



Dava Sobel - Interview Transcript

(Unedited)

Parul - LWS: [00:00:00] All right. Hello, writers. Hello. Welcome to the London Writers Salon podcast. Parul. I'm your host and the co founder of the London Writers Salon. Our salon interviews are a chance for us to go behind the scenes of a writer's journey and dig into the stories behind the stories. Each week we invite to the salon a writer that we admire to explore the craft of writing, the art of building a writing career, and the reality of navigating the creative world. And today our guest is Deva Sobel. Deva is the author of five books, including the international bestseller *Longitude* and the bestselling Pulitzer prize finalist *Galileo's Daughter*. Deva writes stories about science, really, she writes about the people who have unlocked the world's greatest mysteries. She's an editor of the Meta Poem Column in *Scientific American*, and her latest book is *The Elements of Mary Curie*. We're excited to speak with Deva about her journey today. So we're going to talk about how she's moved from being a journalist to an author, and really just go behind the scenes of how she ideates her work. researchers and writes these [00:01:00] really incredible, compelling nonfiction stories, how she brings history to life. So I've got some questions prepared for Deva, but in just about an hour or so I'll open up to all of you. So if you have any questions at any time, just go ahead and put that into the chat and I'll try and circle around to all of that. So without further ado, welcome Writers Cell. And Deva,

davasobel: Thank you. I'm happy to be with you.

Parul - LWS: thank you for being here. It's such an honour. And it's interesting looking at your history. Both writing and science crops up in everything that you're doing. So my first question for you is what was your relationship with writing as you were growing up?

davasobel: Oh, I always enjoyed writing, even even in grade school. And I got a lot of nice encouragement about it. So I'd say it's been a, it's been a positive, happy relationship.

Parul - LWS: And when did you actually start first writing? What was that moment? That you maybe took it seriously

davasobel: Probably [00:02:00] in my early teens, although I didn't have a sense of what I would write. I just knew that's what I enjoyed doing. And I, I. Got, got good response from things I wrote from teachers, from parents, from people I shared letters with. I had vague dreams of doing it professionally, although I didn't really know what that meant.

And yeah, that's

Parul - LWS: Who are you reading and maybe then or even later on in your twenties, what kind of books were you reading that inspired you?

davasobel: all kinds just as I still do. I Can I really remember what I read in my teens? Not too well, but these days I love reading biographies. I like stories written by scientists. I find those very interesting. I also love a good novel and I read a lot of [00:03:00] poetry.

Parul - LWS: Wonderful. I'm going to come to your involvement in poetry a little bit later on. You also write a lot about science and about scientists. What was your relationship with science? What has been your relationship with science?

davasobel: That started very early, too, because my mother had trained as a chemist and worked briefly while I was very young in a medical laboratory. And my father was a medical doctor and his office was in our home. So it was a lot of talk about his patients, their problems. And of course, my parents were both very interested in science.

So if I asked a question about something, I got a real answer. And that was very validating. And nobody told me that as a girl, it was improper for me to be interested in science. So I was not discouraged in any [00:04:00] way, which I now realize is unusual.

Parul - LWS: Absolutely. in terms of advancing your interest in science. you've, you're self taught, like you, the way you write, a lot about science. You seem to write with some authority. something you're constantly evolving and learning through reading?

davasobel: I went to the Bronx High School of Science, and then I majored in I was a lost soul in college, but I did spend part of my time as a science student, but science is changing all the time. Even if I had a PhD in chemistry, I'd be learning new things today. There's a lot of research and learning involved in the kinds of books I write, and I enjoy that part.

And that's the challenge, really, to understand the science myself and then be [00:05:00] able to describe it in a way that is a story and that is palatable to a reader who might not be as interested in science as I am.

Parul - LWS: That's the word I was thinking of too, when I was reading your book, I was thinking, yes, she makes this palatable. What seems to be a dense subject, that was the exact same word. And then, and this is something we all, I think I've heard a lot of nonfiction writers talk about this, writing about subjects that they're not so confident about.

And we're going to dive into that in a little bit. But before we get into. You ideating and writing your books. I saw that you have some on your website. You talk about things that you've done that are unforgettable or very interesting. And I really want to ask you about this. So you have this unforgettable assignment, 25 days and nights as a research subject in a chronophysiology laboratory in Montefiore hospital, where they boarded up the windows technicians kept you from knowing whether it was day outside or night, which seems like a very fascinating experiment to me.

davasobel: Believe it or not.[00:06:00]

Parul - LWS: What did that exp so this is, in the sort of realm, I thought it was roughly in this realm of science here, so I could bring it up. What did that experience feel like to you?

davasobel: it was singular. It was a difficult thing to go through because I really was a subject in an experiment. And so that involved being monitored in many ways, very frequent blood sampling, various electrodes and sensors pasted all over me. But it was a fascinating experience and I had been interested in the problems of human subject research, even before I, I was a volunteered for this project.

So I was working as a science reporter for the New York Times when I did that experiment. I realized that it was a unique opportunity [00:07:00] because I would be writing from inside the laboratory with no

feedback. because I wasn't allowed to communicate with anyone outside the lab for fear they would give me some cue about what time it really was.

So I had a, this was in 19 80, I think. And I had a computer terminal in the lab that just, whenever I wrote anything, it just went to the Times. And they published the pieces as journal entries.

Parul - LWS: Time is something we all struggle with, this is slightly off topic, but I'm curious about being in a laboratory for 25 days and nights with no concept of time.

davasobel: I

Parul - LWS: teach

davasobel: had my own concept of time. Yeah.

