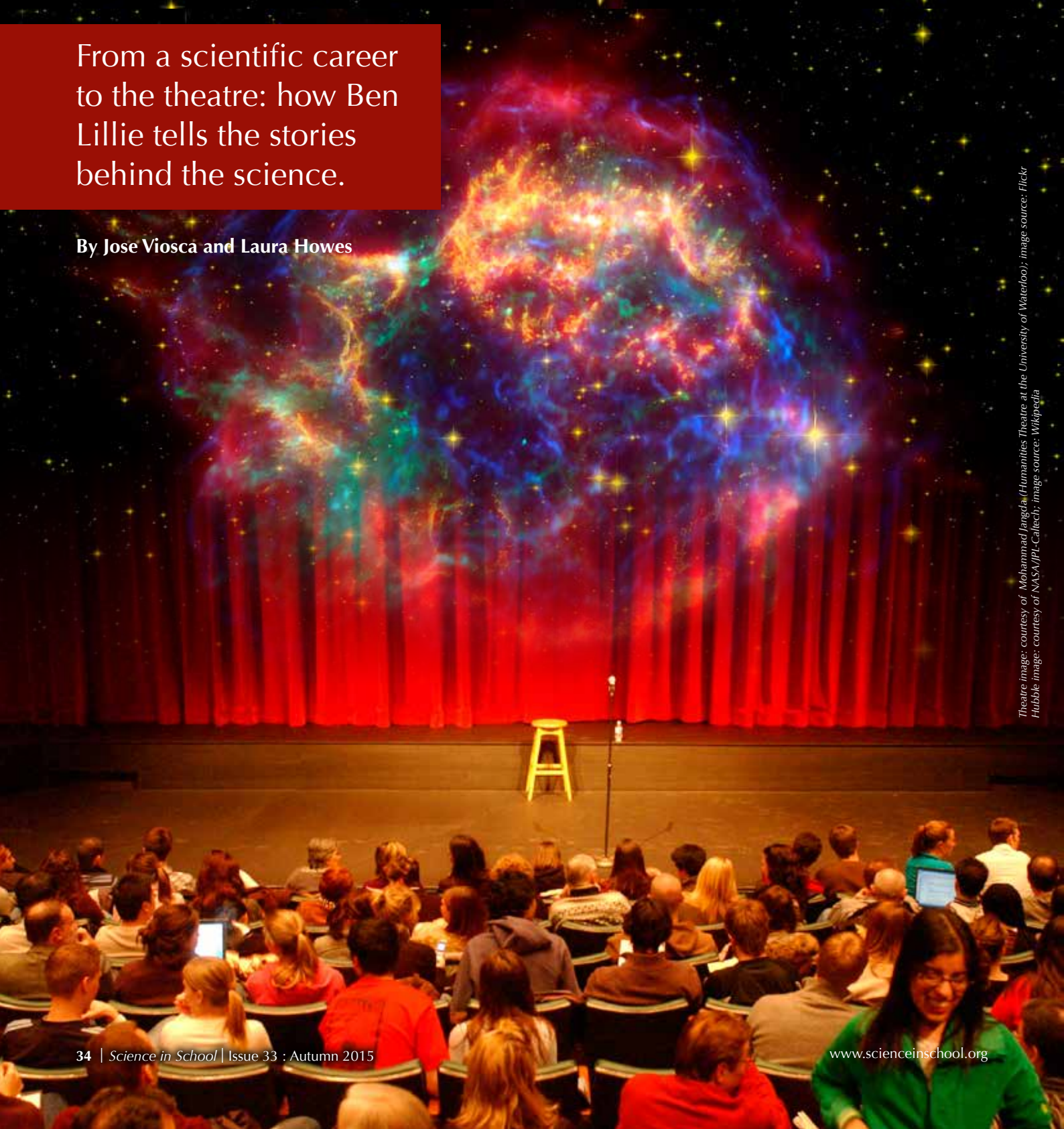


# From smashing science to smashing stories

From a scientific career to the theatre: how Ben Lillie tells the stories behind the science.

By Jose Viosca and Laura Howes



Theatre image: courtesy of Mohammad Jangda (Humanities Theatre at the University of Waterloo); image source: Flickr  
Hubble image: courtesy of NASA/JPL-Caltech; image source: Wikipedia

Two physicists walk into a bar and decide to put on a show. That might sound like the beginning of a joke, but describes the start of *Story Collider*, a series of shows in which scientists tell the stories behind their research. The project began after Ben Lillie and Brian Wecht, two particle physicists, performed a mix of comedy and personal science stories for audiences in New York, USA.

There is, it seems, a thirst for the stories that Ben and Brian began telling five years ago. *Story Collider* is still popular, with regular shows for the general public both in the USA and around the world, plus podcasts and videos on the website<sup>w1</sup>. At its core, you can see the founders' interest in exploring how science shapes people. "We live in a scientific world and this is exciting on its own, but it is also changing how we see ourselves and how we live in the world," he says. "One of the missions of our shows is to reveal the human side of science."

### An uncommon path

Over the past five years, Ben and the *Story Collider* team have collected incredible stories from researchers and other people who work in science. Among them are fascinating – and very varied – tales of how researchers became scientists.

"One of my favourite people is Stuart Firestein," says Ben<sup>w2</sup>. A professor of neuroscience, Firestein spent his 20s working as a theatre manager, focusing on Brechtian theatre, which focuses on analysing what is going on and involving the audience as part of the play. At the age of 30, Firestein realised that he was a terrible theatre manager, went back to college and began studying neuroscience, which Ben describes as "the same as Brechtian theatre but doing experiments".

