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## The science of stories, and the stories of science

*“Let me tell you a story ...” We tend to sit up and listen when we hear these words. We all love a good story. When it comes to science, the art of telling a good, compelling story is becoming ever more important. And that’s a good thing – because stories make science more engaging.*

Scientists who study the way humans communicate tell us that our brains are wired for stories. When we hear a story, our brain cells light up with activity. That is why we enjoy stories, why we remember them and also why we often re-tell them.

Understanding the power of stories, and how our brains respond to stories, explains why storytelling is such a good way to share science.

When we hear a compelling story, and especially if we can identify with the characters, it feels as if we are

experiencing it ourselves (this is also called ‘narrative transportation’).

Stories are not only more engaging than facts, but also more convincing. People are much less likely to argue with the key message of a story, compared to when they are given information in a different format. A well-told story may leave us curious to find out more and willing to act on its lessons.

Good (science) stories can help to make science part of our everyday lives and help people to make sense of new advances and issues in science.

### What is a story?

We often think of stories as fairy tales and myths. But stories can also be factual and true to life. A story takes place at a specific time and in a specific place; and it describes the actions of one or more characters that lead to a series of events that are linked to each other.

A key ingredient for success is that stories contain a human element in the form of drama, conflict and emotions. When the characters in a story experience setbacks and struggles, but also successes and victories, we 'feel' those highs and lows with them. That is why we care about what happens. Therefore, in a story about science, there can be facts and information, but they should be 'covered up' (or disguised) by emotions. A good story makes people think, but also makes them feel.

### The structure of a good story

In terms of its structure, a story typically has a clear beginning, middle and end.

The beginning sets the scene. Then, something changes. For example, the lead character faces a specific challenge.

Then, there is a journey of ups and downs, and turning points. The events are linked (this is called 'causality').

Tensions rise, until it reaches a dramatic high point and the challenge is conquered. Following that, the tension decreases and the issue is resolved. It is this classic structure, also called a 'narrative arc' that takes us along on a journey and holds our attention.

The whole series of events changes the reader, because you end up in a different place compared to where you started. For example, you may see things differently or understand something that you did not grasp before. Very often, that is the purpose of a good story – to effect some kind of change in people's behaviour or attitudes about a specific issue. A good story can change the way people see the world.

### From science to story

In the context of a science story, the 'beginning' can be about why this topic (or this research) is important. The middle will focus on the research that was done and the



Beginning  
Illustration by Fern Waddilove

Middle

End

findings, but there will also be some conflict, uncertainty, controversy or concerns. This is how you build tension, keep interest and make the reader care. The ending will be about the outcome of the research, how people can benefit from it and what it means to society.

If you think about scientific research as a way to solve problems, find solutions and explore the unknown, it is clear why we can tell good stories about science. When scientists set out to discover something, for example a new vaccine, the story can take us on a journey of successes and failures, with tension building as we move closer to the discovery. The discovery can be unexpected and surprising, but will increase our overall understanding in ways we could not have imagined at the outset.

In another scenario, scientists may step in to help people after a specific loss or setback. As these stories unfold, the scientists can emerge as saviours, rescuers and heroes that inspire hope through the solutions they find.

When scientists try to solve things we don't understand, the storyline can take the form of a mystery tale. In this case, the scientists become detectives that follow leads even though they are not sure what they will find. Along the way, they look for answers and explain the implications, thereby engaging listeners to care about the final outcome.

### Advice for writing or telling science stories

There are many ways that scientists, and science students, can tell stories about their work. One of the best ways is to tell a story of something you were involved in yourself, for example a specific experiment or project. What did you find out? What happened that you did not expect? What challenges did you face to find your answer? What new perspective did you gain? Tell the world your science story. Putting a human face on science helps people to connect and care about the story. People won't easily cry about numbers or graphs, but a story about people can bring the science to life and make them care.

People connect more easily when scientists show their own passion and curiosity, and share their own hopes and fears in the stories they tell. This builds trust with their readers and listeners, and can invoke a sense of awe and wonder. When scientists are honest about their own failures and mishaps, people can relate to that. It helps them to understand that scientists are not perfect and that science is a human (and thus a relatable) endeavour.

Good visuals can help to draw readers in and are an essential component of a compelling and immersive story. Similar to the text, visuals that contain action and emotion are the most effective.

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