EPISODE 7: COMMUNICATING SCIENCE, NOT FICTION

[00:00:01] Natalia Pasternak is best known in her home country, Brazil…

[00:00:08] Here in Geneva, we are surrounded by some of the world's leading scientists, Nobel Prize winners…

[00:00:15] I had to sacrifice my life and let those children go with their father to the refugee camp, then made sure that I moved these students to come to Juba.

Garry Aslanyan [00:00:40] Hello and welcome to the Global Health Matters podcast. I'm your host, Garry Aslanyan. Today you'll be hearing from three renowned communicators of science who work to inform, educate and inspire the public about health issues. They also work hard to debunk dangerous science myths. First, we will hear from microbiologist Natalia Pasternak, who has become one of the leading communicators of science in Brazil and internationally. Natalia will be followed by Imogen Folks, who reflects upon her experiences reporting during the COVID-19 pandemic as a journalist with the BBC based in Geneva. And we will end with filmmaker Sonia Lohman, who highlights the value of going beyond the facts and uncovering the truth that can be found in a single human story.

[00:01:39] Speaking Portuguese.

[00:01:44] Welcome to HARDtalk on the BBC World Service with me, Stephen Sackur. Natalia Pasternak is best known in her home country, Brazil...

[00:01:53] Speaking Portuguese.

Garry Aslanyan [00:01:59] As you just heard, Natalia Pasternak is no stranger to the media. Given her background as a scientist, her experience and passion have made her a trusted voice featured in numerous television broadcasts, newspapers and magazines in Brazil and overseas. Natalia also established the Instituto Questão de Ciência in 2018 to promote critical thinking and public policies based on scientific evidence. Welcome to the podcast, Natalia. Thank you for joining me from Sao Paolo today. Natalia, you have a very lucrative career as a scientist, and your journey from lab bench to TV studio started in a very personal way. Maybe you could share this story with our audience.

Natalia Pasternak [00:02:48] Sure. It was really unexpected. I was really a bench scientist. So I did my Ph.D. and my postdoc studies in studying bacterial genetics in a laboratory. I used to work at the bench, studying bacteria, studying genetics. That was my work. And when I took some time away from the lab when my daughter was born, I really saw myself in a whole different situation. All of a sudden I was taken into this whole other bubble that was the bubble of motherhood, and I was talking to a whole lot of other parents and especially mothers, and we had these discussion groups on WhatsApp. And of course, we discussed things about babies and school and education and suddenly I realized that everything I knew about science was not obvious to everyone. And the things that were being discussed in these mothers groups were so anti-scientific, it was so full of pseudoscience and very strange beliefs, and I was very quiet at the group because I really wanted them to like me. I became

very quiet. But all of a sudden they started to question vaccinations. And I then realized that I had to speak up. I was a scientist, and this was a very, very serious issue. These women were considering not vaccinating their children because they were afraid. They really believed the anti-vaccine movement that said that vaccines cause autism or any kind of collateral problems in babies and children, and they were afraid of vaccinating their children. So I had to speak up. And I did. And I got excited and I said, Wow, this works. They are talking to me. They are interacting, and they believe me when I say that vaccines are safe and effective and there's nothing to be afraid of. So I said, wow, this thing of communicating science really works. So I got extra excited and then I started to talk about alternative medicine and homeopathy and acupuncture and how nothing of that sort works and they blocked me. So then I realized it wasn't that easy after all. Talking about science to non-specialists, to laypeople, is not that easy. And then I realized that if I was going to do science communication, I had to learn how to do it. It's not something that you just decide, okay, I'm going to have a blog right now. It's something that you need practice, you need training, otherwise you're just going to hit a wall like I did.

Garry Aslanyan [00:05:41] So through that humbling experience, through that WhatsApp group, you ended up successfully establishing this NGO, which is Instituto Questão de Ciência in Brazil, which means and an institute of a question of science and you got some support and training. So what kind of support did you get, or what kind of training?