Parul - LWS: How did that differ? What did that teach you about the passing of time, do you think?

davasobel: I did what most subjects in those circumstances do, which is, [00:08:00] I started to run a 25 hour day. When you say, I wish I had an extra hour in the day, that's what you get if you're locked in a laboratory. It shows that the circadian rhythms of all creatures on the earth are somewhere in the neighborhood of 24 hours, but they're not exactly 24 hours.

And we get entrained to our 24 hour day by schedules, clocks, mealtimes. school schedules, all the things that tell you what time it is as you go through your day. But if all of that is taken away, what happens? And this was medical research, Inspired by the fact that certain very heavy duty medications had a different effect on people if given at different points in their [00:09:00] circadian rhythm.

So the idea was to acquire a lot of baseline data on different people. And I was the first woman tested in that experiment.

Parul - LWS: Fascinating. Talking about science, being a science reporter, that's what you did for a number of years, as far as I can tell. You've

davasobel: Yes.

Parul - LWS: Life, the New Yorker you mentioned. You served as a contributing editor to Harvard Magazine and Omni. Were you always exclusively writing? about science.

davasobel: Yes. I'm sure I did this or that wasn't strictly about science, but that was always my interest and what I wanted to do and was hired to do.

Parul - LWS: And then a shift came along when you published Longitude in 1995. It was a success, really put you on the map. Where did,

davasobel: I'll never get over it. That,

Parul - LWS: where did that come from? What was that tipping point? You're a scientist, you're a [00:10:00] When did that idea then, what tipped you to then write books?

Silence.

davasobel: at Harvard and I tried for months to interest the various magazines I was working for to let me go to the symposium and write about it.

And I was rejected by everyone. And I had given up on it. And then at the last minute, the editors at Harvard Magazine, where I was a contributing editor they had a change of heart. They, they learned that Alistair Cooke was going to be the banquet speaker, and that 500 people were attending this event.

So they asked if I could [00:11:00] drop everything and go up after all, which I did. And the symposium was superb, with three days of fascinating material. And I wrote my article. And almost as soon as it was published, because the Harvard Magazine goes to all sorts of people, including all the alumni of Harvard University.

And one particular alumnus, who had been a history major and was now editor at a small family owned publishing house was interested in starting a series of science books for people who would not identify themselves as being interested in science. And he thought that if I had enough material to turn my magazine article into a book, that was just the sort of book he had in mind.

So [00:12:00] that was the first, unbelievable thing that happened. This magazine article that I had shopped for almost a year, now it was going to be a book overnight. I didn't even have to write a proposal. Although I did, just to organize my own thoughts. And all along, again, this was a small publishing house, a very quirky experiment, a small advance.

It was almost comical because friends would ask me what I was doing. And I would say, I'm writing a book about how the problem of finding position at sea was solved. And people would just look down, it just sounded ridiculous. Did I think anybody would read it? My mother and a small circle of friends.

And then, it just turned into a phenomenon.

Parul - LWS: And looking back, what do you think made that book successful?[00:13:00]

davasobel: One, of course, I'd like to say it's extremely well written, but I think the main thing is that it was brilliantly published. So this editor, whose name is George Gibson, really had a clear idea of what this book should be. And the way it was designed and presented to the public, so this was, Amazon was very young then he really focused on the independent booksellers.

And they all, I got behind this book and then it was it was attractive. It was unusual. You looked at it with that funny title and thought, what is that? Several people told me that they didn't know what it was, so they picked it up and just started reading. And then it was a story like Once [00:14:00] Upon a Time.

And then they were in. Can I explain the phenomenon? No, I'm just extremely grateful that it worked out the way it did. I could also say that this was totally a love project. Again, I really didn't think many people would read it. But I was so engaged in the process. I was trying to explain to my children, I jump out of bed in the morning to go to work.

I'm not thinking about what happens later or who reads it. I'm just, this is what my work is now. And not many people feel that good about the work they're doing. They got it. And maybe some of that worked its way into the book and communicated itself to the reader. I really don't know.

Parul - LWS: I'm very [00:15:00] happy for you. It seems like there's some kind of across your books. All the titles are pretty, pretty strong and enticing.

davasobel: Thank you. With the notable exception of the planets. I'll, I will kick myself forever that I didn't hold out for how the planets came to Earth, which is really what that book should be called.

Parul - LWS: I love that. Maybe tell us a little bit about some of the subsequent books that you wrote, and then we're going to dig into a little bit about the process of

davasobel: Yeah, so in the course of doing the research for Longitude, of course, having been at the symposium, that was most of it, because the symposium told me who the experts were in that field, and what were the books and papers they had written. But I spent a weekend at a specialized library that was Entirely devoted to books about timekeeping and I read a book [00:16:00] about Galileo's work on timekeeping issues, especially the longitude problem and the book included a letter from one of his daughters.

And so right away I thought, oh, Galileo had children, he's not a marble bust he's a man. And then the daughter was a nun, which also rocked me because I had been taught that he was the enemy of the Catholic Church. And the letter was about the clock in her convent, which she had been assigned the task of fixing.

And in this letter, she explains the various things she's tried to get it running again, and nothing is working. So now she wants to know, could she send it home to him? And would he please fix it? Because if I [00:17:00] don't get it fixed. These nuns won't let me live. So the letter was tantalizing, and I thought, What if Galileo really did everything he did as a believing Catholic?

Isn't that a much more interesting story? I'm not Catholic myself, but I was intrigued and I was captivated by this woman's voice. It turned out there were more than a hundred of her letters that had all been published with his complete works. And I had studied Italian at university for no good reason at the time.

But now I thought that I could put it to use at last. I could translate those letters and write a book around them. And that's what happened.

Parul - LWS: And so that became Galileo's Daughter, a Historical Memoir of Science, [00:18:00] Faith and Love, which was based on the 124 surviving letters to Galileo from his eldest child. then you go on, so looking at your other books, The Glass Universe, How the Ladies of Harvard Observatory Took a Measure of the Stars, And then A More Perfect Heaven, how Copernicus revolutionized the cosmos.

