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Title: Bringing the toys to life: Animacy, reference, and anthropomorphism in *Toy Story*

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In the children's film *Toy Story*, toys spring to life when their human owners are away, creating an alternative world of transferred animacy relations signalled by visual and linguistic cues. The storylines and characters explore the nature of animacy and relationships between conspecifics and 'others'. Our analysis focuses on the use of referring expressions as they reflect the animacy of their referents, as it develops and changes during the course of the narrative. We relate these findings to well-established scales of animacy which link our perception of the world to the categories imposed by language. We find that, as predicted by models of animacy proposed by Dahl (2008) and Yamamoto (1999), among others, shifts in reference – specifically from common noun to proper noun to pronoun, and from collective to individuated referents – reflect characters' shifting conceptualisation of, and empathy with, each other. We argue that referring expressions are used at key points in the film script to subtly mediate accessible cues to animacy like eyes, speech and motion, and to guide viewers' empathies and allegiances, extending our understanding of animacy beyond ordinary anthropocentrism.

Keywords: animacy, anthropomorphism, referential expressions, children's fiction, film narrative

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Bringing the toys to life:

Animacy, reference, and anthropomorphism in *Toy Story*

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Introduction

Humans are egocentric, species-centric creatures. Language, as a uniquely human phenomenon, reflects this in many ways, but it is brought out especially clearly in the domain of linguistic animacy. Linguistic reflections of animacy are known not to directly represent biological animacy, drawing instead on an anthropocentric worldview, and leading to a skewed reflection of animacy in both grammatical structure and language use (Dahl 2008; Yamamoto 1999).

In children's stories we often find the constraints of real-world animacy flouted, with tales told from the viewpoint of anthropomorphised animals and others lower on the animacy hierarchy than humans. Many of the reasons for this practice are related to children's cognitive development. Animals are fascinating for children due to their cuddliness and otherness, but their use in children's narratives is also likely to be related to the attention, interest, and memory of children, including factors such as salience and surprisal.

Importantly, stories told to a young audience can also draw narrative power from subverting the often intermediary position children find themselves in. Hierarchies of social status – and sometimes linguistic animacy scales – distinguish children and adults. These conventions differ across cultures and over time. The pronoun (boldface) in the quote in (1), written nearly a century ago by A.A. Milne (the creator of Winnie the Pooh, one of the most beloved talking animals in children's literature), demonstrates that at that time, children were bequeathed lower animacy status than today.

(1) ...the spectacle in real life of a child at three at **its** prayers is one over which thousands have been sentimental. [...] prayer means nothing to a child of three, whose thoughts are engaged with other, more exciting matters... (A.A. Milne, cited in C. Milne 1974/2016: 23-24)

The use of the nongendered inanimate pronoun 'it' to refer to a child is frowned on in today's anglophone cultures. This example is striking in that the inanimate pronoun is used even while discussing children's mental lives – prayer and other preoccupations – a topic which could only belong to animate creatures.

In contemporary children's entertainment, talking, human-like animals are commonplace, and they have been joined not only by humanoids like R2D2 but also animate fruit, furniture, trains, and a bilingual backpack (in *Dora the Explorer*). The three *Toy Story* films (1995, 1999, 2010) capitalize on this trend, building on the childhood fantasy of dolls and toys living a secret life when humans cannot hear or see them.[i]

In this paper, we scrutinize the first of these films, *Toy Story* (Pixar, 1996). We have chosen to analyse the referring expressions used in this film because it naturally lends itself as a case study for animacy. Various points on a scale of animacy are represented by the characters brought to life in the film. Crucially, all of the characters are toys, and so not alive in the ordinary sense, but in the fictional world of child's play, they mimic aspects of the real world, from human-like dolls to telephones. When they all come to life in the film, we may ask how the linguistic animacy scale, reflecting ordinary conceptualisations of animacy differences, affects both their social relations and linguistic interactions.

The film goes beyond simple anthropocentrism. Complex relations are evoked between human, semi-human and non-human toys. While English referring expressions typically make a relatively simple distinction between human and inanimate, the characters in the film might require further distinctions on the inanimate, bottom end of the hierarchy. Yet, inanimate dolls and toys are animated in the film, which may instead simply translate into a broader class of animates, rather than further refinement among inanimates. Animacy informs the language and content of the film, and is explored as a subtheme involving agency and empathy.

In this study, we analyse the characters in *Toy Story* and their interactions, examining both visual and linguistic cues to their animacy and claims to empathy. We look at the ways language supports and extends the animacy distinctions represented in the film. We then analyse two key scenes in which referring expressions are used to mediate visually accessible cues to animacy, and are manipulated to guide viewers' empathies and allegiances at crucial junctures in the film's narrative.

Animacy in fiction

In examining language used in fiction to reflect or construct animacy, we must be aware of the ways in which fiction can stretch linguistic resources in the same way a work of fiction can reimagine animacy and sentience. It may be that any entity can be anthropomorphized in a work of fiction or entertainment, but we expect to see concomitant differences in the language used. As Trompenaars et al. (in review) demonstrate, a narrative imagining the internal monologue of a lifeless painting does not show the same patterns of language use as a narrative with humans as narrators.

