

**Equal Time for Freethought**  
**Interview with Ann Druyan, editor of *The Varieties of Scientific Experience: A Personal View of the Search for God* by Carl Sagan, by Arnell Dowret**

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**Transcribed by Joel Schlosberg**

**Arnell Dowret:** And I welcome you to Equal Time for Freethought again, Ann Druyan. How are you?

**Ann Druyan:** I'm well, Arnell, and I'm so happy to be with you. It's always such a pleasure.

**Arnell Dowret:** It is great to have you. And we really thank you for all of your support. And this project just seems so incredibly timely, because it seems, as I think you have stated throughout, that basically people are looking for perhaps understandable things to look for, but in all the wrong places. And it seems like this book is suggesting better places for people to look for the things that have driven people away from science, or away from rational thinking, and unfortunately, playing into the hands of some very backward people and ideas.

**Ann Druyan:** Well, of course I agree with you. I think that science tells a much more compelling, uplifting story of how we came to be and how the universe came to be than any other previous version. And I think that's because of the error-correcting mechanism at the heart of science, the scientific method, which is constantly winnowing out those lies that we like to tell ourselves, that we tell each other. And so science is so powerful. And I must say I prefer science not just because it's a better reflection of natural reality, but because to me, it's a much more soaring, spiritual experience than any other I know.

**Arnell Dowret:** Absolutely. Now, maybe you could just tell us about how this project came to be. Because you had known that there were transcripts like this, but for a long time had not been able to find them. Is that correct?

**Ann Druyan:** Yes. In 1985, Carl was invited to give the Gifford Lectures on Natural Theology, which were endowed exactly 100 years before by Lord Gifford. And he set aside this endowment, saying that these lectures should be given at the Scottish University, and invited the greatest theologians, scientists and philosophers of the last hundred years. In 1900 and 1902, William James, one of the founders of modern psychology, he gave the Gifford Lectures, and his lectures were entitled "The Varieties of Religious Experience". Very influential book, in print till this day, doing a kind of comparative religion that in 1900 was revelatory, because it was taking all of the various kinds of religious experiences, and seeing them as a human occupation, rather than necessarily something that was divinely inspired.

And then Carl gave these lectures in 1985. I was lucky enough to be at all nine of them. And it was really a memorable experience. Every week, the lecture halls had to be added on because the number of people who were coming because of word-of-mouth of how profound they were and what an experience it was, was so impressive.

And years went by; we're coming up on the tenth anniversary of Carl's untimely death. And I was thinking, with this resurgence of fundamentalism, with the erosion of the separation of church and state, and with all the ways that we've been going backwards, especially in this country but in other places as well, I really wanted to have Carl's voice out there. So hunting for the Gifford Lectures everywhere — I knew there was an audio transcript somewhere in the vast archives of his 40 years of work. And couldn't find them, and a friend came by to the archives. And in about 20 minutes, he said, "Is this what you're looking for?" And there was this treasure.

**Arnell Dowret:** That's amazing. This friend wouldn't be available to come over to my place?

**Ann Druyan:** And in fact, he wanted to remain anonymous too, which I thought was really amazing. He was just so thrilled to have something to do with making this available to the wider world. So Ann Godoff of the Penguin Press snapped it up, and I edited it, and wrote this introduction.

**Arnell Dowret:** And it's a beautiful introduction.

**Ann Druyan:** Thank you.

**Arnell Dowret:** It really is, because it totally addresses where we are at this moment. It really does seem as if there are many people who are asking some questions that do need to be asked. We're living in a society that is absolutely coarse in so many ways, and a harshly competitive and relentlessly stressed out and people are being commodified, and there are all these forces that I think are making people feel very concerned about the quality of our culture and how dehumanizing our daily experiences can be. And when you turn on the television, what you see is people coming up with ingenious ways to force other people to do horrible things to themselves for money, and it seems that there really are big questions about what's coming down in our culture, and the real question is, it drives people to say, "Well, the alternative to this commodified, consumer-driven, coarse culture is to go back to the ancient texts, and to go to church every Sunday, and to embrace traditional approaches." But I think we really need to map out an alternative to that. Because obviously, it seems like the problem with that often is that it creates an opening for people to be manipulated into empowering people that don't have a clue as to, or respect as to, what a real spiritual approach to life is about.