And of course, your latest book is The Elements of Marie Curie, how the glow of radium lit a path for women in science. And it seems to me that the through line, starting from the beginning, starting from your first book, is unearthing hidden stories, shining a light on women, scientists.

davasobel: I've come to, I've come to the women very late in my life, and we could talk about that, but definitely telling stories about scientists. Yes that's

Parul - LWS: My question to you is what do you think drives you to write these books? They obviously will take a lot of research. Is it curiosity, a need to understand history better, a desire to tell us something?

davasobel: all of the above.[00:19:00]

Parul - LWS: Okay. And just to note, there's actually a writer in the room, Emma Ryan Tutt, and she, in the mid nineties, she worked at Fourth Estate with the editor, Christopher Potter,

davasobel: Oh

My, yeah.

Parul - LWS: and she was there when he acquired Longitude. And she's saying it was a fabulous success in the UK for Fourth Estate. And she's just really pleased to be in the room with you.

davasobel: Yeah, that was the same thing happened in England. I think we had a dozen rejections from publishers who said, people here don't want their history from an American. Yeah. But Forth Estate took a risk and it turned out very well for all of us. And Christopher Potter was just wonderful to work with.

Parul - LWS: Emma says Christopher had great taste. So what point in this process, in the process of writing all these books, did you Get an agent. I'm assuming at some point you landed literary agent.

davasobel: Oh early on. In fact I had written other books [00:20:00] before Longitude, it's just that you've never heard of them. But I had, I already had an agent. So when this nice editor George Gibson called me because he'd read my article in Harvard Magazine. He asked me who my agent was, and I told him Michael Carlyle, and he just started to laugh.

He said, we're very good friends, so I'm going to call him now and tell him that I've acquired a book from an author of his that he doesn't know anything about. He doesn't know anything about this book, and he doesn't know that I've met you. And that's, that was the funny, friendly way all of this got started.

Parul - LWS: Now your latest book is Mary Curie, the elements of Mary Curie, how the glow of radium litter path for women in science. How would you describe this book?

davasobel: This is a women in science story. I really was [00:21:00] not focused on the difficulties women face in science for the longest time because I didn't face any myself and I was really just ignorant. And while I was writing, The Glass Universe, which is a book about women in science. And I came to that story because of my interest in astronomy.

Most of my work has been in that field. And the story takes place in Cambridge, Massachusetts, at the Harvard Observatory, and involves a project to photograph the entire universe. And the photographs were made on glass photographic plates. That's what the title, The Glass Universe, refers to. But of course there's also a hint of a glass ceiling in there.[00:22:00]

And while I was doing the research and seeing and the work, because the images could be studied at any time. It was possible to bring women into the observatory during the day, not have them at the telescope at night, but during the day, studying these plates and making discoveries from them. And.

also trying to organize all of the stars into some kind of classification system that would be useful to astronomers. So the work was so complex and interesting, and I kept being surprised by what the women had done. And I had to admit that I had come to these women with [00:23:00] very low expectations. That even though I'm a woman, I'm interested in science, all of these things, I was looking at them in disbelief.

And It was a really, a moment of self revelation. And it's almost a form of misogyny. And I was immediately I immediately discovered it in other women I knew. There was an astronomy professor at Harvard who was She was very interested in my project and she had agreed to be one of one of the technical readers.

So I usually, I get as many people as I can to read the manuscript for technical accuracy. Almost as soon as she started reading, she said, I'm not really paying attention to astrophysics [00:24:00] here. I am just

gobsmacked by these women, because even though I'm right here at Harvard and I've heard all of their names, somehow I always thought that it was a cute or quaint thing they were doing.

I never realized they were actually doing science. That attitude that is very widespread in women and men. And I immediately got the religion and thought from here on out I'm just telling the women's stories. So my wonderful editor, George Gibson said would you like to write a new biography of Madame Curie?

And I said, no, because at the time I didn't have anything new to say about her. I'd read at least one biography and I didn't want to just repeat [00:25:00] what I'd read. But very soon I was asked to review a book called Women and Their Element, which was all about women chemists. And that book. Showcased about 35 women, and as I read it, at least half a dozen of them mentioned something about Madame Curie.

About how they had worked for her or studied under her. And it just really started to seem like a network. And then I looked into it more at the, with the Curie Museum in Paris. And sure enough, there were about 45 women. And that was something that I knew was not known about Madame Curie. So I called George right away and said, I have something new to say about her.

Parul - LWS: It's amazing. [00:26:00] And that's what I love about the book so much. Just it's such a, I had the same experience you had with the book that you were writing, just suddenly realizing, wow, these women naturally were incredible. All of them. And the impact that Marie Curie had was amazing.

davasobel: And makes it so obvious that women have always been interested in science for the same reasons men are. It's interesting. I,

Parul - LWS: So what's the first step you took to write this book? Just curious about if we now start to shift our attention to behind the scenes of how you create your books.

davasobel: I read it. Yep, I have this idea. And I have now a book in French published by the museum in Paris that has little sketches of each of these women in alphabetical order. So I read all the biographies of Madame Curie that, that are. [00:27:00] And I read. the material by and about the women who had worked for her, as much of that as I could gather.

And I looked at the science as it was understood at the time, because the way we talk about Adams now is completely different from what was going on then. And in fact, The early discoveries of radioactivity, of radioactive elements were the, those were the catalysts for understanding the structure of the atom.

There was a new scientific revolution that came out of this work, and I knew all of that was going to have to be explained. for your attention. And at first I thought [00:28:00] of, now I've read all these biographies of Madame Curie. And so my sense is that everybody knows her story. And I shouldn't bother repeating it, but just immediately begin with the first woman who came to her lab was a Canadian woman named Harriet Brooks.

