



In *Cosmos*, Neil deGrasse Tyson discusses life, the Universe and everything.

Q&A Neil deGrasse Tyson

The space crusader

US astronomer Neil deGrasse Tyson, director of New York's Hayden Planetarium, currently hosts the television series *Cosmos* — an update of Carl Sagan's 1980 show — broadcast in 181 countries and 45 languages. As it winds down, Tyson talks about the rich mix of science and pop culture, the 'neurosynaptic snapshot' of public responses to his tweets, and his momentous meeting with Sagan.

Were you surprised by the reaction to *Cosmos*?

Here's what I was shocked by, delightfully shocked: the publicity went way beyond the entertainment pages. There were articles in all the science sections, and news journalists were writing about it. It became more than a television phenomenon: it became a cultural phenomenon. It was all over the blogosphere.

Why was the time right to remake *Cosmos*?

The receptivity of our culture to science and to a major science programme has been steadily growing. One of the most popular sitcoms on the major US networks now is *The Big Bang Theory*, about scientists at the California Institute of Technology in Pasadena. You cannot be the number one sitcom unless many people other than just geeks watch you. Nowadays, a scientist on a television show is a fully fleshed-out character and has the same problems as everybody else — they want to fall in love. That's how you know there's some mainstreaming going on.

Why did you personally decide to do it?

I felt that I could do *Cosmos* in a way no one else could — that I could express the

passion that anyone in astronomy has for the Universe in a way that relates to pop culture and storytelling.

What do you hope people will take away?

I would count the show a success if people looked at the world around them differently, and understood that it is knowable through the methods and tools of science — and that those methods and tools have shaped the civilization that we now take for granted. If they get that much, they will come to understand how science works and that it is not a satchel of facts but a process, a way of decoding the secrets of nature.

What was the hardest part of the preparation?

My biggest challenge was knowing that the show was scripted, but delivering it as though it wasn't. I've never had to do that in my life. As an educator, as an academic, I'm used to talking, but for *Cosmos* I had a speech coach. I would read the script and the coach would say, "If you say this word in this other way, then it will sound more like you." I had to deliver the lines the way an actor does. You're not thinking they're

reading a script, but that they're feeling that emotion on the spot.

FOX

How has *Cosmos* changed you as a communicator of science?

I learned how collaborative such an ambitious project needed to be for it to rise to the heights that it has. And I learned what a gaffer and key grip do. Also, I became comfortable communicating with a camera lens rather than a room of people. I value the instant feedback from a person's facial expression, so this was harder than I had imagined.

Tell me about your meeting with Carl Sagan.

On my application to Cornell University in Ithaca, New York, I said that I was deeply into the Universe and astronomy. The admissions officer forwarded my application to Sagan, who worked at Cornell. He sent me a letter of invitation to come up and visit. He gave me a tour of his lab and a copy of his book, *The Cosmic Connection*. I still have that book, with his inscription: "For Neil, with all good wishes to a future astronomer." At the end of the visit, he drove me to the bus station and it began to snow a little harder. So he wrote his home phone number on a piece of paper and said if the bus can't get through, call me and spend the night with my family. I was just a 17-year-old kid and this is something I never forgot.

What's next for you?

There's a pet project that I'm returning to — my show *StarTalk Radio*, now in its fifth season. It has an inverted construct: it's about science but my guests are hardly ever scientists. Most are from pop culture; their fans follow them to this show and then hear them talk about science. It's an experiment, a new way of trying to reach the public that targets people who never knew how much they'd love learning about space and science. Among the people I've interviewed is the actor Morgan Freeman. You learn that he looked at the stars in the night sky on the porch in Mississippi when he was growing up and wondered where we all came from. He wanted to communicate something about that and now he's host of the US Science Channel documentary series *Through the Wormhole*. This is someone who's not a scientist but who's been touched by science.

How do you use social media?

I will send a tweet and watch what people say about it. It's an instantaneous neurosynaptic snapshot of people's reactions to even subtle points that are elucidated in the tweet. When I give a public talk, I feel like I already know the people there because there's communication through Facebook; social media is access to people's spontaneous emotions and thoughts. ■

INTERVIEW BY RON COWEN