

Can Anthropomorphism Help Save the Leadbeater's Possum

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Abstract:

*When presenting conservation messages, the use of anthropomorphism has been intensely debated. On the one hand, it has been argued that attributing human characteristics to wild animals could create misconceptions of a species' natural history and ecological role. However, from the standpoint of interpretation, anthropomorphism can be a useful tool to help foster a connection to wildlife, which has been shown to strongly correlate to pro-conservation behavioral intentions. This paper discusses the role of anthropomorphism in Zoos Victoria's Lunar's Secret Forest exhibit and its affect on behavioural intentions. Results show visitors were able to attribute human characteristics to Lunar – an anthropomorphized Leadbeater's Possum (*Gymnobelideus leadbeateri*), as well as live Leadbeater's possums. In both instances, anthropomorphism was related to visitors' emotional connection to and willingness to act on behalf of Leadbeater's Possums.*



As zoos continue to grapple with what it means to be a wildlife conservation agency in the 21st century, they are forced into a form of managerial triage. Issues of engaging visitors, improving long-term conservation, and animal exhibition all vie for strategic priority. Flagship species are one outlet for this building pressure. Flagships rely on species' charisma, interpretation, and actionable conservation outcomes. When put into practice this produces a strategic communication campaign focused on a specific animal with realistic actions for visitors to perform (Skibins, 2014).

A key issue for successful flagship campaigns is the animal itself. In general, species with higher levels of charisma (i.e. overall attractiveness to the public) are able to generate results more easily and quickly. Higher charisma also tends to improve public recognition of the species and its conservation plight. More recently, charisma has been studied for its ability to foster a connection within zoo visitors. Visitors' emotional connection to zoo animals is highly predictive of their willingness to perform pro-conservation behaviours for that species (Skibins and Powell, 2013).

However, charisma is highly variable and may not be as strong in species most in need of public support. Another way the public may connect to a species is through anthropomorphism. Anthropomorphism is the attribution of human characteristics to non-human entities. As places where people and animals meet, zoos are arguably the most accessible means of building a connection between species. We see a gorilla cuddle her baby and think of ourselves or our own mothers doing the same; we observe meerkats lazing in the sun while their sentry stands guard, perhaps reminiscent of the Guards of London Palace. We watch two little tamarins grooming each other and snuggling close; and it sparks that thought of your best friend who knows everything about you and loves you, fleas and all.

By helping visitors relate to an animal, anthropomorphism could increase levels of care for that animal (Smith and Sutton, 2014). The relationship between relatability and care has been shown to positively influence levels of social inclusion, rights, and concern (Opatow, 1993). This would suggest that anthropomorphism could be a useful tool for zoos to incorporate in developing flagship campaigns. In fact as many zoos move towards zoo-based conservation, it is critical to build care for animals on the brink of extinction and facilitate visitor actions that will make a positive difference to wildlife. This can also provide a mentoring approach to future generations so they grow up with a love and respect for animals that previous generations may not have felt as deeply.

Zoos Victoria works with 20 of Southeastern Australia's

most endangered animals. From the Baw Baw frog that spends most of his life underground, on his back in a pool of slime to the Leadbeater's Possum that flits fairy-like through majestic hardwood forests, the zoo has a profound respect and desire to help each of them. But let's be honest; many of visitors can find it hard to relate to these species that are small, brown and blend so perfectly with their surroundings that one may have no idea they even exist. This is why the three Zoos at Healesville Werribee and Melbourne have started to experiment more and more with anthropomorphism. Zoos Victoria sees it as one of the most powerful tools in their fight to save species from extinction.

