

Dr Seuss and the real Lorax

The modern US environmental movement was born in 1970.

The year began with the National Environmental Policy Act on 1 January and closed with the establishment of the Environmental Protection Agency on 2 December. Other milestones occurred in April, including the first observance of Earth Day — then the largest grassroots demonstration in history, drawing an estimated 20 million people globally¹ — and the release of ‘Big Yellow Taxi’, a folksong by Joni Mitchell that quickly became the eco-anthem for the environmental movement. It was in this highly charged atmosphere that Theodor ‘Dr Seuss’ Geisel resolved to write an environmental book for children.

Geisel began to set down words, not pausing to agonize over rhyming and rhythm or even to sketch characters. He noted that he had read so many “dull things on conservation, full of statistics and preachy”, that making such a subject amusing “was the hard part” and he suffered from writer’s block². It wasn’t until months later, in September 1970, when Geisel visited

the exclusive Mount Kenya Safari Club³, that a breakthrough happened: “I had nothing but a laundry list with me, and I grabbed it...I wrote 90% of [*The Lorax*] that afternoon”² (Fig. 1a).

The Lorax

Published in August of 1971, *The Lorax*⁴ became Geisel’s personal favourite work⁵ and his most controversial², stirring national debate when it became the target of an unsuccessful 1989 book-banning campaign in the logging community of Laytonville, California². The Lorax is the protagonist who “speaks for the trees”. The antagonist is the greedy old Once-ler, who lives alone in the town that he helped to blight. The Once-ler recounts to a young boy how the town declined when the Truffula trees were felled to produce yarn for knitting thneeds (“a Fine-Something-That-All-People-Need!”). He explains, with regret, why he ignored the Lorax’s pleas for environmental responsibility: “Business is business! And business must grow.” Eventually, the thneed industry collapses. In the final scene, with the air ruined and

the habitat destroyed, the Once-ler leans from his dreary shack and drops the last Truffula seed to the boy, saying:

*UNLESS someone like you
Cares a whole awful lot,
Nothing is going to get better.
It’s not.*

Bristling with confrontation and filled with passion, *The Lorax* is a polemic about pollution. Geisel unleashed some of his most inventive language to describe the environmental crisis, phrases that subverted rational criticism and enraptured a generation: the cruffulous croak and smogulous smoke, the snergelly hose and rippulous pond². By 2010, *The Lorax* had been translated into 15 languages with more than 1.6 million copies sold; it is ranked by American educators as one of the top 20 books for children⁶ and it is described as a foundational ecopolitical text⁷. It is also the subject of lively scholarship, with a particular focus on the indignant, reproachful rhetoric of the Lorax and its effectiveness for engaging in environmental discourse^{7–11}.

