



# NewScientist




[Home](#) [News](#) [In-Depth Articles](#) [Blogs](#) [Opinion](#) [TV](#) [Galleries](#) [Topic Guides](#) [Last Word](#) [Subscribe](#) [Dating](#)
[Look for Science Jobs](#)
[SPACE](#) [TECH](#) [ENVIRONMENT](#) [HEALTH](#) [LIFE](#) [PHYSICS&MATH](#) [SCIENCE IN SOCIETY](#)
[Cookies & Privacy](#)

## CultureLab

Where books, arts and science collide



# Reading science in the cards

10:00 4 October 2010

[Art](#) [Events](#)



*David Harris, contributor*

Science tarot. That's a phrase that most scientists would see as missing a "versus". But last week at the [California Academy of Sciences](#), a collective of scientists and artists launched their [science tarot deck](#) to an enthusiastic crowd.

And lest the sceptics start complaining about the mixing of science and superstition, co-creator Martin Azevedo is quick to point out: "we're not saying that tarot is scientific. We're using images to speak to people, to speak to archetypal life experiences."

Tarot cards are most often thought of as being used by mystics to tell fortunes - each card holds symbolic meaning about a person's life and future. If the reader turns over a card bearing a picture of a fool, for instance, it might mean that you can't see what's right in front of you, while an image of a hanged man might suggest that you require patience or sacrifice.

However, the origins of tarot cards were in games and creative uses such as prompts for writing poetry.

In the science tarot deck, each card depicts a scientific concept which is then linked to a personal meaning. The "expansion" card shows a star that has gone red giant - its outer shell expanding as its core collapses. The card is about finding one's voice and entering a stage of maturity. The "action" card depicts Newton's apple and his third law of motion - suggesting that a decision hangs over your head and that the action you take will have consequences.

Raven Hanna, a molecular biophysicist and co-creator of the deck, is interested in science tarot for its potential to communicate science to a wide audience. "Tarot has evolved to have relevance to people's lives. The cards represent stories of being human and are still true after hundreds of years. This project is a modernization of those stories." Scientists tend to treat it as art, she says, or as a tool to think about their lives by asking "how does this random card relate to my situation?"

The science tarot deck consists of the traditional 22-card "major arcana" and four 14-card suits, each painted by a different artist. The wands suit is reinterpreted as astronomy and cosmology, pentacles as geology and chemistry, swords as physics and mathematics, and cups as biology

## Our other blogs

[Short Sharp Science](#)

[One Per Cent](#)

[New Scientist TV](#)

[CultureLab](#)

[Big Wide World](#)

## Bookmark&share



## Categories

[A Spot of Culture](#)

[Apps](#)

[Architecture](#)

[Art](#)

[Awards](#)

[Best of 2010](#)

[Books](#)

[Comedy](#)

[Comics](#)

[Communication](#)

[Competitions](#)

[Crafts](#)

[Culture](#)

[CultureLab loves...](#)

[Dance](#)

[Data visualisation](#)

[Essay](#)

[Events](#)

[Exhibitions](#)

and ecology.

Finding artists with the right mix of science and art backgrounds - and a willingness to interpret tarot as a non-supernatural storytelling device - was a challenge, its creators said. But once selected, the artists were eager to dive into the science. According to Logan Daniel, the artists did so much research on each subject that they came back with more scientific knowledge than the creators.

Tammy Stellanova, artist for the cups suit, completed an undergraduate degree in biology but went on to study illustration in graduate school. She started working as a science illustrator but wanted "to do more expressive work than possible in traditional science illustration". With the tarot project, she was excited to use her knowledge of biology to infuse the cards with scientific meaning.

During the party, three tarot card readers gave readings to hundreds of interested visitors, some waiting more than an hour to have their science cards read. Gina Pera, an author and speaker visiting the Academy, chatted with me about the process immediately after her reading, noting that she was "enamored with the whole project". Was she hoping to learn her future? "I'm not looking for fortune telling," she said. "I'm looking for a shift in how I think about an issue." Her issue was that a book she recently published about adult attention deficit disorder has met with some detractors and she was finding that challenging to cope with.



Image: David Harris

At her reading, the "chaos theory" card was drawn first, "which was exactly how I felt. There is lots of chaos around Adult ADD". Her husband, a biologist, chimed in, explaining to her that she was using the word chaos in a colloquial sense, not a scientific one. But the scientific definition can apply, he said. "There is a lot of structure in chaos." He talked about how small influences can have big effects, drawing a parallel to the small critical comment that had such a big effect on his wife's thinking. Pera said that the reading "gave her outer validation to her inner state," acknowledging that she was "stuck in the chaos", and she was comforted by the recognition that there isn't necessarily a simple solution.