Searle (1969) proposes a contrast between real and fictional worlds, and that the act of referring in each world obtains different truth values: "The axiom of existence holds across the board: in real world talk one can refer only to what exists; in fictional talk one can refer to what exists in fiction…" (1969: 79). Yet, what is 'real' to one speaker (ghosts, conspiracies) may not be real to another. Even if we speak of a world reimagined with talking cars and slinkies, the ways in which we (and they) talk about referents in the fictional world puts to the test our conceptions of the relation between words, referents and properties such as agency, sentience and empathy. Extending a similar argument by Lyons (1977), Yamamoto notes that models of animacy should be able to capture various 'kinds of existence' and realities (1999: 13). In this light, the language employed in children's fiction may provide insight into linguistic animacy relations in general.

A brief overview of linguistic animacy is presented in the Background section, including discussion of reference and nonlinguistic cues to animacy. We then analyse the characters appearing in Toy Story, expressions used to refer to them, and non-linguistic cues to their animacy. Following that, we discuss referential language in key scenes of narrative shift. Implications and conclusions are discussed in the final section.

Background

Animacy and reference

The linear scales posited to account for linguistic animacy – and the morphosyntactic phenomena conditioned by it – include a fair amount of diversity, but can be schematised as in (2):

(2) Basic animacy hierarchy:

Human > Animal > Inanimate

In practice, this scale interacts with scales of person (Siewierska 1993), individuation (Dahl & Fraurud 1993; Yamamoto 1999) and empathy (DeLancey 1981), in addition to referential forms. Language-specific variations on the scales may also be affected by gender, definiteness, politeness, and a host of other categories (see, e.g. Dahl 2008, Lockwood & McCaulay 2012).

The high end of the animacy scale displays more differentiation in human

languages than the low end. This imbalance derives from both anthropocentrism and empathy:

> Speakers, being animate and human, are more likely to 'empathize with' (i.e. take the viewpoint of) human beings than animals, and of animals than inanimates [...] the entire hierarchy can be interpreted in terms of relative eligibility for viewpoint placement (DeLancey 1981: 645).

As pointed out by Dahl (2008), the animacy scale may have its evolutionary origins in the adaptive ability to identify and distinguish conspecifics from others (see also Leopold & Rhodes 2010). High animacy is therefore linked with familiarity and kinship, and by extension, empathy.

Work in the frameworks of givenness, salience, and accessibility show that speakers' choices of referential expressions are affected by how accessible the referent is, in the context of the discourse and the pragmatic context (e.g. Gundel, Hedberg, & Zacharski 1993, Ariel 1990, 1991). Prominence hierarchies may draw on both animacy and referential hierarchies, distinguishing, for instance, pronominal expressions referring to speech act participants (first and second person) and other humans, often differentiated by gender. In (3), we show how both a slightly elaborated animacy scale and a schematic scale of referential accessibility involve gradation, directionality and similar distinctions, although there is no direct mapping between them; the pronoun-NP contrast, in fact, is orthogonal to the animacy scale itself (Comrie 1989: 195).

(3)

1st & 2nd person > 3rd person human > animal > inanimate > abstract

ANIMACY

1st & 2nd > 3rd person pronoun > proper names > definite nouns > indef. nouns

ACCESSIBILITY

Yamamoto questions and restructures the linear animacy scale, replacing it with a radial picture of the gradience involved (1999: 22; adapted here in Figure 1). This picture represents the fundamentally anthropomorphic viewpoint of language, with several categories radiating from a central (individual) 'human being' node. These include distinct scales for animals (with pets conceptually closer to humans than wild animals); collectives; supernatural beings; and human-like machines closer to the centre than other machines and inanimate objects. More peripheral categories have weaker ascribed animacy, regardless of their biological status.

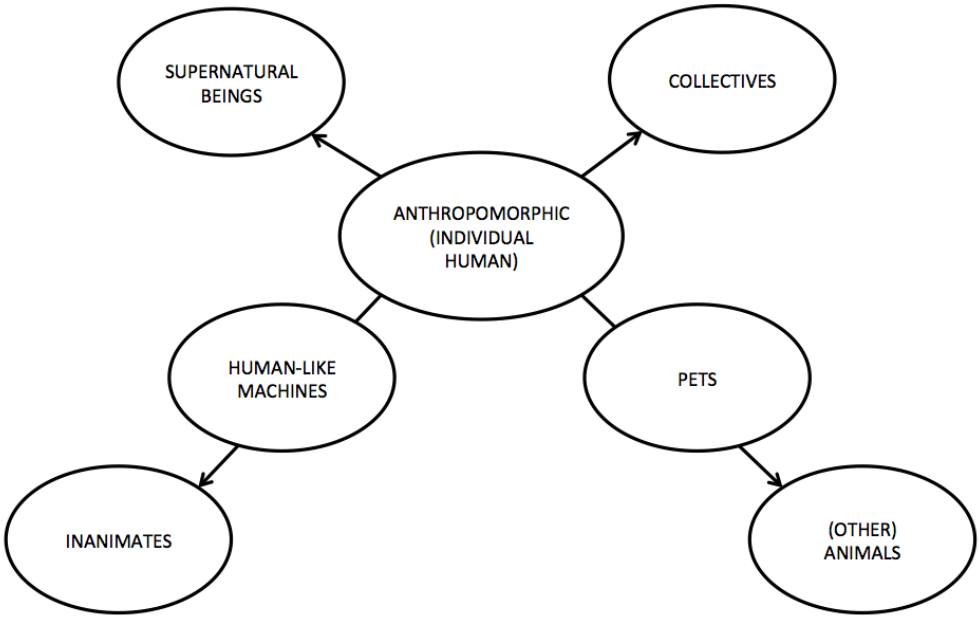

Figure 1: Radial animacy (adapted from Yamamoto 1999: 22)

Non-linguistic cues to animacy

Non-linguistic cues to animacy remain relevant in the fictional world, especially in terms of credibility of the narrative, in order to harness viewers' suspension of disbelief and empathy. We provide a brief overview of the most prominent cues to animacy: these involve dynamic cues, other visual cues and indirect cues.

