

The Importance of Connection

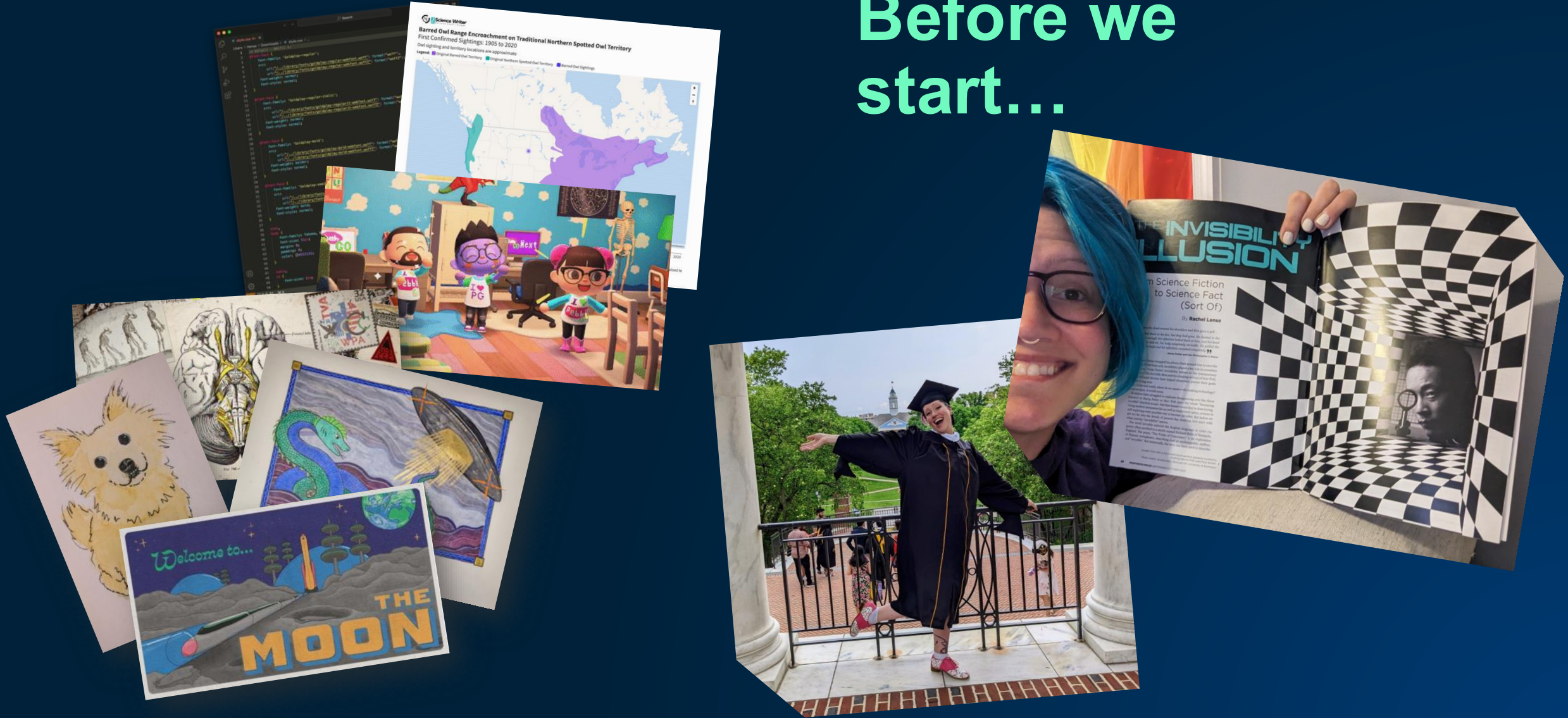
Developing Skills in Networking and Communication

Rachel Lense

Communications Lead for Geospace Dynamics Constellation
NASA Goddard Space Flight Center

CEDAR 2024 Workshop | June 9, 2024

Before we start...