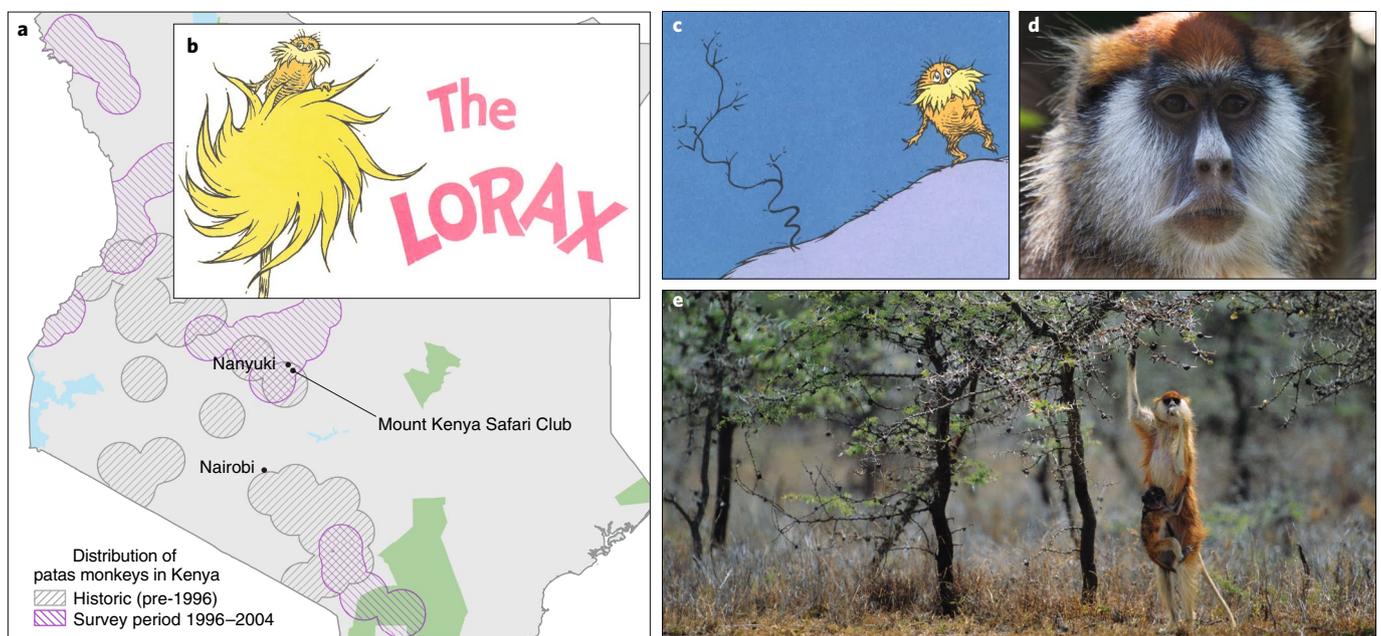


Fig. 1 | Inception of *The Lorax*. **a**, Location of the Mount Kenya Safari Club together with data on the patchy distribution of patas monkeys (*E. patas*) in Kenya. A comparison of historical records (pre-1996) and surveys between 1996 and 2004 indicates that the range of *E. patas* has declined by 46% in Kenya²⁴. **b**, The Lorax in the crown of a silk-tufted Truffula tree. **c**, Spindly tree that resembles the whistling thorn acacia (*A. drepanolobium*). **d**, Male patas monkey; the subspecies in Kenya (*E. patas pyrrhonotus*) is distinguished by its black facial skin and white nose²⁵. **e**, Female patas monkey feeding on *A. drepanolobium*. Credit: **a,d**, Yvonne A. de Jong and Thomas M. Butynski; **b,c**, Dr. Seuss Enterprises; **e**, Anup Shah, courtesy of Nature Picture Library