And I wrote about five chapters that way and showed them to the editor. And he just said, this isn't working. It's not just not working. And it really needs the central figure who's bringing all these people together to be the central figure in the story. And you're forgetting that readers have not just spent months reading every other biography of Madame Curie.

Yeah. So then I changed direction [00:29:00] and and the pandemic happened. So my plans to do research in Paris evaporated. And fortunately, almost everything about, by or about Madame Curie has been digitized. Even things like, she kept a journal for the year after her husband died, just a grief journal.

And you can read it online,

Parul - LWS: I'm curious, where can you read it online? Is that simply

davasobel: on the website of the French National Library. And it's in her handwriting, it's just digitized, but it's there.

Parul - LWS: And so what, at what point did you sketch out the full story? Was that something that came later? Or you said you had the

You knew you had to change direction.

davasobel: The five chapters I pretty much jettisoned [00:30:00] and started over beginning with her. So quickly working through her childhood, how she became a scientist, how she wound up in Paris. Oh, I didn't mention the French part because most of this material It's in French. And, I had not studied French at university, but I did have had very good high school French, and I had university level Italian, and the grammar is the same.

I bought a good dictionary, and it was slow going for a while, but I didn't have to talk to anybody, I wasn't trying to carry on a conversation. I was just reading. So it didn't matter how long it took.

Parul - LWS: At what point did you think about the whole, the narrative arc across the story? Was that something that came later? did you think

davasobel: The narrative arc is there [00:31:00] because of her life story. So she becomes Madame Curie. She makes these extraordinary discoveries that gain her world fame and two Nobel Prizes. And between the first and the second prize, she loses her husband in an accident. Shhh. And that enabled her to take over the laboratory and his teaching position.

So now, she's the only woman in the world in that kind of role. So she becomes a beacon to these other women. And that's the story. And so there are two arcs. There are maybe three, four. There's her life. There's the flow of women, because [00:32:00] they come and go. And about some of them, there's very little known.

About some of them, I couldn't say much. But I think that's partially the point. How the women's names drop out of the history. This happens a lot. Arc two is the flow in and out of women. Arc three is what's happening in science. This period in physics was so monumental that a small group was formed, invitation only, to bring together the best physicists in the world, every three years, to have a small meeting, just to talk about quantum mechanics and atomic physics and radioactivity, x rays, all these things that are happening.

And for 20 years, [00:33:00] she is at every one of those meetings, and she's the only woman in the room. So that's part of her arc, but it's also part of the history of science. And then these great things that she discovered were, for decades, the cure for cancer, but then she lives long enough to see radium go from being the most costly, the most sought after element to being essentially toxic waste.

Parul - LWS: Now, I know that you're saying that actually the story, her story is in a way very natural, you're following her lifespan. But one of the things that comes out across all of your books is you somehow seem to know which aspect of the story to focus on. just wondered if someone here is writing a

nonfiction story and [00:34:00] writing about a scientific subject with a historical figure in there, what advice might you give them as they consider their storytelling? Anything at all would be helpful.

davasobel: I think letting that person speak is the important. And fortunately, Madam Curie was a great letter writer. She kept a couple of private notebooks, but she wrote a lot of letters, especially to her children. And so there's a real firsthand spokesperson. There she is. I don't have to interpret her mental state.

I just let her talk. And I, I feel that's, it's one of The best things you can do is just let the person speak.

Parul - LWS: But your research, how [00:35:00] do you, how long do you research for and how do you stop yourself from going down a rabbit hole?

davasobel: Don't stop myself from going down a rabbit hole. That's part of it. You go down a lot of rabbit holes. You get interested in all sorts of things. And keep going until you really feel you know what you're just to come to understand something, takes It takes a long time. I've had this with every project.

At the beginning, you start to read and it doesn't really make sense, or you don't know how to connect things, and you just have to keep going. And after a while, things start to stick together.

There's no set time, there's no way to know really how long it's going to take. It's just.

Parul - LWS: long did it take you for this book? How many years were you researching?

davasobel: Four.

Parul - LWS: And how do you organize your notes? Do you have a system? I know everyone's different, but what works for [00:36:00] you?

davasobel: I take a lot of notes. Many of them are completely worthless. And when I look at them again I don't know what I was thinking. But as soon as I arrive at a structure, and here, I think the structure came pretty early. Namely that it would be divided in two parts. to four parts according to where she worked.

So in the beginning, she has to, she doesn't have any laboratory at all, but she winds up working in space at the school where her husband teaches. So that's part one. Then they actually get a laboratory. It's not great, but it's a real laboratory. And that's part two. And then In part three, she turns that laboratory into a world renowned institute, a research [00:37:00] institute.

And part four was where it was going after that, to have large scale production facilities and Yeah. So it has those four parts. And then the chapters are all named for people. Most of the chapters are the names of the women. And they also have the name of an element because in this period, part of the science that happened is the periodic table, which was a work in progress, got completely figured out.

Names of the elements are also important in the development of the story. So one, if I have a structure, then I have folders with names and numbers on them and I can put things in them. But because so much of this research was [00:38:00] done by reading things online.

I had a lot of open tabs. I printed out some things. It was amazing to me to be able to read the weekly proceedings of the French Academy of Sciences. All the way back. You can go through every one of those weekly publications for a couple of centuries. It's really an extraordinary resource.

Parul - LWS: Yeah. And I guess also the patience that you had to go through. wonder spending, four years with Marie Curie and the time period she was in, as you say, the formation of the periodic table. Do you feel changed in any way? Do you feel like you've learned anything from this, shifted your attitude by what you've read?

davasobel: Oh, most definitely. The pandemic was going on. [00:39:00] And I was spending my time alone Curie, which seemed so indulgent, self indulgent. She was the best company. And her life was And just watching how she had conducted herself in different situations, I just thought, I don't have anything to complain about whatever's going on today.

