

# A Very Human Endeavour

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Does anthropomorphism belong in science communication?

# But first, a story.

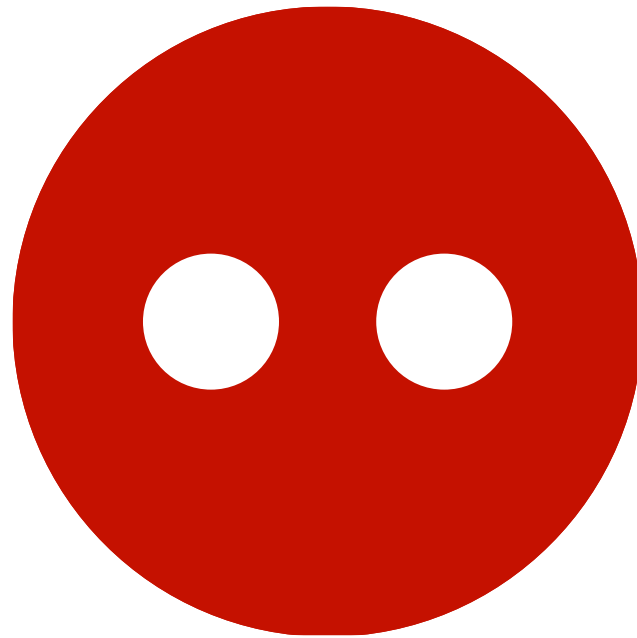
“Why would you do that?”

**“Can we avoid talking about the plants as if they’re people?”**

Sure we *can*. But *why*?

**“Attribution of human characteristics to non-human things or events”**

(Guthrie, 1997)



# So what's the problem?

Scientists generally try to **avoid** it.

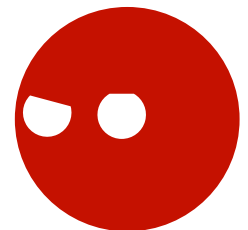
(Wynne, 2007)

Communicators find it **unavoidable**.

(Master, 1991)

So what should **science communicators** do?

?



# Why don't scientists like it?

1. Focus on **goals** rather than **causes**

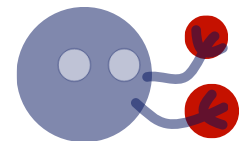
(Hanke, 2004; Lipton, 2001)



2. Subjective experiences are **unfalsifiable**

(Millikan, 1997; Wynne, 2007)

3. Invention of **unnecessary** and **unevidenced** entities (Guthrie, 1997; Hanke, 2004)



# Is it worth doing anyway?

Maybe.

It might increase **empathy** and **connectedness**.

(Jacobs & Harms, 2014; Tam, Lee, & Chao, 2013)

It might increase **confidence** with complex topics.

(Taber & Watts, 1996)

It might make building **narratives** easier.

(Dahlstrom, 2014; Sealey & Oakley, 2013)

It might be useful for communicating **goals**.

(Mignone et al., 2016;)



# Two big questions:

1. How does anthropomorphic science writing affect a non-expert audience's **knowledge** and **understanding** of the subject matter?
2. How does anthropomorphic science writing affect a non-expert audience's **confidence** and **connection** with the subject matter?

# What now?

“How do we answer that?”

# Why an experiment?

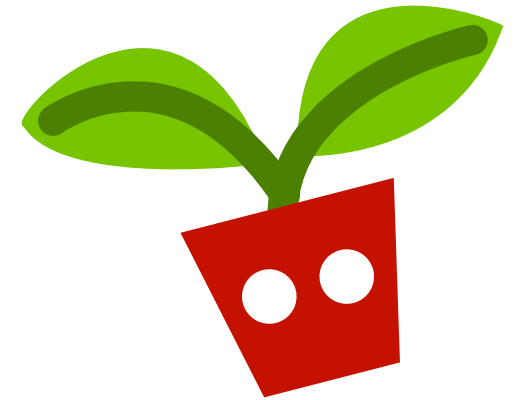
Experiments are good at **testing theories**.

Experiments are **underrepresented** in science communication research

We can do text-based experiments **entirely online**

We can base experiments on **existing instruments**

Experiments are **not as hard as they look**



# Diary of a Space Zucchini

Don Pettit, “Letters to Earth” blog, 2012

## Original text

I sprouted, thrust into this world without anyone consulting me. I am zucchini – and I am in space.

(1686 words)



## Edited text

The seed sprouted, thrusting out into the world. It is a zucchini – and it is in space.

(1402 words)



# Measuring how people **think**

Do plants need water in space?