So what card best represents the co-creators? Daniel says that "major arcana" card 15, "temperance", is a strong fit. It was the last card for them to conceptualize and epitomized the process for them. They needed to understand each others' viewpoints and work toward solutions that worked for each of them. She also likes that the card has portraits of each of the co-creators in it, blindfolded touching an elephant, like in the famous parable. It represents the fact that each

Festival

Fiction

Film

Flash Fiction 2012

Flash fiction competition 2010

Food

Games

Housekeeping

Interviews

Museums

Music

Philosophy

Photography

Podcast

Poetry

Science fiction

Short

Storytelling 2.0

Television

Theatre

Video

Video game

story



follow us

## Twitter updates

## Recent comments

By web design secrets

**Reading science in the cards:**

I was very pleased to find this web-site. I wanted to thanks for your time for this wonderful re...

By Guitars

**Reading science in the cards:**

Thanks for writing this. I really feel as though I know so much more about this than I did befo...

## Recent entries

CultureLab is moving - but not far

Time to get tough on the physiological causes of crime

Alan Turing musical is a surprise success

## Monthly archive

April 2013 (12)

March 2013 (16)

February 2013 (18)

January 2013 (18)

December 2012 (20)

November 2012 (24)

October 2012 (25)

September 2012 (21)

August 2012 (23)

of them saw the project from a different perspective, but that they came together to create a whole that was more than the sum of its parts.

To some, science tarot may seem like a silly gimmick - but it highlights the power of scientific metaphor and the potential for lay people to incorporate scientific thinking into their own life narratives. By framing one's life story with scientific concepts, a person might come to see science less as an impersonal subject and more as something that is deeply intertwined with everyday life.

From here, Hanna hopes to introduce the deck to tarot meetings. "I want to present it to people who don't appreciate science." The "magician" card brings passion and excitement to her voice. "The card is about the ribosome," which she studied during her PhD and postdoc research. "The story contained in that card - the mysteries that science confronts - attracted me to science in the first place."



tags   public understanding of science   tarot



## 2 Comments

All comments should respect the [New Scientist House Rules](#). If you think a particular comment breaks these rules then please [let us know](#), quoting the comment in question.

**Guitars on January 26, 2011 10:09 PM**

Thanks for writing this. I really feel as though I know so much more about this than I did before. Your blog really brought some things to light that I never would have thought about before reading it. You should continue this, Im sure most people would agree youve got a gift.

**web design secrets on November 15, 2011 7:06 PM**

I was very pleased to find this web-site. I wanted to thank you for your time for this wonderful read!! I definitely enjoying every little bit of it and I have you bookmarked to check out new stuff you blog post.

[Previous post](#)

[Next post](#)

[Kids befriend robots at Cambridge science fair](#)

[What outsiders can teach us about creativity](#)

[July 2012 \(25\)](#)  
[June 2012 \(23\)](#)  
[May 2012 \(29\)](#)  
[April 2012 \(22\)](#)  
[March 2012 \(40\)](#)  
[February 2012 \(41\)](#)  
[January 2012 \(36\)](#)  
[December 2011 \(39\)](#)  
[November 2011 \(38\)](#)  
[October 2011 \(38\)](#)  
[September 2011 \(45\)](#)  
[August 2011 \(44\)](#)  
[July 2011 \(49\)](#)  
[June 2011 \(51\)](#)  
[May 2011 \(43\)](#)  
[April 2011 \(43\)](#)  
[March 2011 \(43\)](#)  
[February 2011 \(37\)](#)  
[January 2011 \(20\)](#)  
[December 2010 \(46\)](#)  
[November 2010 \(41\)](#)  
[October 2010 \(36\)](#)  
[September 2010 \(28\)](#)  
[August 2010 \(30\)](#)  
[July 2010 \(35\)](#)  
[June 2010 \(39\)](#)  
[May 2010 \(29\)](#)  
[April 2010 \(31\)](#)  
[March 2010 \(40\)](#)  
[February 2010 \(31\)](#)  
[January 2010 \(31\)](#)  
[December 2009 \(41\)](#)  
[November 2009 \(50\)](#)

## Tags

art astronomy biology  
 book books brain climate  
 change comedy competition  
 conservation cosmology  
 environment evolution  
 exhibition film flash fiction  
 food genetics health history  
 history of science holiday  
 wish list internet life  
 mathematics medicine  
 museum recommendations