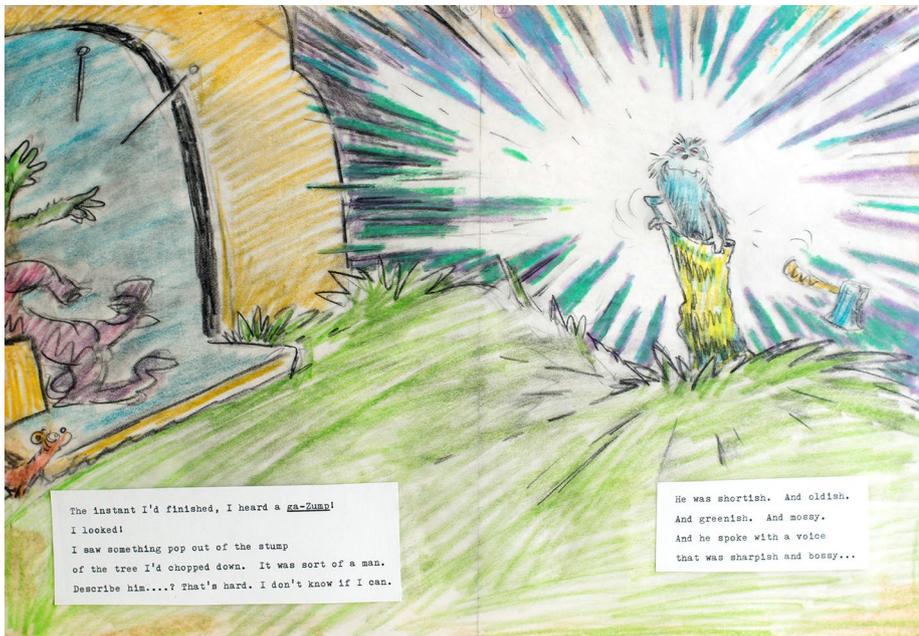


Fig. 2 | Pre-publication drawing of the Lorax. The Lorax enters the narrative when it emerges from a Truffula stump and startles the threed-knitting Once-ler. The present sketch on tracing paper corresponds to pages 20–21 in the published version. Geisel gifted the drawing to President Johnson for accession into the LBJ Presidential Library (accession no. 1971.8.12). Credit: Dr. Seuss Enterprises

Ecopolicer or commensalist?

Most scholars view the Lorax as an outraged spokesperson for nature^{12,13,14}, albeit an ineffective one given his “sharpish and bossy” persona. The Lorax’s

use of the possessive pronoun ‘my’ to denote his relationship with the Truffula habitat has been interpreted as implying ownership, indicative of the Lorax’s belief that the habitat is his property and sole

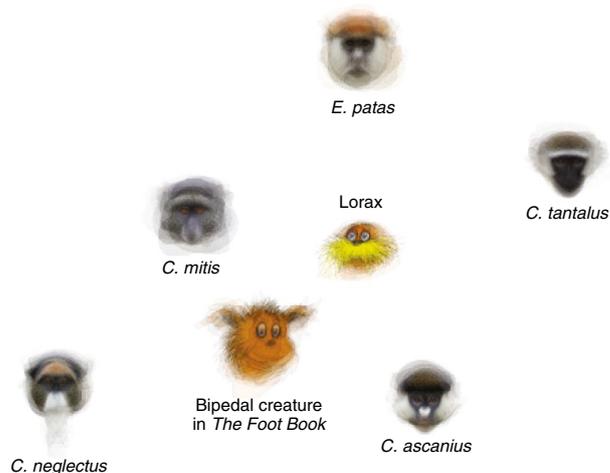


Fig. 3 | Perceptual face space. We used a characterized camera¹⁹ to photograph every forward-facing image of two Seussian creatures, the Lorax ($n = 13$) and the bipedal creature in *The Foot Book* ($n = 13$). We calculated the mean face of each creature¹⁹ and projected it into a space containing the faces of every cercopithecine monkey in Kenya: the patas monkey; the tantalus monkey (*Chlorocebus tantalus*); the red-tailed monkey (*Cercopithecus ascanius*); the blue monkey (*Cercopithecus mitis*); and the De Brazza’s monkey (*Cercopithecus neglectus*). We used eigenface decomposition methods to calculate facial similarities¹⁹ and we generated the plot with t -distributed stochastic neighbor embedding (t -SNE)²⁶, an iterative algorithm that down-projects multidimensional information into two dimensions for visualization. Credit: Dr. Seuss Enterprises

responsibility, hence the righteous and assertive denunciations of the Once-ler⁸. However, an alternative reading raises the possibility that ‘my’ might also denote identity, a sense of oneness with life in the Truffula forest¹⁰. The idea that the Lorax could be a natural member of the Truffula ecosystem is intriguing, and it motivates our exploration of how and which species interactions might have inspired Geisel to write *The Lorax*.