- Yes
- No
- I don't know

Why?

Type your response here.

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# Measuring how people **feel**

For each of the following statements, please indicate how true it is for you.

This text was fun to read.



not true  
at all

somewhat  
true

very  
true

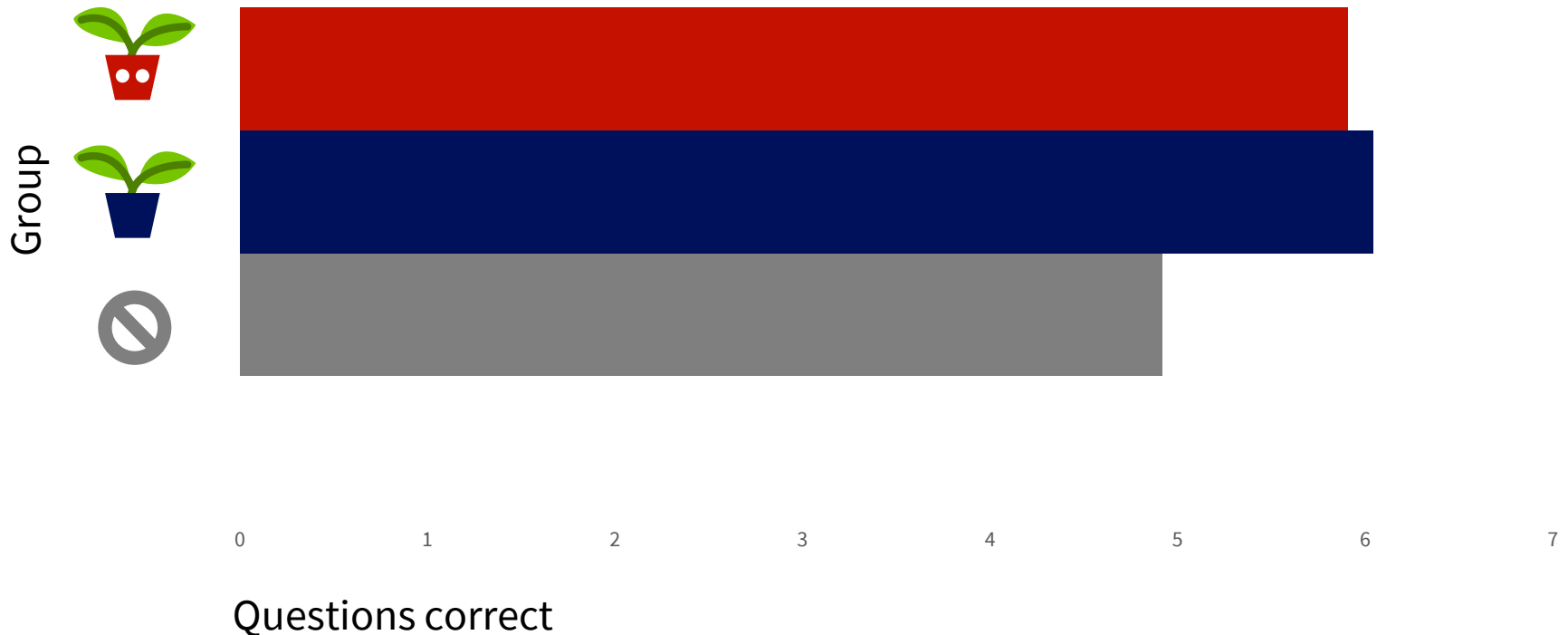
# Results!

“What did you find?”