**Ann Druyan:** Well, I think you're right. I think fear-based politics and fear-based religion go hand in hand. And I don't think it's an accident, although I don't have any scientific evidence for this contention, that in fearful times, when people are being led and manipulated by leaders who always take the lowest road to manipulate us, to push these evolutionary buttons that we have, that also there's always a return to a very stringent form of conventional piety. And the disconnect between these values that are espoused and the reality of what really is the action, the deeds of those people, is always so striking. And I just think that this book, not only is it great to hear Carl's voice talking inside your head again, and saying things that you haven't yet heard him say, this is his definitive description of his lifetime of searching. He was someone who was really, honestly, looking for a spiritual experience. But it had to

satisfy certain criteria. And one of the things which was a central criterion was: it had to be true! You finish this book, and you don't feel at all, "Here we are, lost in the stars, in the immensity, and science can't really help us here. And we have to make up a parent, a loving parent in the sky, who will somehow make us feel less afraid." Instead, this book is about complete conquering of fear. Looking unflinchingly at the reality of the universe. As little we know, because of course we only know a tiny bit, we've only been at this for about 400 years, systematically, scientifically looking at nature. But the little we know is so wondrous and filled with possibilities. And that universe revealed by science, once you get over the need to be the center of the universe, and you're willing to be just a part of it, there are pleasures and gratifications and feelings of oneness that no conventional religion can afford.

**Arnell Dowret:** It's a very satisfying experience. Ann, I would also like to ask you: have you gotten advanced responses from people about the book yet?

**Ann Druyan:** Yes. The pre-publication reviews are, so far, not a single negative comment, which is really great. There's a very nice [consideration](#) of the book, along with some other books on the same subject, on [scientificamerican.com](#). There's a beautiful, beautiful three-line tribute to the book in *Seed* magazine, which said something to the effect that "this book is as topical now as it was ahead of its time in 1985 when these lectures were given to an audience that we can only assume was appropriately awed."

**Arnell Dowret:** That's beautiful.

**Ann Druyan:** Beautiful. And of course, in the book, Carl talks about intelligent design in great detail. Gives one of the best arguments for intelligent design I've ever heard. No intelligent design proponent has ever been so articulate and so convincing. And then proceeds to take that most compelling argument and tear it to shreds. And he speaks of intelligent design as a kind of hydra that arises every 5, 10 years; this has been happening since 1947. And once again scientists and people who care about science are forced to drop what they're doing in order to combat this insidious and completely nonscientific approach.

Also, brilliant piece on the anthropic principle. And the whole philosophy and notion that the universe was made for us. It's this notion which is so characteristic of a great deal of human civilization, that the universe was made for us. One of my problems with conventional religion is that here we are, on a planet that's 4½ billion years old, in a universe that we can trace back to 13½ billion years ago. We live on one tiny planet that is one of, let's say, 100 worlds in our solar system, and surrounding our star and the planets of our star. And that star is one of 400 billion stars in the Milky Way galaxy in a universe of thousands of millions of galaxies. And yet we have the arrogance to act as if the universe was created for us, that we were given some kind of middle management position.

Living with Carl, working with Carl, thinking with him, was a feast of ideas. And I have to say that as a human being, as a mensch, he was every bit as remarkable as he was a genius and a great creative imagination. He was the bravest, coolest, sweetest, funniest, greatest guy. And those years with him are a treasure that I feel very lucky to have had.

**Arnell Dowret:** One of the things that I was saying earlier about the comparison between dominionism, or this fundamentalist direction that we're going in, and the alternative to it, both of them have something in common, which is people know that things in our everyday reality aren't what they appear to be. People have a sense that there is the

mystical, that there is more to our everyday experience than just what our five senses tell us. But it seems as if there are a couple ways to deal with that. And when you contemplate, as Carl puts it in his work, "the edge of forever", when you contemplate the abyss of our knowledge and how there are things that we might never know, like how could the universe have a beginning, how could it not have begun? And when we contemplate infinity and we stand at the very edge of the abyss of what we can't know or is mystical, some people respond to that with pat answers. Which kind of completely derails the entire mystical experience that is so elevating, that we can share together.

**Ann Druyan:** Well, that's the great thing about science, is that it's a permanent revolution. It's never complete. The journey to understanding is endless. And to me, that's the only appropriate humility in the face of the little we know about the cosmos, is that our understanding will never be complete. But these little successive approximations of reality that science affords us are so precious and so magnificent, and give us a glimpse of what is possible. See, I think the great tragedy of our society, and I guess there's more than one, but I think that at the root of this tragedy is that we are a society that is completely dependent on science and high technology, and yet most of us are fearful and ignorant about the message and the values and the language of science. And this is a failure of education.