Hurford characterizes animacy as "the potential for biological motion" (2007: 41-45). Dynamic cues are perceptually salient and robust, and are therefore readily accessible for assessing animacy. The capability of self-propelled motion includes both agency and the dynamics of motion. Dynamic information has "the capacity to signal quite abstract conceptual information,

such as agency, intentionality, or goal-directedness" (Gelman & Opfer 2010: 155). Very young children have been shown to attribute animacy to an entity moving in the direction of a goal (e.g. Biro, Csibra & Gergely 2007).

Other visual cues are also used to assess (or convey) animacy. The face, and particularly the eyes, are known to be the most prominent physical cues to animacy (see Gelman & Opfer 2010, and Johnson & Morton 1991 for a review); today's producers of children's fiction and entertainment anthropomorphize virtually anything using cartoon 'googly eyes'. Eye movement and gaze are revealing and important cues, but other visual cues can be enlisted as well, such as texture and the contour of a shape (for instance, fur vs smooth lines; Tsutsumi et al. 2012 discuss the importance of eyes and fluffiness as cues to animacy for infant monkeys). Natural material is associated with higher animacy than manufactured materials like plastic or metal (Cherry 1992).

Individuation is another visually salient cue to animacy, and it has clear reflexes in linguistic referential systems that may encode related features including number, collectivity, and specificity. Yamamoto (1999) shows that while the relationship between referential individuation and animacy may vary cross-linguistically, in English individual referents are construed as having a higher value for animacy than collective entities.

Indirect cues to animacy give rise to the attribution of sentience to an entity, and are closely connected to empathy. According to Delancey (1991), empathy is the driving force behind animacy effects in language: grammatical systems differentiate more often between discourse participants and others than between animate and inanimate entities. Interpreting an entity's behavior as intentional is equivalent to attributing sentience to it (cf Siewierska 1991, 1993).

Speaking and emoting are often taken to be very good behavioral indicators of animacy. Other inner, mental properties include awareness (Klaiman 1991) and cleverness (Yamamoto 1999); each of these is relevant to animacy in that they imply inferred or ascribed sentience. The property of cleverness is complex, with many borderline cases including supernatural beings, computers, cars, as well as collective entitites such as human-based organisations and countries.

Makers of children's animated films employ these non-linguistic cues to recreate a hierarchy of animacy in a fictional world. However, referential language can be employed to scaffold viewers' understanding of anthropomorphized toys, and to shape, refine, and manipulate empathy. In the next section, we discuss the above properties as applied to the characters in *Toy Story* as bundles of animacy features, and in relation to the referring expressions used.

Animacy and referring expressions in Toy Story

In this section, we discuss the characters featured in *Toy Story*, and show how the referential expressions used to refer to them guide viewers' understanding of ascribed animacy and elicit empathy. The *Toy Story* films (3 to date) are a series produced by Pixar animation studios. The first film and the focus of this paper, *Toy Story*, was released in 1996 to critical acclaim. The film sets out a fictional world containing a rich cast of characters who represent various points on the animacy scale, from the fully anthropomorphized central characters Woody and Buzz to 'inanimate' yet clearly sentient toys like an Eight Ball that communicates

by sending visual messages. The conceit of the film is that the toys spring to life when humans are out of the room; drawing on the metaphor of a small company with an internal corporate hierarchy, the toys see their collective role as making their boy owner happy: "What matters is that we're here for Andy when he needs us. That's what we're MADE FOR" (*Toy Story*[ii], 13).

The cast of toy characters is not simply anthropomorphised, but features complex interactions between human-like, animal-like and inanimate toys and to a lesser extent, with their human owners. Animacy itself, along with associated notions of empathy, agency, and what it means to be alive and/or human, are explored as part of the narrative content. Throughout the film, referring expressions are used to mediate accessible cues to animacy, and to guide viewers' empathies and allegiances.

Method

For our analysis, we used both a pdf version of the screenplay of the film (Whedon et al. 1995) and the film itself. We identified each character referred to in the film's dialogue with referring expressions in the third person. We excluded first person reference, reference via gestural deixis, and most second person reference, but included tokens of second person when embedded inside a NP. This was done by reading through the screenplay and making manual notes, and then checking notes while viewing the film. The list comprised 29 characters in total. We collated the referring expressions used for each character, classifying them into seven main types of referential expression. These mostly reflect similar forms of reference as those used in scales in the literature (see Ariel

1991, Foley & Van Valin 1984) and the hierarchies discussed in (3) in the previous section. Nevertheless, it is worth pointing out that pronominal reference is used for highly accessible referents, but carries salient animacy information: the choice of pronoun encodes the human/non-human distinction as well as assigning gender. In English, gender is reserved for animates and the pronoun serves as an indicator of high animacy, so we coded this despite the fact that there is only one unambiguously female character in the film. In addition, we made use of the referential category of Nickname. While not explicitly discussed in the animacy literature, nicknames in colloquial discourse serve as markers of familiarity, and, by extension, empathy. Our taxonomy of referential categories is presented below:

1. Gendered pronoun (s/he)
2. Inanimate pronoun (it)
3. Name
4. Nickname
5. Definite NP
6. Indefinite NP
7. Collective noun