I might say today is election day here in the United States. So a lot of people are pretty anxious. We'll see what happens. But she lived through war. She lived through, when she was growing up, her country had actually disappeared from the map of Europe. It had just been absorbed by powerful neighbors and yet her family [00:40:00] felt fiercely Polish in their identity.

And that was a part of her intention, part of why she wanted to be educated, so that she could uplift her countrymen by being a teacher in Poland. She really didn't mean to stay in Paris, but she fell in love.

Parul - LWS: Now, across all of your books, the one thing that you seem to do so well is take really complex scientific ideas, complex for the layperson anyway, and make them accessible for readers. In a lot of the comments, I went through a lot of the reviews actually for your books, just curious about how other people described them, and there's a lot of words around just, making things colourful, bringing science to life, bringing figures to life, really giving historical figures their respect. They deserve, but also making that their concepts so easy to digest for us. How do you think about that? How do you approach breaking down a [00:41:00] complex idea for a reader?

davasobel: I often have a particular person in mind that I'm telling the story to, because deciding how much to explain how, trying to imagine how much knowledge the reader, brings to the topic. If you're thinking about the general public that's just too fuzzy. So I often have just someone in mind and that

Parul - LWS: was that for this book? If you don't mind me asking a friend

davasobel: honestly for this book, it was me because I w I was almost a stranger. Spent years writing about astronomy and now I'm going to write about. radioactivity. It's, I was not really prepared to take [00:42:00] this on. The amount of remedial reading I had to do, and then, to be able to explain it to where I was when I started.

That, that was the process here.

Parul - LWS: and you mentioned mentors earlier, or a re technical readers, how. Did you accumulate those readers? Was it just cold reaching out?

davasobel: Sometimes, yeah. Some, so I'd be reading things in journals and If I read something that I thought was really insightful or really interesting, I would write to that person and say, I've read your article, I'm working on this book, would you be willing to talk to me? And sometimes they say yes. I have found people are extremely generous that way.

If anyone is interested, sincerely [00:43:00] interested in what they do, Why wouldn't they want to talk? It's, it usually works out. Not everyone agrees, but it's not as difficult as you might think to get people to converse and, or agree to read some part of a manuscript.

Parul - LWS: It's reassuring to hear.

davasobel: I had a very funny experience with this book. I actually know a couple of chemistry Nobel laureates and, One of them, one of them declined to read the manuscript on, on the grounds that he really wasn't expert in this field. I just thought, for sure he knows a lot more about it than I do, but, okay.

Parul - LWS: That's hilarious. David, there's a writer in this room, Marion, I just wanted to read out what she said. She has the copy that you signed on the 5th of April, 1997, at the Old Royal Observatory. And yeah, she just [00:44:00] really loves the cover and, yeah, loves the book.

davasobel: Great, thank you. I

Parul - LWS: that comes around again. I'm curious about how you deal with feedback. So you're writing about a subject that you to study yourself to, to make it presentable for the reader. How have you dealt with feedback across all your books? your attitude

davasobel: mean,

Parul - LWS: praise and criticism?

davasobel: oh the good advice I've heard, and I'll pass it on, is don't get too excited about the good feedback or too upset about the bad feedback. Everything is just one person's opinion. But it's hard not to get really excited. This book got reviewed in Science and Nature and New Scientist. And they're all, just everything I could have hoped for in a review.

Do I feel good? Yeah. But that, I thought you meant reader [00:45:00] feedback.

Parul - LWS: Yes.

davasobel: Sometimes people write to me directly and and I answer the mail.

Parul - LWS: good feedback, good good advice. I'd love to now turn to your writing habits, just a bit more granular. What kind of, and maybe just for this book, or you can answer it for just more broadly across all your books, what kind of a writing schedule do you keep?

davasobel: I am a a natural early riser very early in the morning and that's my best time of day. So that's when I work. So a good work day for me would be to wake up around four and just go right to work for a couple of hours. And probably, if I'm writing, that's probably nothing that happens the rest of the day will really move beyond that.

But if I get those first [00:46:00] two hours in the morning, that's the best time. And then, there are always the other, there's more reading, more fussing over what's already been written. And I have that. luxury now. My children are grown and gone and I can set my own schedule. But I think the thing for any writer is to figure out what your best time of day is, and then try to cordon it off.

And don't waste it on email or any of the distractions that are always fighting for your time.

Parul - LWS: And it sounds like you, you also allocate time for both the writing and as you say, the fussing, editing of your work. So you make sure you write no matter what, and then you also edit

davasobel: No, if it, I might go to work determined to write something and could be one of those very [00:47:00] awful days when I'm just not getting it. And then the challenge is to not get too discouraged, not beat my head against the wall, but some days just totally step back, do the laundry.

Yeah, I'm, none of us is a machine. It, it doesn't always work. There's only so much you can push. I don't have a page limit or anything like that. I have certain things I'd like to accomplish. Like today, I'd really like to explain what her experiment was, how did she actually make the measurements, something like that.

Parul - LWS: Over the years, what has helped you write? Cause you went from being a journalist to an author. Are there any resources? you got, any [00:48:00] other authors you turn to?

davasobel: When you're a journalist, you're really under daily pressure, and you have a lot of input from editors, good and bad. And when you're writing books you might have a great relationship with your editor, but you might not. And it's a lot of time alone. Alone with the idea, alone with the subject matter.

And that's where really being interested in what you're writing about comes in, because that's what holds me to a project. It takes a long time to write a book, takes me a long time, and I'm old now, and so I'm even slower than I was. But it's I look back sometimes at things I wrote, articles I wrote when I was young, and I think, I, I couldn't write that in one day [00:49:00] now if my life depended on it.

