

Written by Kylie Sturgess

Wednesday, 12 December 2012 09:00

The following is a contribution to the JREF's ongoing blog series on skepticism and education. If you are an educator and would like to contribute to this series, please contact [Bob Blaskiewicz](#)

Last year Matt Lowry wrote a blog-post on [Using Mythology as a Critical Thinking Tool: The Lesson of Santa for Kids](#) – just as Tim Minchin wrote a piece for the [Statesman](#) [New](#) about [his own efforts to balance a pro-naturalistic worldview](#) and living a life unencumbered by superstition, while raising kids and encouraging a love of fiction.

[Matt Lowry is best known as the Skeptical Teacher](#) - a high school physics teacher, plus a part-time physics and astronomy college professor, contributor to the James Randi Educational Foundation Education Advisory Group and presenter for awesome kids' shows at Dragon*Con, a conference held annually in Atlanta, Georgia.

For this interview we talk about all of these things (and whether Santa might actually be a Time Lord with a sleigh made out of quantum-something-or-other).

During the discussion, we also talk about Barbara Drescher's blog-post at the JREF Swift: [An Argument for Santa, the Tooth Fairy, the Easter Bunny, and \(gasp!\) Even Jesus](#). Also discussed, [a great link to the Physics of Santa!](#)

Kylie: I'm talking to Matt Lowry who is a fellow member of the Educational Advisory Panelist at JREF and he has a fantastic blog called *"The Skeptical Teacher."* I'm very jealous that you got that name first. It's not fair!

Matt: Yeah, I was encouraged to make a blog by my wife, because she basically got tired of me talking to her about this stuff all the time. She said, "You need to create a blog." I said, "No,

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that's a stupid idea." Then two days later I came back and said, "How do I create a blog?" Then basically all I did was Google "skeptical teacher" and nothing but random junk came up. I said, "Hey, that's going to be the name of my blog!"

Kylie: Brilliant!

Matt: So, there you go!

Kylie: Find a niche and fill it. Why not?

Now, you are a high school physics teacher... and in your high schools physics classes apparently you kill Santa Claus. How do you do that?

Matt: Well, yeah, it's kind of a fun thing. It's sort of an old physics joke. There's been this lesson, if you call it, going around for years and years on the physics of Santa Claus. A few years ago I got a PowerPoint from a colleague of mine in the Chicago area who had actually taken this lesson and put it in a PowerPoint format.

It's about fifteen slides long and basically what it does is it goes through this little physical analysis of the Santa Claus myth. It starts off by asking the question, "Is Santa Claus real?" It doesn't assume *a priori* that he's not real. It asks, "Is he real?"

Of course, this is a really inappropriate kind of lesson for teenage students who are on their upper levels of high school or something like that. I don't go showing this to little five-year-old kids and terrifying them because the end of it's kind of hilarious.

I'm not going to go through the whole thing, but basically I'll give you the short version. If you go through the analysis and you crunch the numbers about how much time Santa has on Christmas Eve to race all over the world and deliver presents to all of the good children on the planet, he would have to move so quickly and he would have to be pulling so much mass on his

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sleigh that he and his whole reindeer team would basically burn up in the atmosphere from the friction and they'd burst into flames and immolate.

Then, at the same time, these unbelievably large g-forces would be smashing him into jelly. And the last slide concludes - basically saying if Santa ever did deliver presents on Christmas Eve, he's dead now.

Kylie: Awww!

Matt: And it's got this picture of this little kid crying in front of a gravestone that says Santa Claus on it.

Kylie: I wonder if that gravestone really exists somewhere: *"OK. It's now that time of child's life to take him down to the local gravestone and show him: 'I'm sorry, sorry kids!'"*

Matt: Well actually, I make that point in my blog post! I don't really say it so much in my blog; I title it "Killing Santa," but then I clarify in the first couple lines of the post, I'm not really killing Santa Claus because you can't kill something that's not real.

What I'm doing is a lesson in critical thinking to examine the myth of Santa Claus. That's why starting off with that first slide, "Is there a Santa Claus?" That's a great way of approaching it because what you're doing is you're basically asking the question, you're presenting the evidence as best we understand it, and you're coming to the obvious conclusion. It's a big laugh for my students.

Kylie: I love the bit about the sonic boom.

Matt: Yeah, they start to giggle at that point! And universally, the reaction is always one of two things in my classes. I've got a lot of kids that just absolutely love this. They just adore it. They think it's the most hilarious thing in the world. And I always put the PowerPoint on my website

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so that if they want to grab it they can and spread the meme.

