**Scientific presentations: the art of storytelling**

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When you think of science, you probably don’t think of stories. Stories are found in the fiction section, and it has no place in science. But I’m here to argue that, in fact, the best science presentations use storytelling.

Modern humans have evolved to be storytellers. Early cave drawings first discovered in 1940 capture the motion and dimension of the ancient animals that roamed Europe and research has since shown that skilled storytellers had higher reproductive success in hunter-gatherer societies [1]. Psychologists have also shown that learning from a well-told story is remembered for longer and more accurately. So, if we want our research to be remembered, to reach its potential for impact, and to get us where we want to go, we need to tap in to our storytelling roots.

Ok, maybe now you’re thinking: how do I make my research into a story? One approach is to map the elements of your science to six key elements: (1) protagonist, (2) antagonists, (3) conflict, (4) scene, (5) resolution and (6) stakes. Rafael Luna makes an interesting case for this based on his success in sharing his science, both in lectures and in publications [2]. His research “showed that the C-terminal domain of the eukaryotic initiation factor 5 (eIF5-CTD) has a role in the accuracy of the initiation phase of translating the messenger RNA to protein”. How could this possibly be turned into a story? For Luna, eIF5-CTD became the singular protagonist and the major antagonists, eIF1 and eIF2β-NTD, were in conflict with eIF5-CTD. “The scene of this story was located on the decoding region of the 40S ribosomal subunit, while its impact on start codon recognition was the stakes (research impact).” This approach led to a successful publication (in Cell Reports, 2012) and later landed Lunda a job at Harvard, teaching this method to grad students and postdocs.

**Tangible Tips**

Outside of story books, Hollywood also offers compelling examples for how storytelling can help make stories stick [3]:

* **Open with a question.** Movies do this all the time, and it pulls us in to the story. We can use the same strategy in our talks by starting with a hook – something that makes the audience wonder, *What’s going on?* *Why?* Starting with an anecdote can also do the trick.
* **Make a punchy, logical narrative.** Rather than reciting facts, use tricks to make your narrative engaging. The ‘save the cat’ principle is one such trick: give your audience specific characters to cheer for. You or the potential beneficiaries of your research can be the cat and the audience will root for you if you bring them along on the story of how you are pursuing tough questions despite setbacks. Another strategy is focusing in on the story of one local, sympathetic character to help contextualize the larger problem – consider “Saúl Luciano Lliuya, a Peruvian farmer who is suing a large German energy company because a melting glacier threatens his farm, livelihood and hometown.” As a listener, I want the glacier to be controlled so that this farmer will survive and thrive. This is because of the ‘identifiable victim effect’.
* **The Hero’s Journey is compelling.** As scientists, we don’t often share our failures on a public platform. We present our positive results, the publishable stuff. But the hardships can be useful storytelling material – it’s a component of the Hero’s Journey after all: “The hero’s journey — in which an individual embarks on a challenging, transformational experience — appears in myths and stories from cultures around the world, underscoring how audiences connect in profound ways with characters who struggle, learn and grow” [2]. We can explain not just results, but how we reacted to our observations and when we realized we went wrong – we all are wrong sometimes and sharing this makes us more relatable.

**Useful Resources**

[1] Smith et al, Nature Communications, 8: 1853 (2017).

[2] Luna, Nature Reviews Molecular Cell Biology, 21: 653-654 (2020).

[3] Ettinger, Nature, Career Column, June 9 2020.

[4] Dahlstrom, PNAS, 111: 13614–13620 (2014).

[5] Rafael Luna, “The Art of Scientific Storytelling” (book).