Natalia Pasternak [00:06:07] I got support from international organizations that already worked with science, communication and advocacy, and they had a lot of experience doing that. So I had a lot of help from the Center for Inquiry in the United States and the Good Thinking Society in the United Kingdom, and they really helped me format the way I wanted my institute to be in Brazil. And the way that we decided to do it was to have an NGO really focused on the promotion of scientific based public policies. This is what we wanted from the start. We wanted to have two major roles; one to talk directly to the public, to the lay public about science, about scientific methods, how science works and make science available to the public in a way that they could understand it, in a way that it would be easy to reach. And for this, we launched a magazine together with the institute. The magazine is also called A Question of Science, and it's online, it's free and we write for the lay people. So we write in a very simple language that anyone without any scientific background can follow. And on the other hand, we work a lot with science advocacy, so we reach out to parliament members and government members to help them formulate public policies that are science based. So we make ourselves available if they want, for instance, they want to formulate a public policy, a law or a regulation about the use of embryonic stem cells in research, but they don't know where to start. So we can help them get started. We can help them understand what science says about that particular issue. And so we've been trying to work with these two fronts: one with the public and one with government and parliament members.

Garry Aslanyan [00:08:08] On your website, you already have a statement that was quite interesting. It says "Science is much more than a body of knowledge or a community of men and women in lab coats. It is a special way of thinking and looking at the world and attitudes at the same time, critical and constructive in the face of the claims of others and own beliefs." How do you promote this notion and why do you think it's so important?

Natalia Pasternak [00:08:42] We think it's important to promote what we call a scientific attitude. I think this is much more important than really understanding all concepts about science. But if you understand how science works and you develop a scientific attitude towards the world, you are going to be a skeptic. And that's our major goal. A healthy skepticism. A skeptic is not the one who denies reality or denies everything, that would be a denialist. A skeptic is the one who questions and says, OK, you claim that this is true. I want to see the evidence and I want to understand the evidence behind it. So this is what we go for. We want people to be educated to think scientifically and to adopt a skeptic attitude, saying, OK, show me the evidence, and then maybe I'll believe you. My job is to make you question, even me. I am not to be trusted. Science is to be trusted. Evidence is to be trusted. Not people.

Garry Aslanyan [00:09:48] Natalia you're very passionate about scientists having this societal responsibility and for science communication to be really part of the scientist's career or researcher's career or be a career on its own. But how do you think this can be done? We have many listeners from all around the world, and they would really benefit from your views on this and how we can approach that.

Natalia Pasternak [00:10:20] Well, especially here in Brazil, Garry, science communication is actually very frowned upon from inside the academia. People think that you're wasting your time, that science communication is just a hobby. Let the young people do it. It's not a real profession and you should be really working with science and work in the laboratory, that's what counts. Producing papers and talking to your peers. And I think the pandemic hits us in the face with that when we realize that without science communication, there can be no science. Science is not going to be valued without good science communication. And if we inside the academia, if we don't value science communication as a career on its own, as a profession, just as good as any other, we won't have it done professionally. So in Brazil, what happens is that people who embrace science communication, they usually do it as a hobby. I think science communication in Brazil is still very young and needs to be institutionalized. It must be taken into the universities and the research institutes as a career, as a career on its own so that it can be done professionally. And people who want to do it, who want to go to science communication can get proper training to do that. Because as I said, in my experience with the WhatsApp mum group, it's not obvious, it's not intuitive, you have to learn how to do it. There are lots of techniques on how to speak to the public and this has to be learned, just like any other profession.

Garry Aslanyan [00:12:00] So I guess, especially in the time of the pandemic, many scientists were increasingly asked to have a voice. People were asking them to speak to different media, etc., and I've seen you being front and centre on a lot of the networks in Brazil, Global or Cultura and other mainly watched by almost most of the population. You mentioned briefly that you need to learn some of these tricks and how to communicate. How do you think scientists can be better equipped with these skills, even if they have not really gone through formal training? What kind of strategies could they use if they are really asked to speak or to have a view in front of the public?