But I tell them don't terrify your little five-year-old brother or sister with this. Go about it a different way because Santa does die rather spectacularly in the end. So it's kind of gruesome.

Kylie: Yeah, you don't want to *turn them off physics altogether!*

Matt: Yeah, you don't want to scare the hell out of them! But the other half of the students? They're just almost horrified. They're horrified not so much at the conclusion, because of course, everybody in the room knows that Santa isn't real. That's not the problem. They're kind of aghast at the fact that I would even take this method to analyse this particular myth.

It's almost like they're shocked that, *"But this is such a jolly myth. Why are you doing this? Why are you subjecting it to this analysis?"* almost. They don't come out and say it, but that's kind of the way they react.

I've never gotten any significant blowback from this, just the occasional comment as the students leave that says, "No, but Santa's real. He's magic." I just kind of laugh along, because they're saying it facetiously too, they don't actually believe that, but it is interesting.

Kylie: It is very interesting. I noticed that there was one comment on your blog where someone said, "*Yes, but it's all about kindness and forgivingness and I've met Father Christmas or Mr. Claus and generosity and you're just a meany-poo.*" And I thought, "Wow. Maybe that's just a drive-by nasty comment - but gosh, some people really, *really* get into the spirit."

Matt: Yeah. Keep your mouth shut, study, they say – also, "And make the world a better place." Yes, make the world a better place by keeping my mouth shut? To which I responded to them, "*Merry Christmas to you too and by the way, say hello to the Easter Bunny and Tooth Fairy for me!*"

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But the thing is that this year something interesting happened, which led me to a very interesting conversation with some of my students. I did my usual Santa lesson and then after school that same day there was a club meeting of one of the science clubs. I like to drop in every now and then. I don't run the club, but I drop in every now and then.

That day I dropped in and I was talking to some of my students from my physics class who were in that club and they were telling the other students the story. And of course, it gets around and everybody's having a chuckle and some people are like, "Yay!" And other people are like, "You're so mean."

But it got a really good discussion going because they asked me a question. They said, "Well, do you have any kids." I said, "No, I don't have any of my own children." They said, "Well, what if you did? What would you tell them about Santa?"

I stopped and I thought about it and I said, "You know, that's a really, really good question. Because I have a lot of friends who have kids who kind of struggle with this." It's like when you sent me Tim Minchin's article; even he struggles with it. How do you balance that wonderment that little children have without the imaginary world with the inevitable fact that they're going to have to come to grips that this is not a real thing when so much of society is telling them it is a real thing?

I thought about it for a couple of seconds and then I told my students, I said, "Well, if I actually did have children I wouldn't tell them outright. I wouldn't show them that PowerPoint until they're older. *But what I would do is I would try to get them to think about it on their own,*" because that's eventually what we all do. We eventually all clue in that Santa's not real. It's just a question of when.

But I think that parents can play a really good role in encouraging the analysis at an early age, encouraging that thought process.

Kylie: In fact, you reference Barbara Drescher's blog post that features on the JREF's website where she mentions she has kids, and is a fellow educational advisory panelist.

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She talks about how she encourages her own children to think about the paradoxes and conflicts inherent in the teachings that are around them and tries to encourage them to come up with their own viewpoint. That's pretty much what you suggested in your blog post as well.

Matt: I think that's the most appropriate way to go about it. Because let's face it, little kids? I don't have any of my own, but I've got plenty of nieces and nephews and whatnot. They are curious. I remember what it was like to be a kid. You're just constantly asking questions.

You want to encourage that, I would think. I would think that you would want to encourage them to continue asking questions and to simply close the door on that process of asking questions by saying, for example, in religious terms "God did it" and that's it, no more questions.

Or to close the door by maybe going the opposite direction and saying, "Oh well, Santa isn't real" and that's it. I think that really does a disservice to the kids because it short-circuits the entire process of questioning, observing, analysing the evidence, and then drawing conclusions.

We want to try to, at least I would hope that we'd want to try to encourage that entire critical thinking process to our children and this is a perfect way to do it. I'll give you another example of this. This is a great story I love to tell people. In my family I have some people who are creationists. A couple of years ago me and some of these family members went to the West. We went to Utah to do a bunch of hiking in Bryce Canyon and so on. It was absolutely gorgeous and we're going around.

And one of my nieces comes up to me, she's a little girl, she's maybe six years old at this time, I think. She's asking me questions about the canyons. She asks the obvious question, "*Wow. Where did they come from?*"

So I started to point out to her, "Well, look over here at the little rivulets on the side of the wall over here." Because it had rained recently and you could see the little channels that the water had carved. And I said, "And notice those patterns and what caused that."