We then coded each character for non-linguistic features available to the viewer as cues to relative animacy as set out in Figure 1 (Yamamoto 1999) and discussed in the previous section on non-linguistic cues to animacy. These features are as follows:

a. Physical type (humanoid, animal, alien, machine, mutant, inanimate)
b. Potential for movement (independently motile, non-motile)
c. Eyes (present, absent)
d. Individuation (individuated, collective)
e. Ability to speak (speaking, non-speaking)

Mr. Potato Head, a potato-shaped toy with otherwise fully human facial features, arms and legs, was coded as having humanoid physical type. Our analysis was inductive - as we coded the characters for both their animacy cues and referential expression, four main categories emerged, informed by Yamamoto's taxonomy. These are: (1) anthropomorphic (toys whose form is human or human-like), (2) animal, (3) inanimate and (4) supernatural beings, described below. A further collective group, the mutant toys, are discussed separately. Counts of referential expressions are uninformative, as these depend as much on a character's relative importance in the storyline as on animacy. Therefore, we did not count tokens of referential expressions, but only types.

Anthropomorphic Toys

Toy Story is essentially a 'buddy movie' that focuses on the relationship between two central characters: Woody, a traditional cloth-and-wood cowboy sheriff doll, and Buzz Lightyear, a plastic spaceman with various high-tech features. Woody and Buzz are both entirely anthropomorphic, and spend the film engaging in comic banter with each other and with others, including another fully anthropomorphized character, Bo-Peep, a shepherdess doll. Other

anthropomorphic characters are Mr. Potato Head, whose character resembles an elderly Jewish man in behavior, voice and appearance, and Sargeant, who is the head of a platoon of plastic toy soldiers.

As a group, these core characters are referred to with the full range of high-animacy expressions: they are named and nicknamed, referred to by definite and indefinite noun phrases, and gendered by pronoun (although interestingly, Bo-Peep, arguably the only female toy character in the film, is referred to only as “Bo”). Buzz and Woody (and to a lesser extent Mr. Potato Head) are also referenced using a range of descriptive definite and indefinite NPs, including a variety of affectionate and occasionally insulting human nicknames which suggest familiarity and empathy between the characters. Woody has the most of these, reflecting his complex role as *de facto* leader of the toys and major protagonist of the film: “Sheriff”, “Local Law Enforcement”, “a sad, strange little man”, and when accused of a crime, “you back-stabbin’ murderer”.

Buzz, who spends the film grappling with his own status (see below), is also referred to with a variety of titles and nicknames: "Buzz Lightyear, Space Ranger, Universe Protection Unit" (referring to himself), “Mr. Lightyear”, “Lightsnack”, “Buddy”, “you idiot”, “an action figure”, “a child's plaything”, and while suffering from delusion, “Mrs. Nesbitt”. Mr. Potato Head is also gendered by pronoun (“he”), as well as “Potato Head” and “Old Spudhead”, and Sargeant is referred to by his title and “Sarge.” All of these characters except Sarge also possess all of the non-linguistic cues to high, anthropomorphic animacy: they are individual and human(oid) in form, with visible eyes; they are fully motile using biological movement, and they are fully verbal, speaking characters.

Apart from Sargeant, the other toy soldiers in the platoon, while humanoid, have fewer high-animacy features, and this is reflected in the expressions used to refer to them. The soliders are small, normally viewed from a distance, and monochrome military green, which obscures their facial features, including their eyes. They are fully motile, but the fixed base under their feet reminds the viewer of their mass-produced, plastic material. Although they occasionally speak, they look and behave like a non-individuated collective, carrying out operations as a platoon team. When referred to in the dialogue, they are named, but not individually; an unfamiliar soldier is introduced as an indefinite NP referent - “a Combat Carl” - later shortened to a personal name, “Carl”. The soldiers are not nicknamed or gendered by third person singular pronouns, they are "men" and referred to collectively: “these guys are professionals".

Animal Toys

Another highly anthropomorphic set of characters are the animal toys, Slinky the Dog, Rex the Dinosaur, and Hamm the Pig. Although they are central characters who participate in much of the film’s dialogue, the animal toys as a group receive a narrower range of third person reference than Woody and Buzz. However, they are consistently named, and Rex and Hamm are gendered by pronoun. All three of these characters also receive nicknames and friendly insults: “Slink”, “ya big lizard”, and “uncultured swine.” These three are not humanoid in form, but they display other key non-linguistic cues for higher animacy, including individuation, eyes, biological motion, and speech.

Just as the toy soldiers represent a lower-animacy collective version of the human-like characters, the animal toys also have a corresponding collective, the Barrel o' Monkeys, who are brought in to rescue Buzz when he falls out of a window. Similar to the toy soldiers, the monkeys comprise a set of non-individuated monochrome plastic shapes with arms forming hooks, effectively used by the other toys as tools. The monkeys are inert lumps of plastic, non-motile and non-speaking, and their eyes are not apparent. Congruent with these visible cues to their low animacy, the animate toys refer to them collectively only as "the monkeys", and to the chain they form as "it".

Inanimates

One of the main reasons that the first *Toy Story* film is such engaging material for a study of animacy and anthropomorphism is the relatively large number of characters which take the form of mechanical or inert toy objects, yet which display a range of high-animacy physical and behavioral features. In turn, the higher-animacy toy characters employ referring expressions to assign them varying levels of animacy and sentience, but the inanimates mostly receive only names and some nicknames.