Natalia Pasternak [00:12:55] I think the most important thing is that even if they are not going to pursue science communication careers, every scientist must have at least a minor training on how to speak to the different publics. How to speak to the lay public, how to speak to journalists, how to speak to politicians, to talk to all kinds of all stakeholders, to industry. Because they are going to have to do it in some way or another during their scientific career. They are going to have to speak to journalists or to politicians in one way or another, so they have to learn at least basic skills on how to do it. I used to teach a course here at the University of Sao Paulo for biomedical grad students, but what I wanted to give them, so they spent one semester with me learning basic skills of communication so that they will be able to talk to journalists and lay public and politicians in their scientific careers. They are still going to be scientists, but they have to learn how to speak to different publics. And there are lots of easy ways to do it. So mainly learning how to make people understand some basic concepts of science. For instance, that correlation is different from causation and that animal models don't really translate into human models when we're talking about medications. So they are very basic stuff that for scientists are obvious, but for the lay public they are not. They have to be explained. And there is a very easy way to explain that. I mean, we shouldn't view the public as incapable of understanding science because that's just not true. Everyone is perfectly capable of understanding scientific principles and concepts, even if they don't understand all the technology involved. And this is what we want to teach our scientists how to do. Social media can never have the same. It can never be as trustworthy as a peer review process, a vehicle with an editorial board, it just can't because it's no man's land. Anyone can write anything on social media. It's a tool. And I'm not saying it's a bad tool as any tool is neutral. It can be used for the good or for the bad. It depends on how you use it. So we have to learn to make good use of social media. I tend to never use social media to produce a text or to really produce content. I like my content to be either peer reviewed, but of course, I don't write that many scientific articles because I produce content for communication for the general media. But I like my content to be reviewed by at least an editorial board. So I write for general newspapers and magazines and vehicles that have accountability in the society. They are responsible for what they publish.

Garry Aslanyan [00:16:17] For listeners in other countries or our audience who might be interested in replicating or starting a similar institute in their countries, do you have any advice you could share with them?

Natalia Pasternak [00:16:32] Sure. Ask for help. Don't start from scratch. You don't have to reinvent the wheel. There are many organizations in the world who will be willing to help you just as they helped me. I would be willing to help anyone who wants to start a similar organization now that I have more experience. And be part of this international skeptic and science communication community. I think this Congress that we put together with the Aspen Institute in New York was a great starter because we brought together people from different countries and different origins and different backgrounds. Reach out to this community. We exist, and it's not that difficult to find us. I guarantee there's a lot of people willing to help.

Garry Aslanyan [00:17:20] Obrigado, Natalia, for this great conversation and your insights into this important topic.

Natalia Pasternak [00:17:27] You're most welcome and I hope I helped with this topic and will hope to see it growing in the world.

Garry Aslanyan [00:17:34] Thank you.

Imogen Foulkes [00:17:40] Hello, and welcome to this very special extra edition of our podcast Inside Geneva. Now...

Garry Aslanyan [00:17:48] That's the voice of my next guest, Imogen Folks. She's been the BBC correspondent in Geneva since 2004. She has reported on a variety of humanitarian crises and post-conflict situations in places like Bosnia, Kosovo and Haiti. Imogen tackles pressing topics, including health, in her podcast called Inside Geneva. Imogen, welcome to the show from here in Geneva. I'd like to start by asking whether there was anything in your early childhood or in your early years that really informed and shaped your career.

Imogen Foulkes [00:18:26] My dad said my first question was Why? My first word was why. I think I was just always curious. I always watched the news from very young. And I mean, I come from parents who were teachers and was maybe half expected to do that as well. So I surprised them by saying, no, no, no, it's going to be the media. But my family was also very curious about current affairs, so I guess that's probably it.

Garry Aslanyan [00:19:00] When you do your reporting, how do you get scientific evidence and how do you ensure that the evidence is balanced and it comes from different perspectives or different countries? How do you go about that, Imogen?

