple*. [image]

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