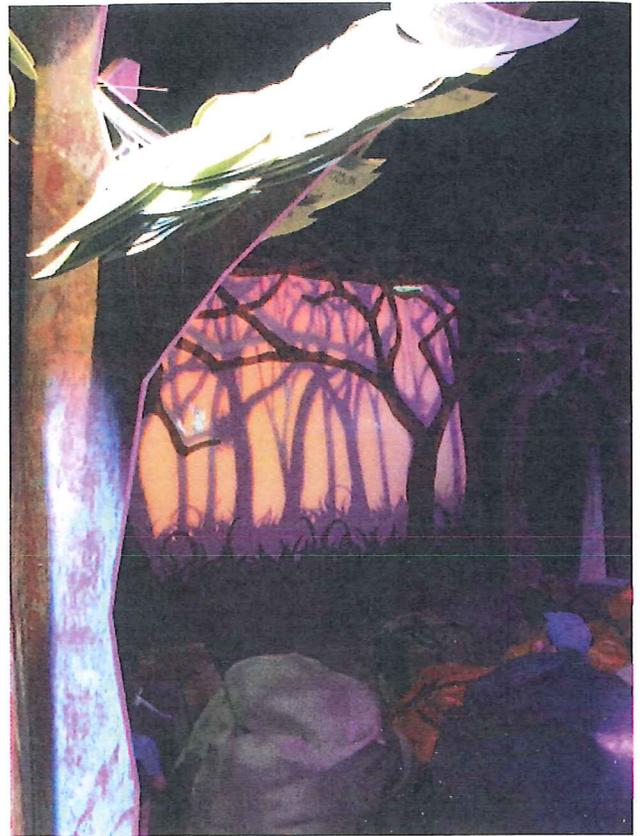
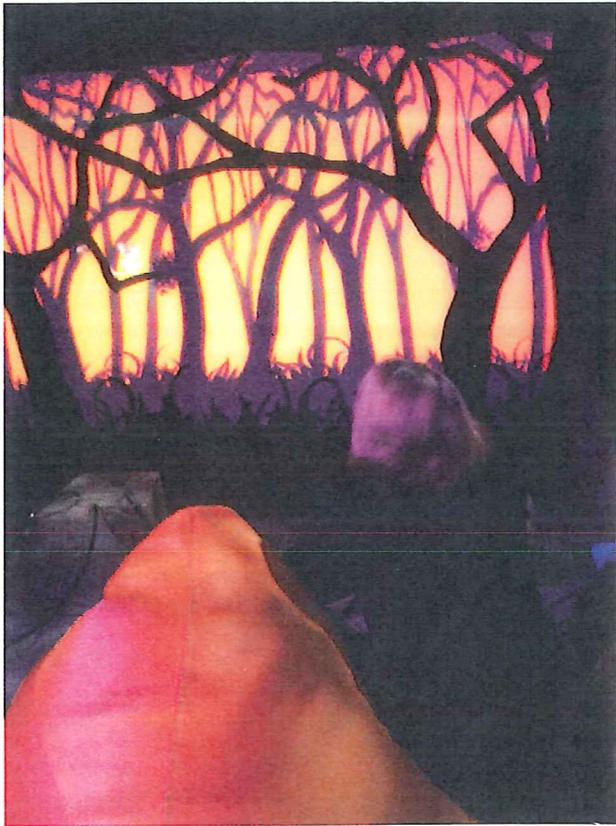
But how do you employ anthropomorphism with a species that may not actually be able to exhibited within a zoo? In June 2012, Zoos Victoria opened Lunar's Secret Forest at Healesville Sanctuary to engage visitors in the plight of the State's endangered faunal emblem. The interactive exhibit depicts a cartoon character Leadbeater's Possum, Lunar, and asks children to follow her on an interactive 'stag watch' that depicts Lunar's fellow wildlife as well as the threats to her survival. Use torches, children can shine a light on aspects of a screen on which Lunar appears. [See also IZE Journal 50 pp.31-34]

The Lunar's experience was complemented almost a year later with the arrival of two live Leadbeater's Possums in the Sanctuary's revamped Nocturnal House. As a species that is on the brink of extinction and, as the State's faunal emblem, we wanted to test our use of anthropomorphism and whether it had a positive correlation to visitor's willingness to act to protect the species.

The study used a mixed methods approach to evaluate the affects of using anthropomorphism in interpretation and its impact on conservation efforts for the Leadbeater's Possum. Qualitative interviews were conducted to explore visitors' perceptions of anthropomorphized portrayals of Leadbeater's Possums. Interviews examined themes of trait attribution, portrayal preferences, willingness to act, and linkages to a live animal. Quantitative surveys were collected to analyze relationships between anthropomorphism, care, and willingness to act. Additionally, comparisons were made between the experience in Lunar's Secret Forest and the live animal exhibit to determine if visitors could anthropomorphize a real animal.

Visitor Perceptions of Lunar

Anthropomorphism has been proposed as a tool to increase conservation action when it heightens perceptions of similarity with the animal. Perceiving an animal as more similar to you, in theory, makes it more relatable, leading to a greater willingness to take conservation actions. In order to better understand the role of anthropomorphism



in interpretation, it is important to first understand the ways in which visitors compare themselves with animals.

One trend that emerged regarding perceptions of similarity was with appearance and physical features. The most commonly mentioned physical features used to assess similarity related to appendages (e.g. hands, fingers, arms, legs, and feet), eyes (e.g. the size and artistic representation of them), and posture (i.e. how they stand). Other commonly mentioned criteria were similarities of thinking, feeling, and doing. However, the specific types of things visitors felt Leadbeater's Possums think, feel, and do varied. The most commonly mentioned factor for determining likability was cuteness.

When visitors were presented with an inanimate object, with no additional information, the primary way they drew comparisons was based on physical appearance. Secondary comparisons were made in terms of attributing thoughts, feelings, and actions. Additionally, visitors struggled to identify a portrayal as a Leadbeater's Possum, or link it back to the photo of the actual animal. This was in part because few people knew enough about Leadbeater's Possums to be able to identify one on their own.