Just

Parul - LWS: Do you feel like your writing style has evolved? Do you feel like you've improved over the years? Changed?

davasobel: I'd certainly like to think I have. I think so. I think I'm,

Parul - LWS: Is there anything that you would, is there anything you'd go back

davasobel: I think I'm less cute. I remember being a little chastised on the manuscript for Longitude, that there were a lot of things that were cute, overextended metaphors or, I don't remember now, but it the editing process sobered me and and was a good lesson.

Yeah, having a every, everybody needs editing. And I have benefited mightily from working with good editors. Not all editors are good editors, but working with a good editor is really a great thing.[00:50:00]

Parul - LWS: Now, The Economist said that The Glass Universe was a peerless intellectual biography. I love this description. The glass universe shines and twinkles as brightly as the stars themselves. Marie Curie is also a biography. What do you think makes a good biography?

davasobel: I would say that neither of those books is a biography. When I think of a biography, I think of a fully, maybe even exhaustively detailed treatment of a person. And that is not what I've done in either of these. A major problem with the Glass universe is that there is no main character. And unless you consider the Glass universe, plate collection itself as the main character, which is how I thought about it.

So for a long time starting that book, I was looking for one of the women to be the main character, to, to be [00:51:00] able to carry the story. And there just wasn't one. There had to be a minimum of five who were really most of the story. And that's, that can be very difficult for a reader. This time,

Parul - LWS: them? If they're not, if you don't call them a biography, what, how would you categorize them?

davasobel: The editor described Longitude as the biography of a scientific instrument. I really liked that, and I think that's what that book was. John Harrison was a big part of it, but it was the story of how that thing came to be and why it was needed. So with Madame Curie, the idea is to look at this icon of woman scientist and pull that idea apart a little bit.

She's the only one anyone can name, but she's not alone. So who are these other people [00:52:00] and what went on in the lab that might give some credit to these other women and maybe more role models to young women interested in science? It's not weird. It's not weird. Or unusual.

It's just harder for women to break in for a variety of reasons. But that was my so the and for the Glass Universe it was that moment, that project that, period in astronomy that could actually be captured in photographs and turned into understanding.

Parul - LWS: what do you think makes a good nonfiction book then? You can answer however feels right to you.

davasobel: I think a good story is a good story. . A good story with [00:53:00] a sense of the people and what they're up against.

Parul - LWS: Yeah, I love that. What about your editorial process? When you send your manuscript off to your editor and you get the notes back, can you tell us a little bit about how you incorporate those?

davasobel: Yeah.

Parul - LWS: learned? Have you learned to take in the comments a bit better? How do you incorporate those?

So

davasobel: On this project, now I've mentioned George Gibson's name several times, and I'd say he's a great editor. And one of the things he does is to make a comment or raise a question on every page. So there's a lot to absorb. And most of it is good, but on this project, a lot of times, I felt he didn't get it about the women.

For example I [00:54:00] mentioned that at the Cavendish Laboratory, that the directors at the time He was married to one of his former students, but she no longer worked in the lab. She just came in every day to make tea. And George wanted to know if we could just Take that out. And I said, Oh, no, because that's what happens to many of the women.

That's that is a crucial bit of information. So we had those kinds of back and forth discussions. But as soon as I explained it, he. He did get it. Another time, he asked me, Why are the Nobel Prizes awarded in the fields they're awarded in? Typical George question. But when I looked at it, the answer turned out to be really interesting.

And it was [00:55:00] worth putting it in. Sometimes, he asks me things where I have to say, Do you think if I knew that I would have left it out? Just,

Parul - LWS: you're comfortable pushing back, you feel like you actually, you

davasobel: yes. Yes.

Parul - LWS: How to go

davasobel: Yes, because I really feel that he is raising points to make the story clearer, to push me to write the book I said I was writing. He doesn't, he isn't being difficult, he isn't,

Parul - LWS: And what about before you actually send it to an editor? When you're self editing your first draft, so as you're working, going into your second draft, what are you looking for? How are you critiquing yourself?

davasobel: I'm reading it aloud and seeing if it holds my interest.

Parul - LWS: And at what point does the technical feedback come in? Is that right at the end, after it's been, [00:56:00] is it in the sort of copy edit phase?

davasobel: Going to outside experts.

Parul - LWS: Yes.

davasobel: Sometimes I might ask someone if I could just have a discussion early on because I don't understand something and I'm hoping for some help. But to actually ask people to read, that's way at the end.

Parul - LWS: And so if they erase something, there's still time to change it, so you will incorporate in this

davasobel: Dave.

Parul - LWS: around the copy editing, line editing stage, probably.

davasobel: A little before that,

Parul - LWS: Okay, so even before then.

davasobel: yeah, because the copy editing is really the, at the publisher, they're ready to, we'd to have the science fact checked before that.

Parul - LWS: just a bit of a time check for me, maybe a couple of questions left, and then we're going to turn it over to audience questions. So if you have any questions for [00:57:00] David, do put them in the chat. We have a question we ask all our guests when writing books. It's always interesting to know, were there any all is lost moments when writing this book.

Times when you thought, just don't think I have this story, or I just feel like it's worth giving up. And if so, how do you overcome those?

davasobel: I I certainly have awful days. Everybody does, but I don't think I felt that I would give up. I would, I certainly felt whatever made me think I could do this. I have a lot of those days. But Marie got to

Paris and she realized that all her preparation hadn't been enough to help her in her studies, she just worked harder.

Parul - LWS: She's

davasobel: Okay.

Parul - LWS: character, really,

davasobel: Absolutely.

