

CULTURE

## Time Travel, Marijuana, Trump: Neil DeGrasse Tyson Just Wants To Help You Understand The Mysteries Of The Universe

“I am most comfortable knowing less in the company of someone who knows more”

by *Katie Wudel*

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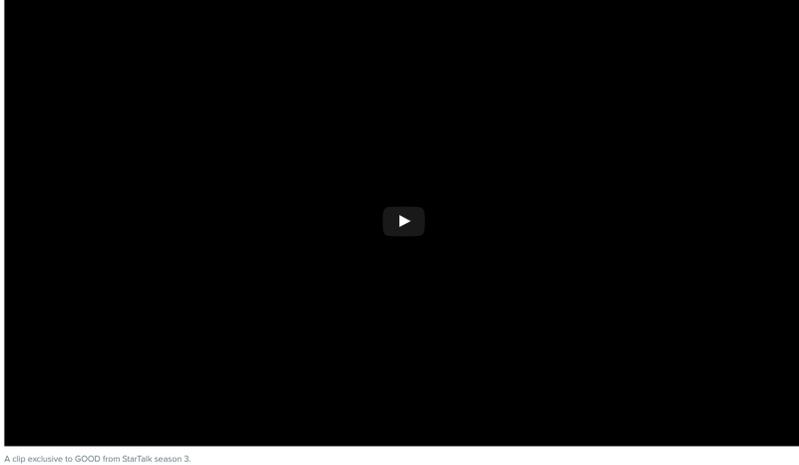


Neil deGrasse Tyson on "StarTalk." Image via National Geographic Channels by Brandon Royal

Neil deGrasse Tyson—director of the Hayden Planetarium in New York City—has turned his childlike awe at the mysteries of the universe into a blockbuster career as a highly regarded astrophysicist, pop culture icon, and [Twitter provocateur](#).

On Season 3 of *StarTalk*, his beloved radio program turned Emmy-nominated late-night talk show, Tyson brings together movie stars, astronauts, high-wire walkers, athletes, comedians, and other public figures to get nerdy about the cosmos. This week, he also released a companion book called *StarTalk: Everything you Ever Need to Know About Space Travel, Sci-Fi, the Human Race, the Universe, and Beyond*, essentially a textbook for adults digging into topics like “Could Bigfoot Be A Space Alien?” and “Are Humans Monogamous—or ‘Monogamish?’”

The show kicks off Monday, September 19 on the National Geographic Channel with a talk about medical marijuana and *Star Trek* featuring actress Whoopi Goldberg. In a conversation with GOOD, Tyson shares a little about we can expect this season, whether time travel to the past will ever be possible, and arguably his biggest social media controversy of the summer, in which he dared to make a case for a society founded on evidence and logic (instead of religion).



A clip exclusive to GOOD from StarTalk season 3.

One of my favorite moments of the season happens in the very first episode, when Whoopi Goldberg tells you that she's ok with being “dumb as hell”—essentially admitting that there are plenty of times she doesn't know something. As a defender of all things rational, I'm curious about your take on that.

It's interesting, because we spend many years in school with the expectation that we will learn something every day that will enlighten us or increase our base of knowledge. Somehow people think that when you leave school, you're done—you've learned all you need to learn and now you just have your views. You become ossified in the same state of mind you were in when you last opened a textbook. But we should view school not as a place to learn, but as a place to learn how to learn. And then the rest of your life, you keep learning.

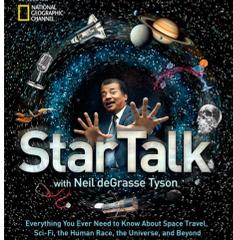
You can only keep learning if you recognize the things that you don't yet know and have the curiosity to explore them. This is the same curiosity that we all wielded as children, when you turned over rocks and plucked petals off of flowers to find out what happens. But we forget about that kind of curiosity as adults. You know who hasn't forgotten? Scientists. Scientists are just kids. “I don't know what that is. Let me go find out.”

**“Scientists are just kids. I don't know what that is. Let me go find out.”**

For Whoopi to have that candor means she's a lifelong learner. I think we need more of that in this world. Especially when you have people in charge who think they simply know everything they need to know to make an informed decision. That's just outright dangerous.