A commonly mentioned reason as to why people were willing to take actions to help conserve Leadbeater's possums was because they liked the anthropomorphized portrayal and/or the species. This suggests that willingness to take conservation actions can be maximized by finding ways to portray

a species in a way that makes it likable to your target audience. Most adults interviewed, reported having a greater connection with and preferring to view photos and/or the actual animal, as opposed to anthropomorphized portrayal.

Relationship Between Anthropomorphism, Care, and Willingness to Act

This phase of the study investigated if the anthropomorphized character Lunar could affect visitors' emotional connection to Leadbeater's Possums and willingness to perform pro-conservation behaviours. Additionally, we sought to compare the results from Lunar with that of seeing a live Leadbeater's Possum. A total of 297 surveys were collected from visitors to Healesville Sanctuary in 2014. Visitors were asked 22 questions regarding how behaviours, physical appearance, and emotions affected their perceptions of Lunar or a live Leadbeater's Possum. They were then asked to evaluate their level of connection (Conservation Caring) and willingness to perform conservation actions for Leadbeater's Possums.

Visitors attributed two types of human characteristics to Lunar and live Leadbeater's Possums, likeability and similarity to human experiences. Visitors reported a higher likeability for a live Leadbeater's Possum and higher degree of similarity to human experience for Lunar (Table 1). Both factors were significant predictors ($p < .05$) of Conservation Caring; which in turn, was a significant predictor ($p < .05$) of willingness to act. Comparing scores for

Table 1: Mean scores for anthropomorphic traits, Conservation Caring, and willingness to act

Factor	Representation	Sample Size	Mean	Standard Deviation	Standard Error
Likeability	Lunar	118	8.12*	1.00	0.092
	Live Leadbeater's Possum	103	7.62*	1.23	0.12
Similarity to Human Experiences	Lunar	116	5.97*	1.62	0.15
	Live Leadbeater's Possum	106	7.02*	1.66	0.16
Conservation Caring	Lunar	117	5.78	1.91	0.18
	Live Leadbeater's Possum	108	6.10	1.52	0.15
Willingness to Act	Lunar	114	5.06	1.84	0.17
	Live Leadbeater's Possum	100	4.97	1.76	0.18

* indicates mean scores are significantly different at $p < 0.001$. All scores range from 1 (strongly disagree) to 9 (strongly agree).

Conservation Caring and willingness to act between Lunar and a live Leadbeater's Possum revealed no significant differences (Table 1).

This phase of the study supports the positive impact an anthropomorphized character has on visitors' ability to connect to a live animal, and ultimately act on its behalf. Visitors indicated their ability to draw parallels between Lunar's daily life and human experiences and a live Leadbeater's Possum's likeability both significantly influence Conservation Caring. These findings support the role of anthropomorphism in future interpretive strategies. Additionally, zoos could explore how animated characters can serve as interpretive linkages to elusive or less popular species.

Lunar and the visitor experience within Lunar's Secret Forest demonstrate that a highly anthropomorphized animated character can be an effective segue to care for non-traditional and/or secretive zoo species. As Leadbeater's Possums are nocturnal, small, and quick, they are often out of sight within the exhibit. Lunar can be an effective substitute to create a connection and drive behaviours within visitors who fail (or choose not) to observe a live animal. This strategy could be replicated across several species. Particularly, those species that share the same exhibiting challenges as Leadbeater's Possums or who fail to hold widespread public appeal, such as insects and snakes. In so doing, zoos could extend flagship status to a wider array of species, and make greater contributions to wildlife conservation.

Conclusion

The relationship between anthropomorphism and conservation actions is indirect. Anthropomorphism is expected to influence action to the extent that it is able to blur the boundaries and heighten relatability between self and animal. Relatability is linked to concern, which can lead to an increased willingness to take conservation actions for a species.

Visitors' perception that Lunar experiences the world in a way that is similar to humans was predictive of Conservation Caring, which influenced

willingness to act for Leadbeater's Possums. These findings suggest that an anthropomorphized character could be used as a surrogate for lesser known, and/or harder to spot animals. However, it is important to note that the ability of anthropomorphism to heighten conservation actions may be limited to the extent that a person is able to link the anthropomorphized character back to the actual species.

When interviewed, most adults reported difficulties linking representations back to Leadbeater's Possums. This was because many visitors reported they were completely unaware of the species. In order to facilitate the link between representations and the actual animal it is recommended that anthropomorphic design elements and interpretation messages make explicit linkages to the species. Recommended strategies include: providing information about the species' appearance and behaviours, and creating representations that more closely approximate the species.

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