When Firestein, who has recently retired from the biology department at Columbia University, USA, began teaching entry-level university classes

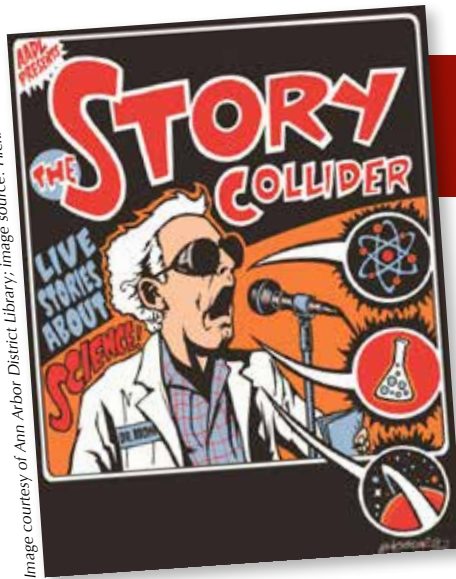


Image courtesy of Ann Arbor District Library; image source: Flickr

The *Story Collider*: human stories about science

brought a very different perspective to research.

### Bridges between sciences and humanities

Firestein's career is an interesting mirror of Ben's own. After originally studying theatre in college, Ben quickly changed course, gaining a bachelor's degree in physics from Reed College and a PhD in theoretical physics from Stanford University, both in the USA. But today, Ben isn't in the lab analysing data. Instead, he works in the theatre district of New York City and around the world. "I realised that I really wanted to talk about people," says Ben. So he traded particle colliders for the *Story Collider*.

"Science and arts have a lot of similarities," says Ben Lillie. "But I'm equally fascinated about the differ-

on neuroscience, he realised that he was continually telling stories about things that are already known, whereas in research you focus on what you don't know. "So he said, 'Let's teach that'," explains Ben. Firestein started a weekly three-hour seminar class called 'ignorance', in which he invited colleagues to explain everything that they did not know in their field. Their contributions became a book called *Ignorance*, about how ignorance drives science; for Ben, this exemplifies how Firestein's theatre background



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Contrary to popular opinion, science, like art, is a creative subject. Scientists have to use known information to create novel investigative processes to determine the unknown. This interview with Ben Lillie explains how he is trying to bring science to the public by engaging them with stories told by scientists. Science is everywhere and should not be separated from daily life. The *Story Collider* website contains a wealth of inspirational, tragic and hilarious podcasts from more than 150 scientists about how personal events have shaped their careers. These short stories would be ideal to show students that not all scientists follow conventional routes and that life events can influence careers and research. It is well worth dipping into these podcasts and they would make an ideal start to a discussion on science and careers.

Shelley Goodman, UK



Ben Lillie

ences. People will say, ‘in sciences and arts you need to be creative,’ which is a true statement, but you are not entirely using the same definition of creative. The kind of creativity you need is different.”

Ben is sure that science can benefit from the arts and vice versa. “The best scientists tend to have a broad range of interests. There is a fun statistic about the fraction of Nobel laureates who also play musical instruments being much higher than in the science population at large.” There are also fields in which visual representations are very powerful, such as astronomy and biology.

For Ben, the mix of science and culture isn’t limited to explicit links, as he explains by describing a recent visit to an art gallery. “I walked into a visual exhibit about music and nostalgia, and in the back of the gallery there was a giant image of the Hubble

Ultra Deep Field. What is that doing there? So I walked up and I realised it was not the Hubble Ultra Deep Field; the artist had taken stage lights from the final performances of dead musicians and arranged them to look like galaxies seen by the Hubble Space Telescope. What was striking was that it was not an explicit science–art thing; the artist had just needed an image and the image he had reached for happened to be an astronomical one. That to me is a sign of success in getting science out into the culture, when science shows up in places you wouldn’t expect it.”

### Keeping audiences engaged

“Our goal is to tell stories you don’t typically hear,” says Ben, and while he acknowledges that performing on a stage and teaching are not identical, there are some tricks that can be useful in both. “Start in the middle of

an action,” he advises. “Start with a question, start with some mystery and then slowly explore that.”

Second, he adds, put the crucial bit of information right where it is needed. If you need to explain what ‘dilithium’ is, introduce it early on or create a mystery about it – but make sure you explain what it is before it becomes important.

Finally, Ben says, putting as much distance as possible between the mystery and the solution is key to keeping the audience engaged. “Whether this is a good thing to do for teaching, I don’t know, really,” Ben cautions, “but it is a great thing to do in a movie or in an entertainment setting. If you have a mystery that you can keep on adding bits of information to, that keeps the audience engaged.”

### Web references

w1 – Explore the *Story Collider* website at <http://storycollider.org/>

w2 – A podcast with Stuart Firestein’s talk can be found on the *Story Collider* website<sup>w1</sup> at <http://storycollider.org/podcast/2013-03-31>

## Resources

There are many videos of Ben’s talks online, including this talk on the impact of personal stories: [www.youtube.com/watch?v=iuX4I2KsZuw](http://www.youtube.com/watch?v=iuX4I2KsZuw)

Eva Amsen, the Outreach Director for *F1000Research*, is particularly interested in the link between music and science and has been describing her research as she works on a documentary about people who are both musicians and scientists. You can follow along on her blog at <http://easternblot.net/category/musicians-and-scientists/>

Jose Viosca is a neuroscientist turned science communicator who is interested in people, science education and everything that catches his attention. Find him on Twitter: @jviosca

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