Imogen Foulkes [00:19:20] I think. There's two questions there, aren't there. There's evidence, hard facts, statistics, which we're always looking reporting from the United Nations, you have one report after another which says X number of people, X number of cases. You do have to dig a bit deeper to find out their methodology. How they got their data. How old is it? You'd be shocked sometimes, maybe some of the data that gets pushed out to us is, you know, it's already two or three years old. To be fair, some of this data is difficult to gather. But there are also then opinions. Also on questions of science, we see that all the time with the COVID-19 pandemic, that there are the number of cases, we're fairly sure what they are probably higher than is actually recorded, but still, we've got a reasonable picture. How we interpret that data, that's a different thing. And different people will interpret it in different ways, depending on what their job is. There are epidemiologists and then there are government leaders.

Garry Aslanyan [00:20:31] Right. Imogen, what's been your experience in communicating science during the COVID-19 pandemic? There were times when it felt like an infodemic is as great of a threat as the pandemic.

Imogen Foulkes [00:20:45] I think it is really challenging. And, I mean, when I started in Geneva all those years ago was at the tail end of SARS and we had swine flu and we had Ebola and then we had COVID-19. And I think, I guess I had some experience on reporting public health emergencies. But with COVID-19, what was fascinating but concerning to compare it

with SARS was that because the whole social media available of all sorts of information, false and correct, had exploded between 2004 and 2020. Everybody wanted answers immediately. And I'm sitting here in Geneva reporting to the world on what the World Health Organization is saying, and the answer was actually, we don't know yet. And to try and explain in a responsible way that actually science takes time. And people want immediate answers. It's quite hard as a journalist. You want to be able to give them answers, you want to be able to give them the information. But I think you are confronted with the enormous public responsibility you have as a journalist reporting on a global health risk issue like that.

Garry Aslanyan [00:22:10] From your experience, what are some of the frustrations or challenges in dealing with scientists when you are trying to report to the public?

Imogen Foulkes [00:22:20] I have to say, sometimes with this pandemic it has been a little bit frustrating to hear again and again, look at the case numbers, look at this, look at that, oh my goodness, this is really terrible when you know the entire planet is locked down and millions of people were losing their livelihoods and millions of children were not going to school, and I sometimes felt, not just as a journalist, but as a kind of ordinary citizen, that the epidemiologists, in their way of communicating, made people feel a little bit as if they were dots on a graph rather than people. And I can't tell you the dozens of times I've heard epidemiologists praise New Zealand to the skies. That was brilliant. They just locked down completely. Now, if you ask my cousin who hasn't been able to leave the country for well over a year and a half and see his family back in the UK, he's not entirely enamored of that policy. And there was also, it seemed to me, little understanding that why would you to, say Europeans, praise New Zealand, when if you thought about it at all, you would know perfectly well, that policy is not going to be possible. And I think this was a real split between. I'm not talking about governments which kind of tried to ignore the pandemic, we know who they are. The United States for a while. Brazil, and maybe some even argue the United Kingdom, but perfectly well-meaning governments who try to do their best. And you know, you need to do more, you need to do more. I think actually there needs to be a real analysis from among the scientific community of how they approached it too.

Garry Aslanyan [00:24:41] If we were to put aside this particular situation with COVID for the last year and a half and look at other health issues and communication of those health issues, do you have any advice on that? A lot of our listeners are in low- and middle-income countries, they work in their particular area of research, and they want to better communicate what their work is about and how are they are improving the health of the people in their country? What would be your advice to them?

Imogen Foulkes [00:25:24] Well, maybe target journalists who work on public health issues, get their emails. In the first paragraph say, "I've got this great story for you, this is what it is", in the first paragraph. Hopefully we're moving to post-pandemic and let's not talk about COVID, and I agree with you, but it's so hard, it's what everybody talks about. But what I would say is maybe emerging from this, I think the entire planet's attention has been really focused on public health, global health and the WHO has done a brilliant job of explaining the inequities of public health. So I think there are more listening ears out there now for some of these issues. I mean, we've had a joint report from the World Food Programme, UNICEF and

the World Health Organization about global hunger, and the amount of children on the planet who are malnourished. These are things which absolutely deserve media attention. The work being done to counter that should get more attention.

