DD: Can you describe yourself in three words?

AS: I'd say angry and I think anger is actually a really important driving force in a world which needs change. I'd say I'm inquisitive. I'm not willing to take things for granted at face value and want to question them. I'd say I'm optimistic, which I think is a quality of anybody who has political ideals.

DD: Hi, everyone, welcome to the Global Health Lives podcast. I'm Delan Devakumar and today I'm with Dr Arianne Shahvisi, a senior lecturer in ethics in Brighton and Sussex Medical School. Ariane is an astrophysicist and philosopher and now working in global health. Arianne, thank you for joining me today on the podcast.

AS: Thanks for having me.

DD: So what I found really fascinating about your career is just the range of things you worked on doing an undergraduate - a Master's degree in astrophysics, then another Masters and a PhD in the philosophy of physics. Now you apply your critical mind to range of global health issues, like migration, abortion, female genital cutting, genomics. I'd like to think that I have range, but frankly, I'm super specialised compared to you. But what I'm interested in is how you made those transitions and what it is you can bring to global health topics from the philosophy and physics backgrounds that you've worked on.

AS: Yes, I mean, I would say it's the same force that's led me through each of those disciplines, actually. So I got into physics because I was always extremely interested in how the world works and wanted to get to the bottom of things. Physics seems to me still to be the bottom of things, as it were, right. That gets right to the heart of the matter. So I was very curious about the world around me and physics seemed like the right way to answer those questions. Once I was in the world of physics, it seemed to me that philosophy was maybe a better way to answer even the same questions, which led me towards philosophy of physics. So asking very fundamental questions but using more conceptual tools rather than necessarily just mathematical ones.

Then once I'd picked up a whole new toolkit, it then seemed to me that there were so many other things in the world that I needed to get to the bottom of. That I now had the ability to

be able to do so. That led me in a meandering path through all sorts of concepts and ideas. So I got into thinking about gender and race through a philosophical lens.

Then I started thinking also about health, which I think is just so fundamental to our experience as human beings and the way that it feels to be a human being, it is so linked to health. There are so many questions that are unanswered, patterns that are under analysed. So one of the things that I come back to again and again with my students is looking at maps of life expectancy. The map looks exactly how you would expect it to look. The pattern is the same and it's been the same for many decades. That strikes me as not being so dissimilar to an observation we might make in physics. You know, patterns of global health inequality are exactly like that.

DD: So going back a step, in an article I recently read about you, you describe yourself as a Kurdish-British writer. You were born to a Kurdish Iranian father and British mother, both of whom are teachers. You have three sisters all similar age to yourself. What was it like growing up in this family in the north west of England?

RES: Yes, so I grew up in a house with my parents as two teachers and with my three sisters around. It was a house full of books. It was a house full of art. It was a place where there were political discussions going on all the time. My father is from the Middle East. He's somebody who has a very acute awareness of global politics. So those sorts of conversations were always going on. My mother is very, very literary and reads a lot and so was constantly passing on books to all of us. So, it was just a very dynamic household. There was lots going on. And it was a great place to be learning in a relatively unstructured way. It was always a bit wild and noisy. I think in that environment, me and my sisters all really, really prospered. But there was also an awareness always of mixedness. Obviously, growing up in a dual heritage household and living in Accrington, which was a very divided place and a place where racism was very overt. That was extremely formative for me, in terms of how I thought about myself. I couldn't avoid thinking about race from quite an early age. I can recall being in the playground when I was perhaps about six or seven and just arriving into the playground and it being split. The white children standing on one side and the children of colour, who were mostly Pakistani children standing on the other side. One of the girls who was stood on the side of the Pakistani children grabbing my hand and pulling me over and saying, you're with us. Because, of course, my father is a person of colour and feeling as though I was categorised by the world in a particular way. That those categories mattered in some way, that at that age felt quite scary. I mean,

still feels quite scary. But I was confronted with that, whether I wanted to be or not. It was something I had to think about and my sisters had to think about when we were growing up.

DD: I remember as a child, so I grew up in southeast of England. Yes, there were different groups, but we were young children, so everyone played with each other. Then we moved to North Wales and almost an entirely white society. There weren't any groups, it was English and Welsh predominantly. I was the only person who's different. I found that was very different, because I wasn't seen as part of a group. So, from there, you move to South End to Essex, a predominantly white working class neighbourhood. So can you tell us how you then developed your interest in science and physics in particular, at this early age. Some of the challenges you faced being quite academically minded in non-academic school?

AS: Yes. So Southend was a very, remains a very white place and that came with its own challenges. In that, I was suddenly confronted with different forms of racism. The time that we arrived there, I suppose, coincided with the arrival or the resettlement of many Kosovan refugees at that time. So racist utterances at school were very common. So that followed us to some extent, that we were still exposed to that.