Parul - LWS: Both her and her husband, actually, I really love the way they shunned fame. They were doing it for the love of subject. [00:58:00] And actually that sounds a little bit like you. You seem to love your subject.

davasobel: They really hated the attention they got because it was so intrusive. They weren't able to work anymore.

Parul - LWS: And there's actually, I love the story about that shed. I wonder, I have maybe one or two more questions for you. I wonder if you just tell us a little bit about that shed that they were working in before they won the prize, the Nobel Prize.

davasobel: They they were in an abandoned anatomy theater that belonged to the school where Pierre taught. And it was in no way equipped for cutting edge scientific research. But They just made do with it. And then when they won the Nobel Prize and someone visited the space it was completely unbelievable.

Someone described it as a cross between a stable and a root cellar.

Parul - LWS: And yeah, their passion just shone through. [00:59:00] Yeah. I absolutely love that about the book. I found reading, about Marie Curie's life really, yeah, stayed, has stayed me, her attitude, her perseverance. I really do love that. You're the editor of the Meta column, Meta poetry column in Scientific American,

davasobel: I am.

Parul - LWS: I love that combination.

I love that you're, integrating science and poetry. Can you just tell us how that came about? Silence.

davasobel: I got interested through my friend Diane Ackerman, who has written a lot of scientific poetry herself. And then about six or seven years ago, I learned that Scientific American, this 1840s, [01:00:00] had included poetry in the early issues.

So I, I wrote, to someone I knew on the staff to say, how about reinstating the poetry and letting me be the poetry editor? It was just An outlandish idea, but if you don't ask, nothing happens. They actually really liked the idea. And so the column is just finishing the fifth year now, and it has been approved for next year.

And this has been fascinating for me. My, my idea at first was to use existing poetry and maybe tie it to current events in science. But the editors upped the game a little and said, no we would like [01:01:00] this to be entirely new commissioned work.

So the first thing I did was to go to Diane Ackerman and say, would you write something for the inaugural column? And she did. And it's a wonderful poem about Maria Sibylla Marion, who was a scientific illustrator in the 17th century. And.

Parul - LWS: What's

davasobel: can use only one a month.

Parul - LWS: The criteria for submitting? Can anyone submit?

davasobel: Yes, anyone can submit, and I've had submissions from [01:02:00] high school students, from Nobel laureates, from Pulitzer Prize winning poets, high school teachers, all sorts of people.

Parul - LWS: That's beautiful. We'll definitely add a link for anyone who is interested, anyone listening, anyone here who might want to submit to Deva, we'll put that link in for you. That's brilliant. I think we're about at time, maybe just one last question before we turn it around to the audience questions.

At the Salon, when we're talking about the future, we often use the metaphor of a mountaintop, wherever we're heading to. And that obviously changes as our journey progresses. You've now authored five books. You've contributed to so many other, you've written so many other pieces. What's your mountaintop now for the next few years?

What are you heading towards?

davasobel: I think I'm heading down the mountain. Would like to continue the poetry column.

Parul - LWS: No one's ever said that before. That's a first.

davasobel: I'm 77, I would love to write another book. I don't have another idea at the moment. Maybe I'll get [01:03:00] one. But so maybe having more time to devote to the poetry column and thinking perhaps about an anthology. A

Parul - LWS: be about?

davasobel: poetry about science. Yeah.

Parul - LWS: that idea. That's such a beautiful, what a beautiful intersection of ideas. And is there anything you're working on actively right now? And you say, and whether it's

davasobel: I'm actively talking about the elements of Marie Curie because, if you're fortunate to, to have written a book that gets positive attention then you're asked to talk about it a lot. And that for a few months, that's a full time job.

Parul - LWS: Absolutely. Look forward to hearing what else comes out from your creative space. Whether that's the poetry collection, or yeah, whatever comes next, another science project. All right it's been wonderful chatting to you. Now it's time to open this up to any audience questions that there are.

I think there's some that have [01:04:00] come through. I invite you to turn your videos on so that David can see who you all are and who's been in the room with

davasobel: Hello. Hello.

Parul - LWS: Here are all our friends. Alright, so if your video is on, I will invite you to ask your question directly. And if it's off, I will ask it on your behalf. start with Silvano. You have a question if you'd like to ask it directly.

Silvano Stagni: I have read four of your books. And one of the things that struck me, and not just is that you find a story. Those could, they are saying, you talk about science or the science as it was then, but there is a story which could all add, you, you earlier you said that somebody said the longitude is the biography of an instrument. It reads like that. Planets read like a story. Even Galileo's daughter, there is a story in the [01:05:00] Devoja. How do you pick it?

davasobel: I think I see the story in the first place. I think the story is intrinsic to the material. And then it's a question of storytelling. And the fact that these things actually happened is a great boost and an aid to, to work. I, I'm not a novelist. I don't have to make up a plot. I, and I actually think, what I think about is what can I leave out?

Because during the research you gather a tremendous amount of material. And if you try to include everything, it gets bogged down. So [01:06:00] I've I'm aware of that, that there's a certain energy to get from the beginning to the end. And if it starts to Droop. Then that has to be tightened up and the pace has to pick up and move to the next thing.

Does that make sense?

Silvano Stagni: May I just say one thing? You said you're not a novelist. Your books write, read as if they were written by a novelist.

davasobel: Ah, thank you. Thank you very much. Sometimes, Longitude was often described as a novel, and at first I got defensive, no, it's a, and then I thought, I'll just take it as a compliment. Yeah,

Parul - LWS: Thanks so much for the question, Savannah. Thank you, David. All right, Sam, you're up next. If you'd like to ask your question,

Sam Chittenden: Thank you. So I

Parul - LWS: Sam, your internet's cutting out. I might just

Sam Chittenden: it is time.