# How people **thought**

Average Yes/No questions correct per participant, out of 7

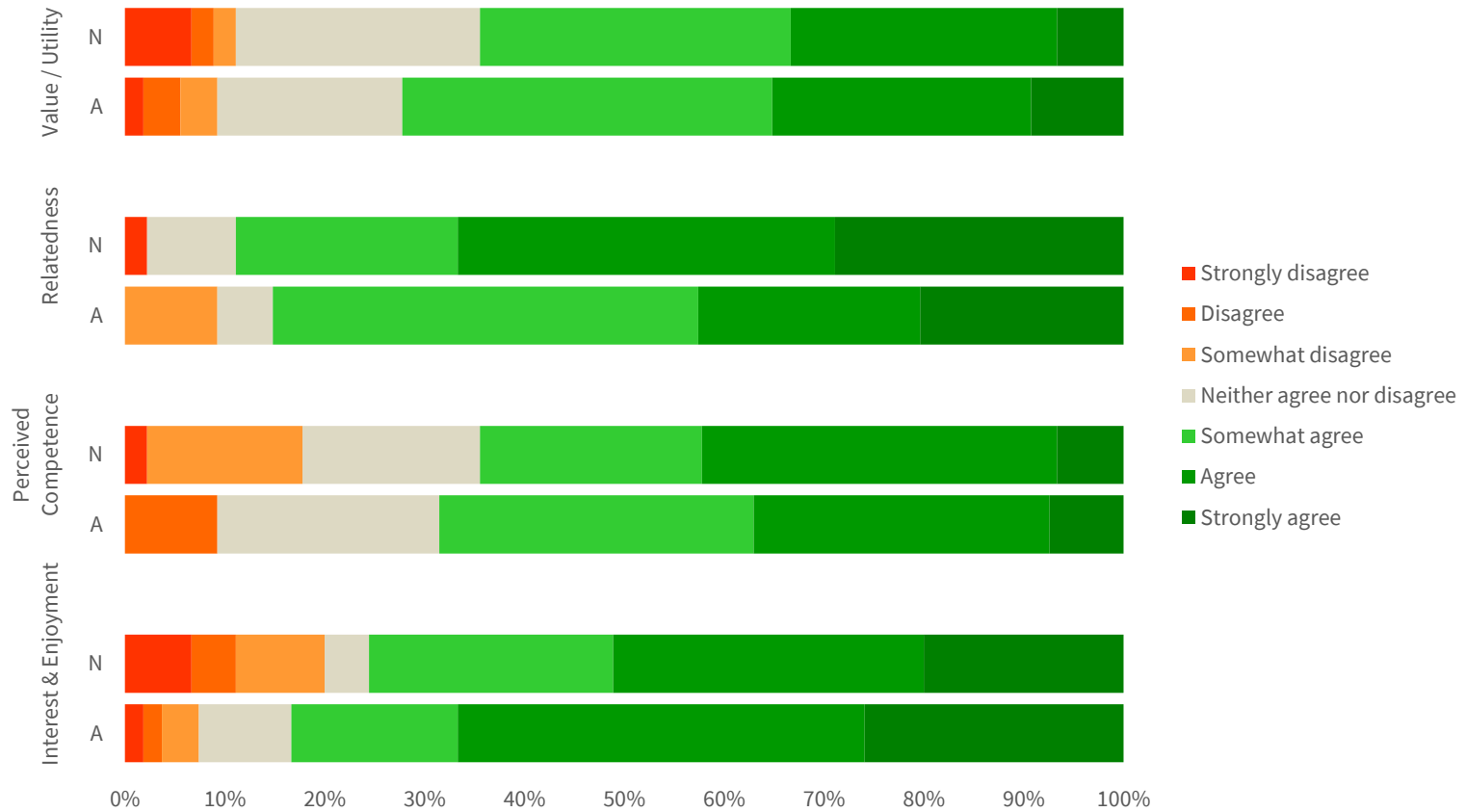


# How people **thought**

No significant difference between any groups on misconceptions. ( $p=0.40$ )

Both text groups performed significantly better than control on **answering the question** ( $p=0.15$ ), and doing so **correctly** ( $p=0.00$ ).