Etch A Sketch is a motile (walking) plastic drawing toy that has no face (and hence, no eyes) and does not speak, but silently communicates by drawing pictures on its screen face, in the same way children use the real toy to draw. Etch A Sketch is clearly sentient, agentive and even humorous; in one scene, Woody approaches Etch A Sketch, pulls out his gun and says, "Draw!" – whereupon a picture of a gun appears on the screen. Etch A Sketch is only

referred to once in third person, but with a nickname ("Etch"), suggesting a high level of familiarity with the other toys. Similarly, the Speak & Spell, a walking spelling toy with a screen but no eyes or face, communicates through often comic messages spelled across a banner. Woody adresses him politely as Mr. Spell.

RC, a remote control car, has expressive eyes and a face. He is non-speaking but can make a whirring sound with his motor; he is motile, but moves in a wheeled, mechanical way. Although mechanical, RC has the status of an intelligent pet. He is gendered by pronoun, and is the subject of a clever allusion to the film/tv genre of intelligent animals who help humans like Lassie (the dog) and Flipper (the dolphin), when the following dialogue takes place:

(4) RC Car: Whirr!! Whirrrr-whirrrrr!!
Rex: Hey everyone! RC's trying to say something!
What is it, boy?
RC Car: Whirr!!! Whirrrr! Whirrrrrr!!
Mr. Potato Head: He's sayin' that this was no accident. (43-44)

Other mechanical toys appear, with varying mixtures of animacy cues. Lenny, a walking pair of binoculars with huge 'eyes', has a minor speaking part and is referred to by name, but is mainly used as a tool by the other toys. Mike, a toy tape recorder, also walks and has eyes but does not speak. However, he is clearly sentient and benevolent. He is also referred to by name and is mainly used as a tool. A walking hocky puck is addressed by name, with its facelessness the butt of a joke by another toy ("What you lookin' at, ya hocky puck?"); it has no other role in the narrative, but the fact of being motile and named is enough to suggest that

the other toys view it as a conspecific and familiar member of their community. Still other toys, like the simple wooden Tinkertoys, are completely inanimate, showing no features of sentience whatsoever.

Eight Ball is a solid, non-motile, non-speaking fortune-telling ball with no visible facial features, displaying floating messages on one side. The only clear animate property possessed by Eight Ball is sentience, as its messages appear to reflect a basic intelligence. At one point, Woody throws the ball down and it falls behind a desk; he tries to use it as bait to lure Buzz into a trap:

(5) Woody (pointing to the back of the desk):
Down there. Just down there. A helpless
toy…**it**'s…**it**'s trapped, Buzz!
Buzz: I don't see anything!
Woody: Oh, **he**'s there. Just, just keep looking. (42)

The ball's intermediate status with respect to animacy is indicated in Woody's use of pronouns. In the context of the rest of the narrative, the initial use of the inanimate pronoun *it* suggests that Woody does not empathize with it as a conspecific. This further suggests that in his following turn he is cynically manipulating the implied animacy of the toy by using the animate pronoun *he*, eliciting empathy and using the toy to dispense with his rival.

Supernatural Beings

Many of the friendly, empathetic interactions between toys described above take place towards the start of the film, in the closed environment of the bedroom where the toys are familiar with each other. Later in the story, Buzz and Woody encounter strange and unfamiliar toys in the wider world, and with them the viewer has to navigate the new landscape using both linguistic and non-linguistic cues to gauge the intentions of the strange toys.

The first such encounter takes place when Buzz and Woody find themselves at an amusement arcade, inside a crane game, in a glass tank full of squeezy rubber alien toys. The aliens are more or less anthropomorphic, with expressive faces and speaking voices, but they are in a pile, identical and unindividuated. It soon becomes apparent that the aliens worship the huge metal claw that dangles above them: "The claw is our master. The claw chooses who will go and who will stay…Shhh. The claw. It moves." When one alien is captured by the claw and dragged upwards, face down, it calls to the others in a nod to the dystopian genre of *Brave New World*, "I have been chosen! Farewell, my friends, I go on to a better place! Nirvana is coming, the mystic portal awaits!"

Based on the aliens' apparently sophisticated belief system and the referring expressions used by the protagonist toys ("you zealots!"), the viewer is invited to see the aliens as high animacy, intelligent beings forming an unindividuated collective – effectively a religious cult. From the aliens' point of view, the claw is a supernatural being. Its form is of a metal object, with no face, eyes or speaking ability; its motion is smoothly mechanical rather than biological, and the force guiding it is unseen. Yet it has the apparent power of life and death over the aliens. The aliens refer to it using the inanimate pronoun (*it*), but with first person plural possessive reference to it as an object of reverence

and worship ("The claw is our master"). The Claw does not receive a proper name or nickname, suggesting distance and respect rather than familiarity and empathy. The unique status of The Claw as both inanimate and animate, sentient, potent yet unfamiliar, supports Yamamoto's classification of supernatural beings occupying a separate branch of animacy with a special, direct relationship to the human centre, as shown in Figure 1.

