

Science in fiction

Heather Zubek explores how children's authors are making science engaging for readers.

For many years, stories based on historical events have inspired young readers to explore the past. Now, it's science's turn. The release of the quadrennial *Trends in International Mathematics and Science Study (TIMSS)* in 2016 revealed that Australian students trail behind their counterparts in the US, UK and numerous other countries in mathematics and science. With this growing need for more engagement with these subjects, authors and publishers are coming up with creative ways to incorporate science into their stories.

Rebecca Johnson, author of the 'Juliet, Nearly a Vet' books (illus by Kyla May) and the new 'Vet Cadet' series (both Puffin), is also a teacher with a passion for science. In 2015 she was awarded the Prime Minister's Prize for Excellence in Science Teaching in Primary Schools.

Through her books, Johnson is aiming to create a real thirst for science in her readers. 'A child has made up their mind whether they are good at science or not by the age of nine,' she says. 'I want to interest kids in science early.'

Johnson created the 'Nearly a Vet' conventions as an effective marketing tool for her books and a creative way to inspire scientific investigation. Each child receives a 'Nearly a Vet' box containing a child-sized lab coat, a working stethoscope, facemask and other items that a real vet would need. The conventions have ranged from enthusiastic gatherings at bookstores to a visit to Victoria's Werribee Open Range Zoo, where young vets listened in awe as Johnson explained how to locate the heart of a python.

Johnson's series presents facts in an appealing way—by embedding them in an engaging narrative—and the response from readers has been positive, says Penguin publisher Lisa Riley, with kids appreciating the glimpse of what it is like to be a vet. 'The stories ... are so entertaining and interesting to read, the readers are learning by stealth,' says Riley.

RESEARCH ASSISTANCE

Trace Balla, author and illustrator of *Rivertime* and *Rockhopping* (both A&U), has painstakingly created stories that contain accurate scientific information and evoke a sense of place. To achieve such accuracy, Balla enlisted the help of park rangers, environmentalists and scientists.

'I've been told by an Aboriginal elder that my books are about reading country. When you see wallaby tracks on the ground, you follow them and you find water. That's reading country,' says Balla.

Following Balla's success, Allen & Unwin has uploaded supplementary material to its website for both books, including Pocket Identification Books. These PDF printouts, created by Balla, can be used by children to identify plants and wildlife in the Grampians. Balla is hoping they will also inspire kids to create booklets for their own local area.

Teachers have also been eager to use the booklets as a springboard for a range of creative and investigative activities. 'I get fantastic emails from schools telling me that their library has done a diorama of the stories or a school play of the books,' says Balla.

Allen & Unwin editor Erica Wagner sees creativity as crucial to engaging a student's curiosity. 'Kids are naturally curious and they all want to know about these things,' she says. 'Trace makes nature fun ... There is this gentle wonderment in her books. They aren't airy-fairy at all; they are completely grounded in her passion for the environment and caring for the planet.'

Author and illustrator James Foley considers himself an expert on dung beetles following the research he did for *Dungzilla* (Fremantle Press), the forthcoming follow-up to his 2016 title *Brobot*. Foley wanted his illustrations to be as authentic as possible. 'I found some taxidermy dung beetles so I could study their skin and all the tiny details that you can't really see in

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research,' says Foley, who sees illustrations as a conduit between story and scientific possibility for children. His young readers can also spot inaccuracies at a glance.

Those readers are doing their own tinkering using Foley's illustrations as a guide. 'I have kids give me little models of the robots that they make themselves,' says Foley. 'One kid made Brobot out of a tissue box. It even came with its own remote control with all the buttons on it. It was amazing.'

BABY STEPS

Sydney-based quantum theorist Christopher Ferrie's first board book, *Quantum Physics for Babies*, was self-published as a joke but took off when Mark Zuckerberg posted a photo of he and his wife reading it to their newborn. The book, which explains complex scientific theories to babies, struck a chord with new parents and the scientific community. Now Ferrie has a publisher, Sourcebooks Jabberwocky, and more than 12 books in the pipeline.

'I thought it would be funny to have that juxtaposition of a baby book with this idea that people thought was far too complicated for an adult,' says Ferrie, whose latest offering,

Goodnight Lab: A Scientific Parody, is a twist on the classic *Goodnight Moon* where a young scientist bids goodnight to items in their laboratory.

‘When I buy books for my kids there’s a whole lot of stories with farm animals in them,’ says Ferrie, a father of four children. ‘Why does my child know what a horse sounds like and yet doesn’t know what a transistor is? I thought let’s take everything in children’s literature and make it based on science and technology and things that are more likely to be in the world of the reader.’

BEYOND THE REPORT

In 2015, the Australian Research Council Centre of Excellence for All-sky Astrophysics (CAASTRO) started to look beyond their science reports and into schools.

‘We had been producing science reports for an adult audience for years but we wanted to expand our science writing to high-school and primary-school kids,’ says CAASTRO education and outreach manager Wiebke Ebeling. ‘We wanted to de-alienate science and break down the stereotype of science being done by older

white men who work in isolation for years to eventually have their Eureka discovery.’

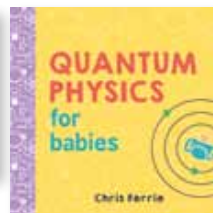
The project included publishing the comic book *The Cosmic Adventures of Alice & Bob*, which is now in all Australian primary schools, distributed through CAASTRO. The book tells the story of two kids on their way to a hockey final, but it also communicates ideas about scientific research, innovation and astronomy.

The book’s author Cristy Burne is a children’s author with a background in biotechnology and science communication. Burne wants to drive home the role science plays in our everyday lives: ‘Science isn’t just labcoats and laboratories; it’s also sunsets and gardening, stars and chocolate cookies,’ she says. ‘We need to look beyond sport stars and actors to embrace and celebrate the real heroes of our planet; the people who make food and heal disease and create knowledge. Providing kids with intelligent, curious role models in the fiction they devour is a great way to do this.’

JUNIOR

Heather Zubek is a freelance writer and former teacher specialising in children’s literature

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HUNGRY FOR MORE

Recently, Readings Kids in Melbourne created a display with books about strong women. *Women in Science* (Rachel Ignatofsky, Hodder) sold out within a short period of time.

‘There is a hunger for these types of books on women in science and in non-traditional roles, showing that maths and science are things that women have been doing and doing very well,’ says manager Angela Crocombe.

Other recommended reads to inspire scientific exploration:

- *Ada Twist, Scientist* (Andrea Beaty, Abrams, 0-5 years)
- *See You in the Cosmos* (Jack Cheng, Penguin, 10-14 years)
- *Wombat Warriors* (Samantha Wheeler, UQP, 6-12 years)
- *Convergence* (Marita Smith, Harbour Publishing, 12+ years).



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