Carl Sagan, Stephen Jay Gould, and many other great thinkers and scientists, they came out of the public school system of the New York City area. And they were attracted to science, they came from working-class families, they were attracted to science because there was a really good public school system, mostly staffed by women who were thwarted from other careers, and therefore were really using all of their intelligence to teach. And they became citizens of the world as a result of this education, and curious about everything.

And I submit that we need a complete overhauling of the curriculum of our schools. And one of the things that we need to do, I believe, is that in preschool or Head Start or nursery school or the kindergarten, we need to gather our children together and invite them to join the generation of searchers. Not give them absolute truth and a jumble of amazing facts, but induct them into the way of thinking and seeing that is so powerful that is at the heart of the scientific method. How could we get from 1609, when Galileo takes his first look through the telescope, to actually having our robotic emissaries, the *Voyagers*, leave the Solar System in less than 400 years. Why? It's because the methodology of science is so powerful. And what we need to do is present this wondrous, effective, powerful way of understanding. Because it's completely, inextricably involved with the values and interests of a democratic society. We know that those rights, if adhered to, if honored appropriately, is another error-correcting mechanism, just like the scientific method, also very powerful if we honor it.

And what I'd love to see is a kind of science that is not a preserve of an elite few, but instead a scientific understanding, maybe it's basically what's included in *Cosmos*, and maybe some other things that we weren't smart enough to include. But that kind of comprehensive view of the great journey to understanding that we're on as a species. I think that if we were to do that, then we'd have far fewer people who hate and fear and are bored to death by science, and a more democratic society to boot.

**Arnell Dowret:** Absolutely. A naturalistic approach is the most humble there is because we know nothing that can't be supplanted by better evidence as it is obtained. And Ann, one thing that you always say about the scientific enterprise is that, you talk about the only thing that's sacred in science. Could you just say that again to us?

**Ann Druyan:** Well, that's it. There's a self-knowledge, a self-awareness of our frailties as human beings built in to the scientific method. And that is that no single insight of science is sacred. That it can always, if better evidence comes in to suggest otherwise, then it can be replaced. And the idea is that we reserve the highest awards and kudos for that scientist or person who can disprove that tenet of science that we cherish most. It's the opposite, really, of conventional politics and conventional religion. And it's so reality-based. Science is a form of confidence and respect for reality. It's saying that nature, in 13½ billion years of cosmic evolution, is bound to have come up with scenarios and realities that are far greater than our ability, as a young species maybe a million years old, tops, really, in our present state, that nature is so much better than we are when we make up stories and we imagine the way things are. We can go through life experiencing it as a fantasy of things being the way we would like them to be, or you can go through life appreciating the reality of life in its grandeur, as it truly is. Science can't give us ultimate truth, it doesn't aspire to do that. It's not an absolutist ideology. It's a democratic ideology, saying, each greatest rewards to those of you who prove the scientists wrong.

**Arnell Dowret:** And it seems like we can extrapolate from the scientific method, also an approach to living our personal lives, which so many people who have turned to religion seem to be concerned with. How do we conduct ourselves? How do we live in a way that makes us more genteel, more connected to each other, more sensitive, more caring? And those are very laudable goals. But it seems that the scientific method, as opposed to a religious approach, is completely applicable in terms of always being willing to be surprised by what we learn about ourselves. Always willing to be humble enough to not feel like our stories are cast in stone, and being willing to own our own truths, and understand that this cause-and-effect that make us who we are, and forever trying to identify what causes us to behave the way we do and forever being willing to be malleable, and to change as new information becomes available, and to share our truths with each other, and to be able to have peer review and get feedback and to be more interconnected to your community and by the quality of that connection, actually have the quality of your experience with yourself be made ever more satisfying and ever more effective. And it seems that in science we have the model for many other aspects of living that we don't quite associate with the scientific enterprise.

**Ann Druyan:** I agree. I think that one of the things that science puts such a premium on is truthfulness. Accuracy. Evidence. And what I've taken from it, as a non-scientist but someone who is deeply in awe of the methodology of science, what I've come away with is a sense that it's very important never to lie to your children. Don't lie to your children, no matter how tempting it is.

**Arnell Dowret:** Darn.

**Ann Druyan:** You can't do that. Because if you do that, you fracture the whole basis of trust and the relationship.

**Arnell Dowret:** Absolutely.

**Ann Druyan:** You make your children lie to you. You turn them into liars. Then you're doing something really bad. But if you're honest with them, then no matter however else you fail, they'll love you for it, and they'll trust you. And that's very important. And that's a value that I think is absolutely, explicitly a part of the values of science.