Garry Aslanyan [00:26:38] One more last piece of advice that you would give to scientists to gain that public trust or effectively do the communication of science to the society. Any two or three last pieces of advice?

Imogen Foulkes [00:26:58] To scientists, go home, phone your friends and your family and ask them what they want to know before telling them what you think they should know.

[00:27:25] All of what we had were left behind, only secured lives of people. I had two decisions. I had a family, which is my biological family, and I had a family which was the students. But I had to sacrifice my life and let those children go with their father to the refugee camp, then made sure that I moved the students to come to Juba.

Garry Aslanyan [00:28:02] That was an excerpt from a film by my next guest, Sonia Lowman. Sonia is a senior communications specialist for International Medical Corps. She's also a writer and documentary filmmaker of features such as Black Boys and Teach Us All. Her most recent short film, War and Grace, is about midwives in conflict-ridden South Sudan. This film won the Grand Prix in the nurse and midwife category at the World Health Organization's Health for All Film Festival in 2020. In 2021, Sonia served as a member of the film festival's jury panel. Sonia, thank you for joining me from Los Angeles today. You've had a very diverse career, from studying international relations to transitioning into humanitarian work and now becoming a recognized filmmaker. Could you maybe share with us where your story started?

Sonia Lowman [00:29:06] Yeah, probably the biggest one would relate to the decision to become a filmmaker and, growing up in L.A. and actually having a father that was a writer for a newspaper, but he covered movies. So movies were a big part of my upbringing in Hollywood, going to movie premieres and things like that, and I was actually very turned off by this industry, so I wanted to get as far away from L.A. as possible and as far away from movies as possible. And I wanted to go change the world and help the world and do all this really important work. But what was interesting is the more I traveled around the world, the more I've met, the more I started to realize the power of storytelling in the film industry and how far Hollywood has reached around the world. And so it was just very eye-opening to me to see that I could go somewhere where there was no running water or electricity, and somehow they knew the TV show Friends and could quote these episodes and we can find that common ground and this universal language. So the more and more I began to recognize, like just how far reaching it is, how powerful it is, the more I found myself kind of questioning how I wanted to effect change. And I was living in DC and I was working for a small NGO, and the work is very important but I was writing papers that I was like, probably five people are going to read this paper. It was so highly specialized and it was a niche kind of thing, and I started really asking myself, how do I reach more people and realizing that actually, wait, I can probably reach more people if I became a filmmaker in a way. And so that was really when I said, I want to try to create stories that can help represent not only the issues I care about, but also help create like a vision for where we're going and who we could be.

Garry Aslanyan [00:31:29] So you've become a filmmaker on your own and you've produced some films, and when you choose topics for the films, for example, War and Grace, which won the Grand Prix at last year's WHO film Festival for Health for All. How do you choose these stories?

Sonia Lowman [00:31:56] I'm working for International Medical Corps, but I really have always had this kind of question. How do we communicate what we're doing in a way that connects more with people emotionally? And so for War and Grace, we're dealing with an issue, we're dealing with a country, South Sudan, that you could name 50 devastating statistics right now, like off the top of your head about this war torn country that's been through decades of civil war and just massive displacement and hunger and gender based violence and disease and you name it, and it's just incomprehensible. And then the reproductive health issue there for women, the maternal health it has, along with Afghanistan, the highest maternal mortality in the world. And again, how do you feel that, how do you connect with that, without feeling taught like you're going to just shut down emotionally because it's so much? So I wanted to create something that was character-driven, where it felt more like you were watching a film. It felt more like you could really connect with this person. And in order to talk about these larger issues, and that's how we really zeroed in on Grace, the protagonist of the film, who is in and of herself, just this incredibly, I mean you couldn't even write a more heroic character. This woman devotes every second of her life to her cause and has made many personal sacrifices and is running this midwifery school in South Sudan. And they're literally this tiny beacon of hope. And these midwives are from all over the country trying against these massive, massive challenges. But here are these people that are trying. And so with this kind of approach to the idea, I pitched it to my organization and said I really want to do it in a very character-driven way. And so that's how we chose that. It was very unique. Never done something like that, obviously, like more of a twenty two minute longer form film that felt like something more character-driven. I never went to film school. I never took a film class, but it was an experiment and it seemed to work pretty well.