Humans Evolved to Connect



Like humans and other Great Apes, bonobos have complex social structures and large brains

- Navigating big, socially complex societies is computationally taxing, requiring larger brains to compensate for the load
- Bonding, particularly in pairs, played a key role in the direction of our brains' evolution
- Social isolation activates the brain's "alarm system," signaling threats to vitality, sometimes pain
- When socially engaged, our brain releases natural opioids to increase bonding and good feelings



“πολιτικὸν ὁ ἄνθρωπος ζῷον”
“Man (humanity) is a social animal”
Aristotle, *Politics*, c. 330 BCE

Exchanging Information through Story

- Human language evolved anywhere from 50,000 to 2 million years ago
- Storytelling is one of the oldest forms of communication; it is intricately tied to symbolism
- By adding a narrative to information, it provides context so our brains can order data, which builds the mental models/heuristics we rely on to survive
- Storytelling engages the brain's ability to empathize – to connect with the emotions and mental state of others



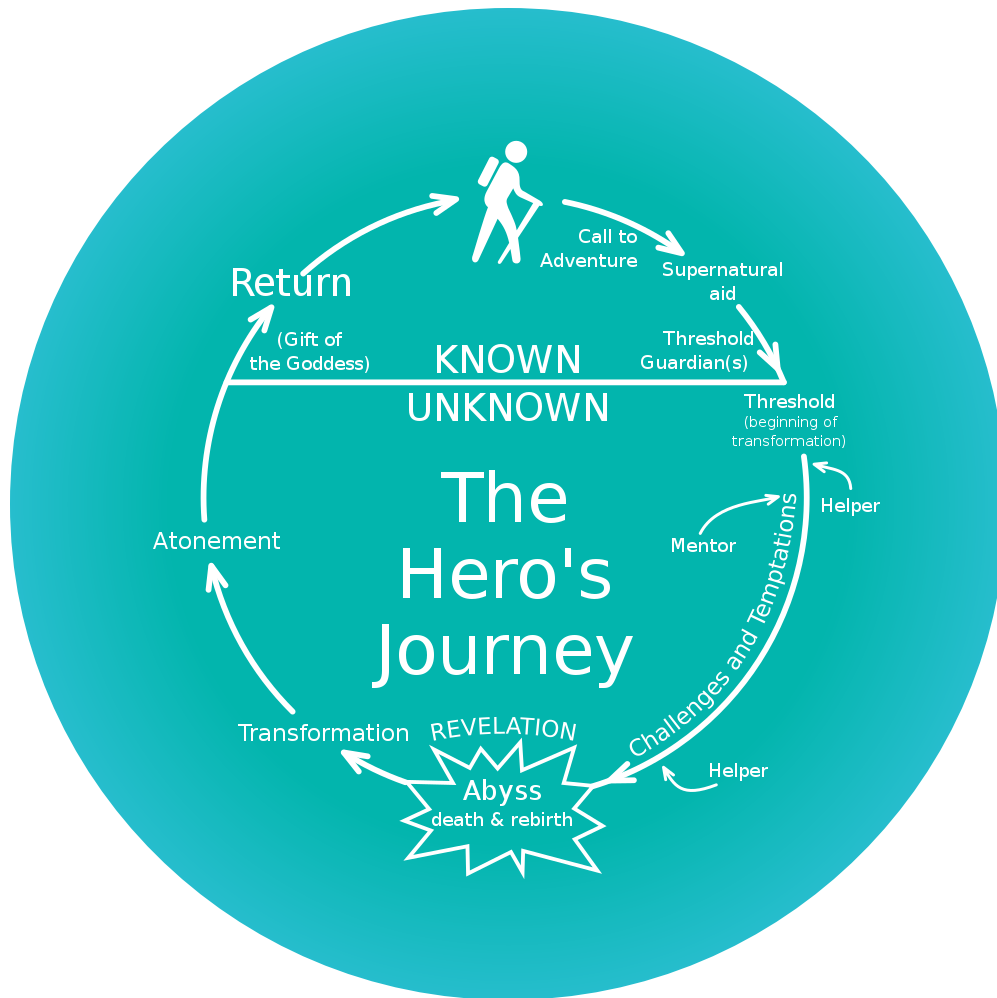
What is a story?