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She said, “Well, rain.” I said, “Yeah.” I said, “Now look at the canyon as a whole and you can see similar patterns.” I basically tried to lead her to the idea that if you have enough of these processes like wind and rain for long enough, you can do this and it can take a very, very, very long time.

Well, one of her sisters, who's older, overheard this and said, “Oh, well, God did it.” Just like it says in Genesis 6,000 years ago, something to that effect. And I didn't really fight against that because of my little niece's reaction, which was wonderful.

Her reaction was to look at her older sister and say, “Yeah, but, how did God do it?”

Kylie: Good question!

Matt: Yes. And then I turned to the older sister and said, “That's a *great* question. How did God do it?” And that kind of ended the conversation on that side because it's obvious to see that it's being used as a way to stop the discussion. When “God did it” becomes the answer for everything, it becomes the answer for nothing.

Even a little six-year-old kid figured this out. Even though she wasn't articulating it that way, it was just obvious that that was not a satisfactory answer to her, because she's sitting there going, “Yes, OK, but *how* did that happen?”

It's that kind of curiosity that I think we want to try to encourage in kids as much as possible. Part of that is using things like the Santa Claus myth as a way of getting them to think about these things.

Kylie: In comparison, Tim mentioned in the article, which is in the New Statesman – he talks about how Father Christmas is real in the imaginary world. Yet, when his daughter Violet, who is five years old, asked him about, “Well, what happens when people die?” He responded, “Oh, they just stop.” Yet, he found himself leaving the Father Christmas question a bit more open.

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He said (just quoting from the article here) *"I think it was the right answer. She went along with the story last year, and I reckon she'll go again this year. By offering her the paradoxical notion of a non-real real, I allowed her the opportunity to just go with it. Hopefully, she'll happily do so until her friends find out it's a myth, at which point, she can quietly slip back into knowing what she suspected all along. There will be no crushing blow of revelation at seven."*

Do you think that the crushing blow of revelation is something that science is unable to avoid in some circumstances? Or do you think it still leaves it open to a certain amount of wonderment and possibility?

Matt: Well, I don't know whether or not science is... I don't know if you want to call it responsible.

Kylie: You don't *need* to have the Physics slideshow in order to work out that Santa Claus equals not that likely, after all!

Matt: I think that reality has a way of imposing itself, whether or not we want it to. The example that Tim made, even at such a young age, his daughter Violet, she's talking about death. She knows that people die and that is the crushing blow. When you come to the realisation that there is this thing called mortality, and even more shocking, that you are moral.

Kylie: Santa can't bring you back after that. It's not a wish you can make...

Matt: Right, which is why I think that starting with things like Santa, the Tooth Fairy and the Easter Bunny are probably maybe a gentler way of easing people into these questions. I think maybe it prepares you for those tougher questions, such as the ones about death and mortality, and is there an afterlife and so on.

The kids are thinking about this stuff. It would be crazy if they weren't thinking about it. They are being bombarded by all kinds of mythologies about the afterlife and so on, depending upon their religious upbringing or what they're learning at home. They're getting that all over the place, so of course they're going to be asking questions about this. Even atheistic children are going to

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ask those questions.

I don't really think that we can say that science is responsible for that. I just think that it's just the way that life is. These questions were pondered long before modern science came along, because these are the age-old philosophical questions that were posed by the ancient Greeks, thousands of years ago before we had an inkling of what modern science was.

I just think it's better to say that the way that life goes, it brings these crushing realities to us. The naturalistic worldview, science, philosophy, these are tools that we can use to address some of these realities. I think that's the better way to maybe approach it.

Sometimes science, I think, can be seen as bringing the crushing blow in, if you will. Of course a good example of that is my "Killing Santa" PowerPoint. But a lot of it, too, is in the delivery, how you deliver that blow. Do you do it just with brass knuckles or do you do it with a velvet glove? I think that's it.

You can listen to the full interview with Matt Lowry of The Skeptical Teacher at [the Token Skeptic podcast, episode #96 - On Critical Thinking and Santa \(Again\)](#).

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Kylie Sturgess is the host of the Token Skeptic podcast, and regularly writes editorial for numerous publications and CSICOP's [Curiouser and Curiouser](#) online column. She holds Masters degrees in gifted and talented education and wrote her thesis on the educational measurement of paranormal beliefs. She is the co-host for the Global Atheist Convention in 2010 and 2012 and presented at the [Sixth World Skeptics Congress](#) in Berlin on pseudoscience in education. In addition, [Kylie Sturgess is an award-winning secular activist](#), a member of the James Randi Educational Foundation Education Advisory Panel and writes at [The Token Skeptic at FreeThought Blogs](#)

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