Geisel was on the Laikipia plateau of Kenya when he exclaimed, “Look at that tree. They have stolen my trees”¹⁵. Biographers have argued that these Seussian trees shaped the appearance of *The Lorax*’s silk-tufted Truffula trees (Fig. 1b)², but the taxonomic identity of the tree is unknown. Looking at the book’s illustrations, a clue may lie in the barren habitat surrounding the Once-ler’s home. There stands a spindly tree — an untufted Truffula tree or early successional species (Fig. 1c) — that resembles the whistling thorn acacia (*Acacia drepanolobium*), a common tree in Laikipia. If Geisel was referring to these trees, it is likely that he also observed patas monkeys (*Erythrocebus patas*; Fig. 1d), which depend on *A. drepanolobium* for about 83% of their diet¹⁶ (Fig. 1e). Acacia gum makes up about half of this consumption, in an ecological interaction that benefits patas monkeys without harming the acacia tree — a commensalism.

If this natural commensalism informs *The Lorax*, it challenges traditional interpretations of the Lorax as an ecopoliceman asserting his authority. If the Lorax is based on the patas monkey, he can be seen as a sustainable consumer dispossessed of his commensal partner and an equal victim of environmental degradation.

The real Lorax?

Dates, physical similarities and probable encounters underlie our proposal that patas monkeys inspired the Lorax. His physical appearance postdates Geisel’s trip to Kenya³, evolving into a short, “sort of man” with a signature moustache; his mossy pelage was blue before it was orange (Fig. 2). Many of these final traits are shared with patas monkeys and it is probable that Geisel encountered them at the Mount Kenya Safari Club (Fig. 1a). Even the voice of the Lorax (a “sawdusty sneeze”) resembles the ‘who-wherr’ vocalization of patas monkeys; the ‘who’ is a loud, wheezing expiration of air¹⁷. It appears to be an alarm call issued in response to predators and human observers¹⁸.

The Lorax also bears facial similarities to another Seussian creation, the orange

bipedal creature in *The Foot Book*. The publication of this book in 1968 (two years before Geisel visited Kenya) raises the possibility that the Lorax is simply an archetype with close affinities to other Seuss characters. To assess the likelihood of real-life inspiration, we used eigenface decomposition methods to calculate facial similarities in a perceptual face space¹⁹ containing Kenyan monkeys and both Seuss characters. We found that the Lorax is better characterized by primate face space than even the most similar-looking Seussian character, and specifically that the face of the Lorax clusters closely with three species: the blue monkey (*Cercopithecus mitis*), the red-tailed monkey (*C. ascanius*) and the patas monkey (*E. patas*; Fig. 3). Classification tests find that the Lorax is classified most commonly as a blue monkey, followed by a patas monkey, but never another species.

These findings support our hypothesis that Geisel drew inspiration from a cercopithecine monkey and its ecology. When put together with the fact that the book was written while on safari in Kenya, the coincidence seems striking.

The real Lorax and climate change

The Lorax persists as an icon in the American environmental movement in part because it ends with a message of hope²⁰. Restoration of the *Truffula* ecosystem seems possible if the younger generation heeds the mistakes of its forefathers. Can we extend this same hope to the commensal interactions that might have inspired *The Lorax*?

Increasing aridity in recent years has led to heavier browsing of *A. drepanolobium* in Laikipia by elephants, black rhinos and giraffes, which, in turn, decreases its tolerance to drought²¹. In consequence, adult survival and seedling recruitment have been low in recent decades²². At the same time, *A. drepanolobium* produces high-quality charcoal, the demand for which continues to rise across Kenya²³. Perhaps not surprisingly, the geographic range of patas monkeys has collapsed in recent decades (Fig. 1a). Such findings suggest that we are witnessing a prophetic example of life imitating art imitating life. That is, UNLESS...

Nathaniel J. Dominy^{1*}, Sandra Winters², Donald E. Pease³ and James P. Higham^{2*}

¹Departments of Anthropology and Biological Sciences, Dartmouth College, Hanover, NH, USA.

²Department of Anthropology, New York University, New York, NY, USA. ³Department of English and Creative Writing, Dartmouth College, Hanover, NH, USA.