So, about getting ossified in the state we were in when we read our last textbook—I'm wondering if you were thinking about that when you were putting the *StarTalk* book together.

The textbook-y feel of the *StarTalk* book is because modern textbooks tend to have a lot of boxes with content that are separate from the running narrative of the chapter. The *StarTalk* book is entirely that.



Just the good stuff.

Sure, with topics inspired by guests that we've had on the show. So, “Could You Have Sex in Space?” Right? What would that be like? And the answer is you would need a lot of Velcro and straps and things—otherwise, what you would do would send you recoiling into the walls.

I'd like to think that the book is precisely for people who forgot what it was like to be curious, or thought they never really liked science. People come to [the book with a pop culture] scaffolding and we clad the science onto that scaffolding. And then they walk away with a deeper sense of how or why things work.

You've done *StarTalk* as a podcast and a book, you've obviously worked on other types of TV shows, you tweet. Why explore so many different kinds of media? And why a late-night talk show in particular?

All too often, people think of various media formats as ways to reach different demographics, or to show up in multiple places for publicity's sake. But I think it's all just different modes of communicating. Not everyone is as fluent in one mode or another when it comes time to learn. So, I find it a fascinating challenge to try to convey information in one medium relative to another. On Twitter, of course, it's a single sentence, at most two sentences, conveying some morsel of knowledge or insight or wisdom about science. And that helps me to hone my communication skills, to create short sound bites that I might give on camera to the evening news.



Neil deGrasse Tyson with Whoopi Goldberg at the "StarTalk" Studios." Image via National Geographic Channels by Brandon Royal

There's this moment in the show when you're talking to high-wire walker Philippe Petit, who had to become an engineer to do his act, about artists doing science and scientists doing art. How do you like to talk to people about getting out of their comfort zones, or who get you out of your own comfort zone?

Just to be clear, I think the intersection between art and science is sometimes overstated. But when it's done well, I think magic can happen on both sides. And I don't think of comfort zones. The entire concept of a comfort zone implies that there is a conversational place you won't go because you're not an expert at it, or because you don't know how to go out and learn.

For me, places where I don't know things are my comfort zone. I am most comfortable knowing less in the company of someone who knows more. My most fun interviews are those with people who have expertise in something that I know little or nothing about. And then I'm like a kid in a candy shop: “Tell me about this! And how does that work? Tell me more! And how does that fit back into here? Or there? Or everywhere?”

**“I don't ever want to tell people what to think. I will alert people to the consequences of their thinking. Then I go home.”**



I like probing the creativity of highly accomplished people who are accomplished because of that creativity. It was fun speaking to actor [Jeremy Irons](#). I loved hearing what he did to get inside the head of a mathematician he played in a recent film called *The Man Who Knew Infinity*, [which allowed us to dig into the actual math done by that real person, [G.H. Hardy](#)]. We try to get a consistent level of celebrity conversation as well as actual scientific content.

Another actor you'll be interviewing this season is Christopher Lloyd. I'd love to know if you think the kind of time travel in Lloyd's film *Back To The Future* is possible—backward instead of forward, which you've said could happen. Are any legitimate scientists out there coming up with ways to do it?

It turns out there is a way to do it. You just have to go faster than light to make that happen. There's a colleague of mine named J. Richard Gott, a professor of astrophysics at Princeton who wrote a book called *Time Travel in Einstein's Universe*, which has a whole chapter on backwards time travel. Yes, there are serious scientists looking into this, but it requires a level of energy, a manipulation of energy that we don't have access to.

So you're saying, maybe one day?

I don't think it's going to happen any time soon.

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Neil deGrasse Tyson with StarTalk guest and Olympic athlete Hope Solo. Image via National Geographic Channels by Anaisca Bernard

I want to go back to your point about provoking conversation in different forms, including in a sentence or two on Twitter. Can you tell me about that tweet this summer about living in a virtual country based on reason? Obviously it generated a lot of backlash. Do you still believe it's a good idea?