Garry Aslanyan [00:34:32] So going back to this festival, the Health for All that WHO puts together, this year, 2021, you were on the jury and you were a part of the group that assessed the films. Could you share with us how you felt and which of them really had the most impact on you?

Sonia Lowman [00:34:55] Yeah, it was it was really incredible to be a juror, actually, because I got to see such a diverse collection of films and learn about new topics myself through this way. I think the thing that was sort of the strongest takeaway for me was, again, kind of just how compelling film is because there also were a number of films that were on issues I already knew a lot about, and from an academic standpoint, but to see it presented in a film very emotionally or maybe with the characters and then like that had just such a profound effect, I think. And one example was a short film on female genital mutilation, which is a topic that I know about and have studied about, I've read about, and have had obviously emotions about. But it's again an issue that you're like, I can't even fathom this or what to do about it. It's so horrifying. And so there was a short film, probably two minutes, about female genital mutilation, but it was done with a character, with a young girl, and just one person and her experience with this and her mother, and it was done in a very dramatic way. And I remember

just sitting there being very sort of stunned because here's an issue that I've known about for a couple of, however many years over a decade, if not more, this was a film with characters. And this two minute film had more of an impact on me than all the reports and articles that I've read and the statistics that I've seen. So it stays with you so much longer than I think a lot of things that you can read are. So it was really wonderful to be part of this and to see all this talent from around the world. These different ways of talking about issues that are both things we've known about, and then things we don't know about.

Garry Aslanyan [00:37:05] Many of the films in the festival this year were really touching upon people who are really suffering from COVID or COVID-related issues. And obviously, it's clear in 2021 that that's a huge issue when it comes to health in many countries. Do you think a film as a medium has value beyond communication and also helps in kind of healing and hope for those who produce and contribute to the film, but also to the audience?

Sonia Lowman [00:37:45] Yeah, I mean, I actually often think about filmmaking as healing work. I do think it's incredibly healing, especially the right film, and especially if it's inspiring and it reminds us of our shared humanity and it reminds us that we're not alone. And I think we all might turn to film for comfort a lot of times. You know, we look at it for entertainment, but sometimes it's because we want emotional catharsis to cry or to be inspired and to see somebody's story that makes us want to be better and things like that. So I think, a lot of the beautiful messages that came out of COVID-19 were related to our togetherness and our shared humanity. And it's very hopeful and inspiring to see that, especially at a time when we were very isolated and alone and scared. And I think that should be the main purpose of film, reminding us of our shared humanity and I think that is very, very healing. And I think it can give us, like I sort of said earlier, a vision of what is possible and what could be not only documenting kind of the world as it is, but really showing us the way forward.

Garry Aslanyan [00:39:11] In today's show, we crossed the globe, and we hope that wherever you may be listening from the experiences and insights shared by Natalia, Imogene and Sonia will have given you a new way of approaching communication of research and science in your context. Now more than ever, there is a need for truthful, easily digestible and hopeful content as we navigate a post-pandemic reality and continue tackling many other public health challenges. On behalf of the Global Health Matters podcast, we want to thank you for listening to this episode. As always, we would like to hear from you, our listeners. Engage with us either on social media or send us an email. To remind you, more information on our guests, their work and today's show notes are available on the podcast web page.

Elisabetta Dessi [00:40:13] Global Health Matters is produced by TDR, the Special Programme for Research and Training in Tropical Diseases. Garry Aslanyan, Lindi van Niekerk and Maki Kitamura are the content producers and Obadiah George is the technical producer. This podcast was also made possible with the support of Chris Coze, Elisabetta Dessi and Izabela Suder-Dayao. The goal of Global Health Matters is to provide a forum for sharing perspectives on key issues affecting global health research. Send us your comments and suggestions to tdrpod@who.int and be sure to download and subscribe wherever you get your podcasts. Thank you for listening.