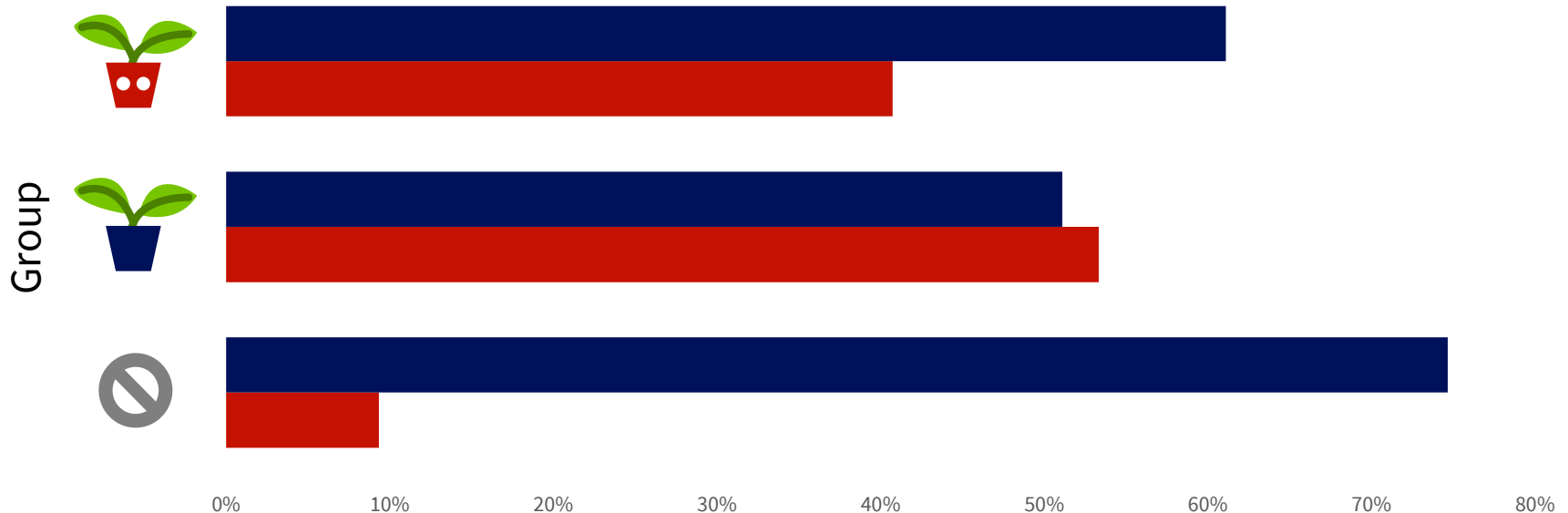
# How people felt



# How people **felt**

% of participants who identified humans' social and physical needs

■ Physical needs  
■ Emotional needs



# How people **felt**

Median scores for both texts were high (5-6 out of 7)

No significant difference between groups in median Value/Utility ( $p=0.45$ ), Relatedness ( $p=0.95$ ), or Interest & Enjoyment ( $p=0.08$ ).

Non-anthropomorphic text was half a point higher on average for **Perceived Competence**. ( $p=0.02$ )

# Discussion

“What does it all mean?”

# Implications

So do we use anthropomorphism or not?

**No significant difference** in enjoyment, confidence, or connectedness between texts

**No significant difference** in any kind of misconceptions between texts

**Both text groups showed improvement** in correct answers and ability to explain over control

# Implications

So do we use anthropomorphism or not?

Reading **anything at all** has the biggest impact.

Anthropomorphism seemingly **made no difference**

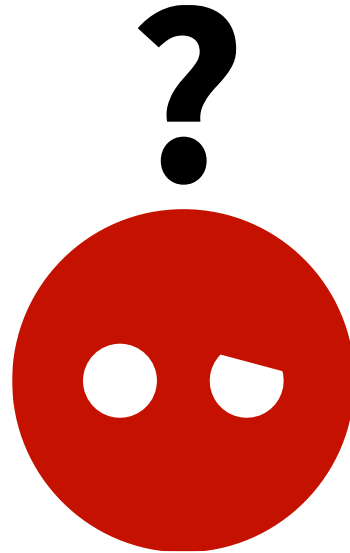
Do what works for **you**, what works for your **audience**, and what works for your **story**.



# Test your assumptions!

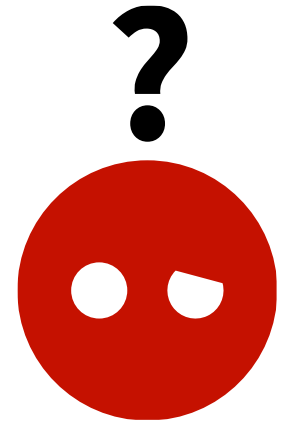
(It's not that hard!)

# Questions?

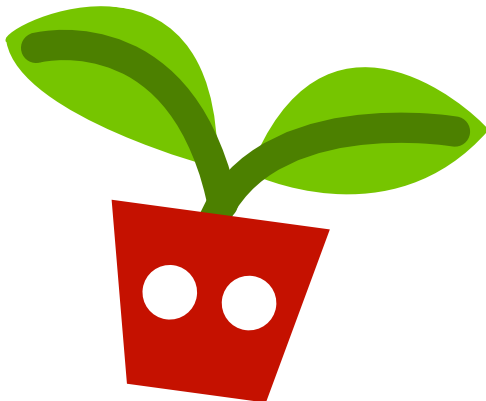


# Questions?

If you do think of some later,  
tweet them to [@rockym93](https://twitter.com/rockym93)  
or mail them to [rockwell@mcgell.in](mailto:rockwell@mcgell.in)



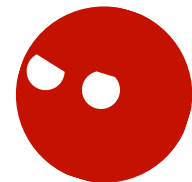
Slides and more at [rockym93.net/thesis](http://rockym93.net/thesis)



Thanks for coming!

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