*e-mail: nathaniel.j.dominy@dartmouth.edu; jhigham@nyu.edu

Published online: 23 July 2018

<https://doi.org/10.1038/s41559-018-0628-x>

References

- Cahn, R. & Cahn, P. *Environment* **32**, 16–43 (1990).
- Morgan, J. & Morgan, N. *Dr. Seuss & Mr. Geisel: A Biography* (Random House, New York, 1995).
- De Laroque, L. *Paradise Found: The Story of the Mount Kenya Safari Club* (Camerapix, Nairobi, 1992).
- Geisel, T. S. *The Lorax, by Dr Seuss* (Random House, New York, 1971).
- Moje, E. B. & Shyu, W.-R. in *Of Sneetches and Whos and the Good Dr. Seuss: Essays on the Writings and Life of Theodor Geisel* (ed. Fensch, T.) 191–198 (McFarland, Jefferson, 1997).
- Teorey, M. *Child. Lit. Educ.* **45**, 324–339 (2014).
- op de Beeck, N. *Child. Lit. Assoc. Quart.* **30**, 265–287 (2005).
- Marshall, I. S. *Interdiscip. Stud. Lit. Environ.* **2**, 85–92 (1996).
- Ross, S. *Interdiscip. Stud. Lit. Environ.* **2**, 99–104 (1996).
- Henderson, B., Kennedy, M. & Chamberlin, C. in *Wild Things: Children's Culture and Ecocriticism* (eds Dobrin, S. I. & Kidd, K. B.) 118–148 (Wayne State Univ. Press, Detroit, 2004).
- Wolfe, D. *Environ. Commun.* **2**, 3–24 (2008).
- Butler, F. *Child. Lit. Educ.* **20**, 175–181 (1989).
- Zicht, J. *EPA J.* **17**, 27–30 (1991).
- Pease, D. E. *Theodor SEUSS Geisel* (Oxford Univ. Press, Oxford, 2010).
- Fensch, T. (ed.) *Of Sneetches and Whos and the Good Dr. Seuss: Essays on the Writings and Life of Theodor Geisel* (McFarland, Jefferson, 1997).
- Isbell, L. A. *Am. J. Primatol.* **45**, 381–398 (1998).
- Hall, K. R. L., Boelkins, R. C. & Goswell, M. J. *Folia Primatol.* **3**, 22–49 (1965).
- Hall, K. R. L. *J. Zool.* **148**, 15–87 (1966).
- Allen, W. L., Stevens, M. & Higham, J. P. *Nat. Commun.* **5**, 4266 (2014).
- Darling, E. *Capital. Nat. Social.* **12**, 51–66 (2001).
- Birkett, A. & Stevens-Wood, B. *Afr. J. Ecol.* **43**, 123–130 (2005).
- Wahungu, G. M. et al. *Afr. J. Ecol.* **49**, 227–233 (2011).
- Okello, B. D., O'Connor, T. G. & Young, T. P. *For. Ecol. Manag.* **142**, 143–153 (2001).
- de Jong, Y. A., Butynski, T. M. & Nekaris, K. A.-I. *J. East Afr. Nat. Hist.* **97**, 83–102 (2008).
- Gipoliti, S. *Primate Conserv.* **31**, 53–59 (2017).
- van der Maaten, L. & Hinton, G. *J. Mach. Learn. Res.* **9**, 2579–2605 (2008).

Acknowledgements

This project was conceived at a dinner hosted by the Dartmouth Society of Fellows. D.E.P. is author of *Theodor SEUSS Geisel* and he is the Ted and Helen Geisel Third Century Professor in the Humanities, an endowed position that supported aspects of this work. For valuable comments and contributions, we thank W. Allen, T. Butynski, P. Carini, L. Claassen, Y. de Jong, N. Diller, J. Estes, S. Gaughan, J. Pitt, C. Sandbrook, J. E. Terp and D. E. White.

Competing interests

The authors declare no competing interests.