Animacy and the Unfolding Narrative

Further cross-linguistic and discourse-level studies (Comrie 1981, Cherry 1992, Chen 2012) propose a finer-grained set of hierarchies that condition the grammatical encoding of animacy and its use in language and discourse. In this view, HUMAN, ANIMAL and INANIMATE are not homogeneous categories, but rather contain internal subhierarchies, as shown in (6-8):

(6) Humans:

a. ADULT > NON-ADULT

b. FREE > ENSLAVED

c. ABLE-BODIED > DISABLED

d. LINGUISTICALLY INTACT > PRELINGUISTIC / LINGUISTICALLY IMPAIRED

e. FAMILIAR (KIN/NAMED) > UNFAMILIAR (UNNAMED)

(7) Animals:

a. HIGHER/LARGE ANIMAL > SMALLER ANIMAL > INSECTS

b. WHOLE ANIMAL > BODY PARTS

(8) Inanimates:

a. MOTILE/ACTIVE > NONMOTILE/INACTIVE

b. NATURAL > MAN-MADE

c. COUNT > MASS

These finer-grained animacy contrasts are reflected in grammatical systems; for example, the genitive-like accusative case in Russian originally emerged to mark adult, freeborn, healthy men, and could not mark NPs that referred to women, children, slaves or disabled people (Comrie 1989: 196). These subhierarchies may in turn interact with each other. For example, it has long been observed that when humans seek to denegrate or 'other' another person, a common tactic is to use metaphorical linguistic reference to demote them to a lower point on the animacy hierarchy (Chen 2012, Cibulskienė, this volume, Lakoff & Johnson 1980) invoking images of bestiality (e.g. *bitch*, *pig*); lack of individuation (through the use of generic pronouns or collective group labels rather than proper names); or both (e.g. *swarms* of refugees). Several plotlines in *Toy Story* explore these themes of relative humanity and animacy in detail. The crosslinguistic subhierarchies posited by Comrie (1981) and Cherry (1992), summarised in (6-8), inform our analysis in the following sections.

The Mutants

After encountering the toy aliens and the supernatural Claw, Buzz and Woody go on to meet unfamiliar toys which test the boundaries of conspecificity. In a key

scene, Buzz and Woody find themselves trapped in the bedroom of the boy next door, Sid. Sid is a mean adolescent who enjoys dismembering toys and 'transplanting' their body parts. Sid's room is dark and frightening, and the direction of the visual scene draws heavily from the classic horror genre; Buzz and Woody huddle together in the darkness while strange shadows dart around the room. Woody shines a light under Sid's bed and sees a doll's head. Relaxing a bit, he addresses the unfamiliar toy: "Hey! Hi there, little fellah! Come out here. Do you know a way out of here?" The toy emerges, and the viewer shares Woody's horror: it is an old doll's head, one-eyed and hairless, attached to a crawling, spider-like mechanical Erector set body. Other grotesque 'mutants' appear: a pair of Barbie legs with a toy fishing pole for a head and torso; a jack-in-the-box with a rubber hand for a head; and a toy soldier's head screwed to a skateboard. None of the mutants speak, and it is unclear whether they are benevolent or malevolent. The developing relationship between the anthropomorphic protagonists and the mutants can be divided into three stages, in which linguistic cues mediate non-linguistic features to inform us about the relative animacy of the unfamiliar toys: (a) unfamiliarity and fear, (b) potential for cooperation, (c) familiarity and empathy (see Fig. 2).

In the first scenes featuring the mutants, their physical appearance is alien and disturbing, partly due to their mixed human-animal-mechanical characteristics. Several of them lack faces or eyes; they incorporate detached body parts; they are nonspeaking; they are man-made (mixed materials, mainly plastic and metallic); they are motile, but at first they move as a herd or swarm and mainly employ mechanical motion. The largest and most visually salient mutant, the baby doll with the mechanical body, has a single eye that is wide,

staring and unfocused, and its body evokes the movement of a spider. These visual and behavioural cues resonate with the lower ends of the subhierarchies in (6-8), suggesting low animacy, low sentience and, by extension, possibly malevolent intent. The referring expressions used by Buzz and Woody reinforce this view of the mutants as a hostile collective: "they're cannibals!", "you savages", "you disgusting freaks", "you monsters". (The film here is clearly drawing on horror and sci-fi genres, as well as narratives of 'first contact' between European explorers and unfamiliar tribal peoples).

Later in the film, Buzz loses an arm (see 'Buzz is a Toy', below) and the mutants repair it, demonstrating their benevolence and capacity for empathy. Woody responds with politeness: "Uh…sorry, I …I thought that you were gonna…you know, eat my friend." Apparently capable of receptive language, they watch Woody and Buzz talk to each other. Later, Woody asks them for help to save Buzz: "Guys! … Wait! Listen! Please! I need your help... Please." The mutants gather around Woody, implicitly agreeing to his request. Their silence now seems nonthreatening and we empathize with them, as they have begun to empathize with the protagonists. "Thank you", Woody says. The use of politeness markers and the friendly, familiar term "guys" align with the behavioral cues of the mutants, signalling a re-evaluation of their status from malevolent to benevolent, from low sentience to intelligent, and from alien to conspecific. These are toys that can probably be trusted.

In the final scenes with the mutants, the viewer sees Woody working with them as a team to implement a complex rescue operation, echoing an earlier scene with the toy soliders at home in Andy's bedroom. The referring expressions used in the dialogue now guide the viewer to conclude that in the

intervening unseen hours, Woody has befriended the strange toys. The mutants are now named: "All right. Listen up. I need Pump Boy here – Ducky here. Legs? You're with Ducky. Rollerbob and I don't move till we get the signal. Clear? … Okay, let's move!" When the operation is a success, Woody congratulates the mutants: "Nice work fellahs. Good job. Comin' out of the ground – what a touch! That was a stroke of genius." Finally, they part ways: "We gotta run! Thanks, guys." At this third and final stage, none of the physical properties of the mutants have changed – they are still nonspeaking, Frankenstein's monster toy composites – but Woody's linguistic reference to them invites the viewer to fully empathise with them. They are now individuated, familiar and named, and Woody's use of "genius" highlights their newly evidenced cleverness and his new respect. Figure 2 depicts this progression.