Definition:

A series of related events or ideas; a narrative

Elements:

- Setting
- Character(s)
- Plot
 - *Tension/Conflict*
 - Hook
 - Climax
 - Resolution



How to Tell a Science Story

- **Setting**

- Physical location (Lab? Goddard Space Flight Center? Mars?)
- Temporal location (1600s? Just before Einstein described relativity? The next 10 years?)
- *What context will you give your audience?*

- **Characters**

- Who is involved? (Yourself? Your co-authors?)
- *Your argument can be a character*

- **Plot**

- What is the sequence? (*This, then this, then this*)
- Create tension (*This, but this, and because of this, therefore this*)
- Start at the hook (Intriguing research? A question begging to be answered?)
- Climax occurs about $\frac{3}{4}$ through (Eureka moment?)
- Resolution makes the story feel complete (Research conclusion? Call to action?)

No One Is Prepared for Hagfish Slime

It expands by 10,000 times in a fraction of a second, it's 100,000 times softer than Jell-O, and it fends off sharks and Priuses alike.

By Ed Yong



A car is covered in hagfish, and slime, after an accident on Highway 101. (Reuters)

<https://tinyurl.com/6ymkthyv>

Tips and Tricks

- Use active voice
- Be concise
- Balance accuracy with ease of comprehension
- Avoid acronyms and jargon wherever possible
- Vary sentence lengths
- Choose interesting language
- Use simile, analogy, and metaphor to aid understanding
- *Read far and wide...*

Bad	Good
<p>The move from a structuralist account in which capital is understood to structure social relations in relatively homologous ways to a view of hegemony in which power relations are subject to repetition, convergence, and rearticulation brought the question of temporality into the thinking of structure, and marked a shift from a form of Althusserian theory that takes structural totalities as theoretical objects to one in which the insights into the contingent possibility of structure inaugurate a renewed conception of hegemony as bound up with the contingent sites and strategies of the rearticulation of power.</p>	<p>Structuralists say capitalism operates as a powerful “top-down” system, making businesses, schools, and other institutions look and operate the same way. We now think of power as a series of smaller, decentralized interactions. Power does not come from some big force, but from countless interactions throughout society.</p>
<p>This sentence has five words. Here are five more words. Five-word sentences are fine. But several together become monotonous. Listen to what is happening. The writing is getting boring. The sound of it drones. It’s like a stuck record. The ear demands some variety.</p>	<p>Now listen. I vary the sentence length, and I create music. Music. The writing sings. It has a pleasant rhythm, a lilt, a harmony. I use short sentences. And I use sentences of medium length. And sometimes when I am certain the reader is rested, I will engage him with a sentence of considerable length, a sentence that burns with energy and builds with all the impetus of a crescendo, the roll of the drums, the crash of the cymbals—sounds that say listen to this, it is important.</p>

Connecting with a Network

- Every social interaction is a chance to network
- Be the person you want in your network
 - Forward CVs to potential employers
 - Share job openings you learn about with your network
 - Give personal recommendations
- Have an online presence
- Have business cards
- *Be kind and be yourself*





Questions?

Rachel Lense | rachel.lense@nasa.gov

Communications Lead for Geospace Dynamics Constellation

NASA Goddard Space Flight Center

Thank you!

Further reading:

The Science of Storytelling by Will Storr

100 Ways to Improve Your Writing by Gary Provost

The Science Writers' Essay Handbook by Michelle Nijhuis

On Writing Well by William Zinsser

Good examples:

“No One is Prepared for Hagfish Slime” by Ed Yong

“How To Rewrite Even the Most Turgid Academic Prose” by Charlie Euchner

“Total Eclipse” by Annie Dillard

Great Adaptations by Kenneth Catania

The Devil's Element by Dan Egan