At the time, I was at a conference where in the room, many of us arrived at a conclusion—wouldn't it be cool if there were a virtual country called "Rationalia" that had only one amendment to its constitution: "There shall be no policy created unless it can be based on weight and evidence." That's it. That's the constitution. So, it is a rationally conceived country.

Many people misunderstood, and said, "Oh, that's called communism." Or "scientists would be running all over the world and you would squash religion." And then I found myself having to create a Facebook post, where you can put more characters than a tweet, explaining what "Rationalia" would be like.

You ready? This is how it would work. You can believe in anything you want at all. But unless it is based in objective truth, you cannot make policy on it. That's all. It's very simple. It's only about policy.

So, yes, if you are Christian, you cannot legislate things that have come out of your Christian traditions because many of those are not derived from objective truths. If we're all going to live peacefully together, you can't have one personal truth being imposed upon another person's personal truth.

People wanted to not like the idea. They didn't want our systems to behave rationally. Like—what? You want a country where all the systems behave irrationally? What are you even thinking? By the way, you would only become a citizen if you wanted to be. If you didn't want to, you could just leave.

I think what happened was, the idea got people talking. And that could only be a good thing, whether or not it ever gets implemented. I don't want to lead movements, by the way. Do I want to be a politician? Never. I don't ever want to tell people what to think. I will alert people to the consequences of their thinking one way or another, train them to evaluate evidence and information, and then I go home and you do what you want.



I don't lobby politicians because they represent people who voted them into office. [It varies, but around] eighty-eight percent of Congress stands for election every two years. If I go to Congress to change things for me, I've got to do it again every two years. That's what any education system is all about. Otherwise the education system would only have politicians in it.

Look, you train an electorate that understands the meaning and value of exploration and innovation and discovery and how that can pump our economy. And what role innovation has in health, to channel wellbeing, and what it means to have a healthy, wealthy country. You train people to evaluate information that way, and then they vote for members of Congress who serve those interests. Right now they're serving interests that are not based in any objective reality.

Any other advice about how to make the world a better (or at least more objective) place? Maybe from your StarTalk colleague Bill Nye, your dad, or someone else?

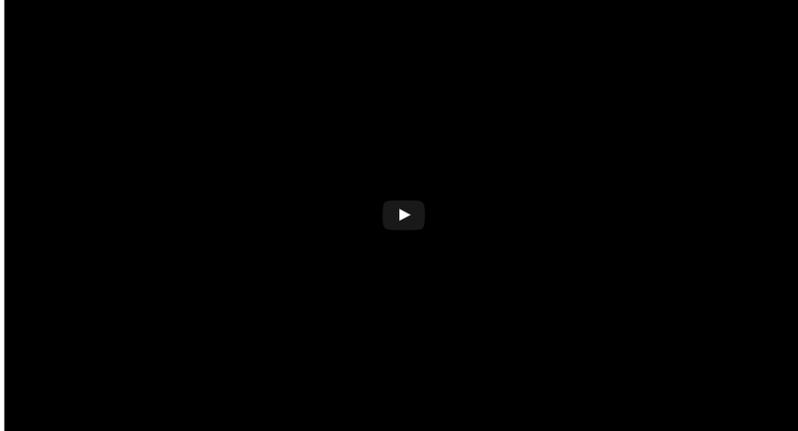
My parents were active in the Civil Rights Movement in my early, formative years. So, the idea that some of your energies should be used to help others is very deep within me. I recognize not everyone feels that way. Libertarians in particular are a community of people who are more of a "pick yourself up by your own bootstraps" way of life.

I have found that because of my number of Twitter followers [as of publication, nearly 6 million] and my access to media, that people want to think of me as some kind of a pundit. But, when you listen to pundits, what they do most of the time is tell you how they want you to agree with them and all of their views. I don't need you to agree with anything I'm saying. But if you're voting and you are underinformed, that is not the richest democracy that we can make for ourselves.

In the sense of helping others, every day I try to do something that improves that day for at least one other person. It could be helping someone cross the street, or teaching them something. And I also do it for myself in the sense that I want to learn something every day. If I don't learn something new, that's a wasted day.

"I don't want to lead movements, by the way. Do I want to be a politician? Never."

"If I don't learn something new, that's a wasted day."



This interview has been edited and condensed.

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