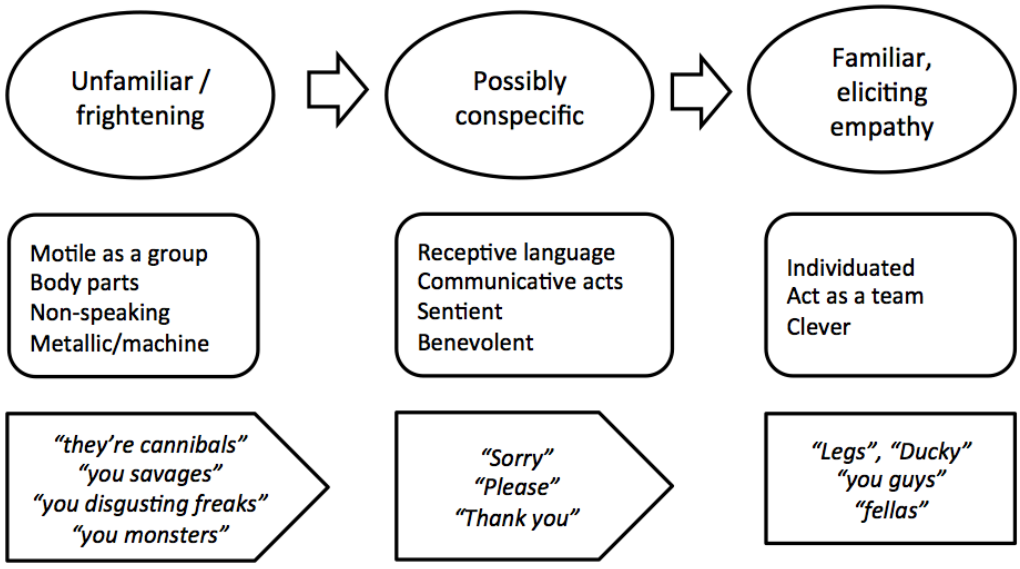

Figure 2: Increasing empathy with the mutant toys

Buzz is a Toy

Just as the mutant toys move through an arc from unfamiliar to familiar, the Buzz Lightyear character undergoes a parallel character development as he comes to realize his true nature as a toy. In this storyline, the film explores philosophical ideas around mortality, hubris, and the earth-bound state of humanity through the journey of self-discovery of an anthropomorphic toy.

The Buzz Lightyear character arrives near the start of the film and immediately disrupts the equilibrium of the community of toys in Andy's bedroom. He is an extravagantly designed and packaged, high-tech toy with a red light 'laser', space helmet, pop-up wings, and an arm with 'karate-chop action'. Unlike Woody and the other toy characters, Buzz is unaware of his own status as a toy, and genuinely believes that he is a spaceman on a mission to save the galaxy. Woody, a fraying cloth cowboy doll, is simultaneously envious of Buzz and exasperated by what he sees as Buzz's delusional state:

(9) Woody: Look, we're all really impressed with Andy's new toy…

Buzz: Toy?

Woody: T-O-Y. Toy.

Buzz: Excuse me, I think the word you're looking for is Space Ranger.

Woody: The word I'm searching for I can't say because there's pre-school toys present. (28)

In the alternative world of the film, toys occupy an intermediate position in the animacy schema. While most are fully anthropomorphic, sentient and otherwise share identical properties with humans, their relationship to actual humans in the film is complex. When humans are present, the toys de-animate, which necessarily assigns them a lower position on the animacy scale. The 'company' metaphor adopted in the film sees the toys as staff working for human employers within a hierarchy. At the same time, the toys are clearly a distinct species from the real pet animals which also populate the film.

Returning to the radial diagram shown in Figure 1, the system of animacy within the alternative world of the toys can be seen as a shifted version of this anthropocentric worldview, with toys occupying the central node (equivalent to humans). In this world, then, humans may be seen as equivalent to Supernatural Beings, occupying a separate, higher node – revered but little understood. Buzz's conviction that he is an actual human (with supernatural properties, including flight) makes him guilty of hubris in the eyes of the other toys.

Throughout the first half of the film, Buzz continues to deny his toyhood. He convinces himself that he can fly when he bounces off a rubber ball and is accidently propelled into the air, landing safely at the other side of the room. In the end, he is faced with irrefutable evidence: he sees a television commercial for Buzz Lightyear toys. His eyes widen as the announcer intones "Not a flying toy", cutting to a shot of rows of boxes of identical toy Buzz Lightyears stacked on shelves. He looks down as his wrist and reads "MADE IN TAIWAN". Stunned and dejected, Buzz sees an open window at the top of the stairs. He pops his wings open and leaps up towards the window. In slow motion, he starts to fall, landing at the bottom of the stairs next to his arm, which has broken off on impact.

This scene draws together many threads related to animacy which lead to a moment of self-awareness for Buzz, of his own toyhood and by extension, his mortality. First, in the ad Buzz hears himself referred to with an indefinite noun, "a toy". The images of rows of identical dolls further de-individuate him; he is no longer a unique individual, but a member of a huge set of identical action figures. The "MADE IN TAIWAN" label is evidence that he is mass-produced plastic, not flesh. Finally, his fall reduces him to component body parts, and echoes the myth of Icarus, also punished for his hubris. Buzz's realisation resonates with theological and philosophical questions around the human condition, and the viewer naturally empathizes with this trope of a deluded 'hero' who is brought roughly back to earth. Only when Buzz reaches this state of self-awareness does he become – morally – fully 'human'.