Parul - LWS: I'm sorry, internet's cutting out,

Sam Chittenden: Okay.

Parul - LWS: Sam asks, how do you [01:07:00] avoid exposition or lecturing when incorporating science into a narrative?

davasobel: Trying to, a conversation a feeling of conversation

a, a consideration. I, as I said, it's very useful if I have a person in mind. For Longitude, it was definitely my mother. And so I knew the kinds of things she knew and what she would be interested in. And that. really helped. This time, I, as I said, it was more talking to myself, working through this very complicated material.

And

Rewriting, is the answer. Because the first time through, it often does sound like a lecture, or there's too much detail. And I just keep at it till I can read it out loud and feel satisfied that it's working.

Parul - LWS: Thank

davasobel: And some friends have told me that [01:08:00] they actually skip over the science parts. Can you believe that? And they say they just want the, they just want to follow the story. Okay, readers can do whatever they want with a book but I like to feel I, I've put it there. I'm also very, just a craft thing that I don't get to talk about too often, but I, you may find this amusing.

Words that call attention to themselves. I like a book that sends me to the dictionary. So I don't hesitate to use a difficult word, but I don't want to use a difficult word too much. So I keep track. I keep a running document. And for this book, I had two of them. So one was French words or words, French words that are in the English language.

Some so much so that sometimes you see [01:09:00] them without italics. And and a list of words that call attention to themselves and that list is in alphabetical order. And next to the word, I have a chapter number. And that document, by the end of this book, got to be about 60 pages. single spaced, just of words that I wanted to keep track of.

So that's the kind of obsessive

act that I amuse myself doing. And I think there's value to it.

Parul - LWS: I'm curious. What, so why do you keep a track of it? Is it that you want to make sure that you're

davasobel: I don't want to say the same thing the same way. I don't want to overuse certain words.[01:10:00]

Parul - LWS: That's fascinating. I've never heard of a writer doing that. So thank you for sharing that. And thank you for the question, Sam. Next up, Neha, you've got a question if you'd like to ask it. Silence.

Neha Dave: to, to take that interest. How have you evolved your writing involved as generations and technology and innovation has changed as well.

davasobel: I don't think I have evolved. I think those, you're absolutely right. Those things are changing and I fear being replaced by a chatbot. But I hope it doesn't happen. I avail myself of some technology. Obviously, I have a laptop. I write on a computer. I've been doing that for as long as I can [01:11:00] remember.

But some poets tell me that they cannot write poetry on a computer. They have to write poetry longhand. I think process is what we're used to. I really. I have no interest in coming to terms with AI I, I will probably be phased out at some point, but adapted. I learned new things.

I learned how to use the computer. That was strange to me at first. Yeah, I don't know if I have a better answer than that. I'm sorry.

Neha Dave: Can I just clarify what I was trying to ask was how people see science and how people

Yeah.

davasobel: This is a terrifying thought now because there seem to be maybe half the people in the United States who feel that facts don't matter. Science is just a theory anyway. So you don't really have to believe it and yet they are completely dependent on all this technology. I don't know [01:12:00] what they, where they think that came from, but it's very disturbing.

The low level of science literacy, and I'm very troubled by that. And don't know what to do about it other than to encourage all those smart young people to keep going.

Parul - LWS: Thanks for the question there. All right. Let's see. We have one final question from I'll ask on Sophia's behalf. Do you have any advice for anyone who's considering a career as a science writer? In my case, I'm coming from academia.

davasobel: How to break in today, I'm afraid I don't know. The answer is to just write, get, get published have things that you can show to editors, publishers. And it's different if you want to write [01:13:00] for magazines or write a book, that those would be different ways.

Because you don't need an agent, I don't think, to write for periodicals. But where are the periodicals? Are they, how are they faring in the digital age? I think a lot of newspapers and magazines are very precarious.

Parul - LWS: Deva.

davasobel: precarious, yes, the election.

Parul - LWS: Yeah, of course. what I might be watching after this interview. I think that brings us to the end of this interview. Thank you so much, Deva. It's been a pleasure to just hear about how you write, what's important to you. Your passion for science and women and scientists has just been really inspiring. Absolutely

davasobel: Thank you. Thank you. I've enjoyed talking to you too, and I wish you all well. It [01:14:00] seems like a really productive, engaged community. I admire you. Thanks very much.

Parul - LWS: Deva, a London Writers Salon round of applause. Please unmute yourselves and let's give Deva a big thank you. so much.

Nancy Reynolds: Thank you.

Marian Edmunds: Thank you.

Karin K: you.

Parul - LWS: Now we actually have three copies of Dava's book to give away, The Elements of Marie Curie is out now. If you'd like to win a copy US and UK is fine. Just raise your digital or physical hand. If you're offline, you'll have to just raise your digital hand. Give me a second to see who's got their hand raised and we will choose, I will choose three of you. All right, let's see. Anyone else? There we go. Okay. So Ellen, Surekha, And three of you have won a copy of David's book. Just email me at helloatlondonwriterssellon.com with your physical mailing address, and we'll get a copy out [01:15:00] to you. David, how else can we support you? This has been so much fun. How can we, where would you suggest we go? If we want to read more about you other than, and also, of course, we'll buy your book

davasobel: That's really it. Thank you. Yeah. Send me a note. Say hi. Tell me if you enjoyed the book. I hope you do. Yeah.

Parul - LWS: or we'll share links to your website. We'll share links to how writers here might want to submit poetry to you, how they can do that, and just all your work as well.

davasobel: Okay.

Parul - LWS: you. Thank you so much, David. It's been such a pleasure, and thank you everyone here. It's been wonderful to have you in the room.

Thanks for your question. Thanks for your attention. Till we meet again. Thank you so much, friends. And thank you, David. It's been such a pleasure. All right. Bye, friends.