With this realization, Buzz faces an identity crisis, and refers to himself with an indefinite NP: "No, Woody, for the first time I am thinking clearly. You were right all along. I'm not a space ranger. I'm just a toy. A stupid little insignificant toy." In terms of animacy, Buzz is a complex figure. He is a manufactured toy, neither supernatural nor truly 'free', but he is capable of emotion, altruism, cleverness and self-consciousness, all hallmarks of being human. Eventually he comes to terms with his status, and discovers that even as a toy he is still capable of great heroism. Ironically, accepting that he is a toy makes him human (Figure 3).

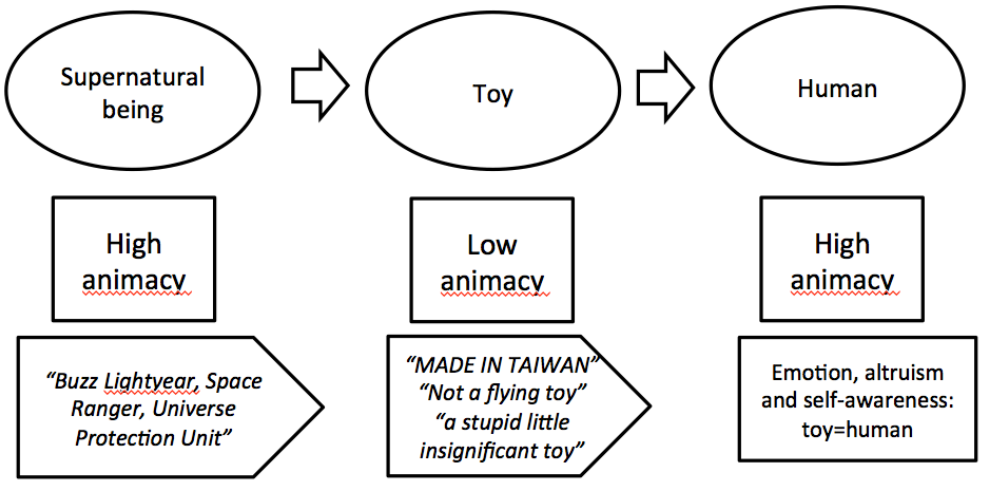

Figure 3: Buzz achieves self-awareness

Discussion and Conclusion

In this study, we have explored how linguistic reference maintains cues to relative animacy and helps align viewers' empathies in a fictional world. Our analysis of the *Toy Story* film suggests that non-linguistic cues interact with referential language to support distinctions of relative animacy along the entire animacy hierarchy. The relative animacy invoked in the film is best conceptualised with the help of a radial picture (Fig. 1, adapted from Yamamoto 1999), in which anthropomorphic beings are at the center, with all other categories viewed in relation to humans but not in relation to one another. The use of referential expressions serves to help communicate the film's conceptualisation of the relative animacy and positioning of its toy characters.

Our analysis shows the applicability of subhierarchies of animacy proposed in the literature (Comrie 1981, Cherry 1992, Chen 2012). In addition to

forms of expression used in standard accessibility scales, we also found the use of nicknames to be revealing as an indicator of familiarity, conspecificity and empathy. Although referential forms and levels of animacy are not mapped directly onto one another, there is a clear relation between them, and referential language is used in the film to effectively signal subtle animacy distinctions.

As a work of children's fiction, *Toy Story* builds on a modern construal of children's cognitive development, including their interest in relative and potential animacy. The target audience of *Toy Story* is made up of young children with malleable notions of animacy, and a still developing understanding of the implicit relationships between referential expressions, referents and semantic properties. Although even infants show sensitivity to the animate-inanimate distinction, comprehension of the interacting cues to animacy has a long developmental trajectory over the first decade of life (Gelman & Opfer 2010, Rakison & Poulin-Dubois 2001), and is subject to cross-cultural variation (Atran et al. 2001, Carey 1985). Similarly, the literature on pragmatic development has shown that, while children are sensitive to some pragmatic cues early in linguistic development, many pragmatic skills emerge slowly. Children do not show adult-like attainment in either production or comprehension of referential expressions even by the age of eight or nine (Matthews 2014), but the film cleverly makes use of both visual and linguistic cues to animacy to convey the shifted animacy relations at play in its fictive social world. Young children under the age of ten can easily understand many cues to animacy used in the film (and by toy manufacturers). Referential expressions are subtly employed to reinforce and supplement the primary available cues.

This paper focusses on a narrative intended for a young audience, but we

have not examined children's own use of referential expressions or their comprehension of the animacy distinctions portrayed in the film. This would be an interesting case for further research, considering the use of multiple cues to relative animacy, the narrative development of characters along animacy scales, and the sometimes sophisticated related concepts explored in the film.

The power of referential language to convey and subvert animacy roles is encapsulated in one more scene from the film (109-110), in which Woody scares the mean neighbor boy, Sid, by breaking the law of de-animating in the presence of humans: "That's right. I'm talking to YOU, Sid Phillips. **We** don't like being blown up, Sid, or smashed, or ripped apart…" Sid's terrified response shows the menace of realising that the natural order of animacy has been subverted, represented in a single pronoun: ""W-w-w-we? [...] AAAAAAAGGGGGGHHHHHH!!!!!… The Toys! The toys are alive!"

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[i] This is a recurrent theme in child literature; see, for instance, classic stories like *The Velveteen Rabbit* (Williams, 1922) and *The Little Engine that Could* (Piper, 1930).

[ii] References from the *Toy Story* screenplay are from Whedon et al. (1995). Hereafter, all quotes with no source indicated are from this version of the screenplay, and we refer to page numbers only for longer quotes.