I was very interested in science, as you say. My interest in physics began when I was about eight years old or something like that, when my father talked to me about gravity and explain to me how gravity work a little bit. I suppose it was just this realisation that there was there was this thing happening all around us all the time. The force of gravity. That there was this whole back story to it. People were studying it and there were things we didn't know about it. I became very, very interested in physics specifically. The school that I went to was a state school, a comprehensive school, and it was in the middle of a very poor area. Many of the children who I studied alongside came from families, where there were all sorts of social issues that they were dealing with. So academic achievement was not a priority in many cases. There were more immediate needs that needed to be met. The teachers were aware of that. The school was not really set up to be focussing on academic achievement, but a lot of it was instead behaviour management, for example. So for me, that was quite a strange environment in which to be learning.

From a very early age, I realised that if I was going to meet my own goals. If I was going to enjoy learning, I was going to be doing it on my own. I got through school and got the grades that I needed. My goal at that age was to go and study physics at the best place to study

physics, which was Cambridge University. So that was what I was working towards. I was able to achieve that, though obviously it was a bit of a struggle coming from the school that I came from. But I still look back and think I'm glad that's where I studied. I'm glad that's where I had so many formative life experiences. Because I think it's formed my politics. But it's also formed me academically to have had to train myself.

DD: So that next step you made was to study physics in Cambridge, what was it like when you got there, was it what you were expecting?

AS: Not at all, no. I think I had very romantic notions of what Cambridge would be like. I thought that I would be walking into a place where everyone would be really broad intellectual and would be interested in all sorts of things. People obviously were very focussed on the subject that they had chosen. Fair enough. It was me that had the unrealistic expectations, but also people were largely not from the same background that I had come from. There were a lot of students who were privately educated who had never known the sort of people who had been the only people I had ever known. So it is a little bit of a culture shock in that regard.

I think one of the things that helped me through that, was finding a political group to work with. I'd call myself a socialist since I was about 13 when I read Robert Tressell's The Ragged-Trousered Philanthropists. That was quite a big part of my life, alongside the science that I was studying. So that was quite grounding to find a group to work with. But I think I still felt throughout my time at Cambridge that I was something of an outsider. I think costs had a lot to do with that.

DD: So from there, you made the jump to philosophy of physics. Can you start by telling me what philosophy of physics is and then what you did, your PhD on?

AS: So philosophy of physics is the study of the more conceptual ideas within physics. So physicists will use, for example, a conception of time in order to do their physics. So time 'T' will be present in many physics equations. Whereas a philosopher of physics will want to know what time is, right. So they'll start digging in on that question. Philosophers almost have the luxury of pausing and reflecting upon some of the concepts that physicists use. So for me, this was a very attractive prospect because I was not such a practically minded physicist, I was quite theoretical. I enjoyed the maths side of it. But I really, really did enjoy the conceptual side of it, the big questions that led me into it in the first place.

My PhD looked at the direction of time. What I was interested in, is the fact that time goes only in one direction as far as we can tell. That has to do with something called the second law of thermodynamics, which dictates that a quantity called entropy increases over time. Which you can summarise by saying disorder increases with time. So I was interested in asking, why is that the case in our universe.

DD: So in a 10 second soundbite, why does it occurred in our universe?

AS: Yes. Good question. Because it was very low to start with, is the short answer. So we live in a universe where entropy was very, very low to begin with. As to why that's the case, we don't know. But one thing that is for sure is, if it hadn't been, we couldn't have existed. So we wouldn't be asking the question. Right. So the fact that we're here to ask the question already requires that we're in the universe that would give us enough of a budget for entropy increase that life could actually develop.

DD: Can you tell me a little bit more about becoming more politically active and how this links to the three ways that you described yourself at the start?

AS: My politics goes right back to my early teens. While I was a student, I was involved in various different actions. My politics is one of, I suppose economically, I'd describe myself as a communist. I think that the global economic system and the sort of assumptions on which it's premised is the cause of all sorts of problems. Including the problems that we see in global health. In my teaching, I always go back to the economics, in order to try to get to the bottom of why we're in such a mess, essentially.

So, my anger, in a way can be traced to that, what I consider to just be a terrible way of organising things, in some way. A frustration that the world is put together, in a way that does not make sense and does not get the best out of people and does not prioritise the sorts of things which are clearly important to all of us. So we live in a world in which very few of us are able to flourish. A lot of that has to do with the particular economic system and the boxes it forces us into.

So I think that the fact that I am an inquisitive person, as I said at the start, means that I'm less willing, perhaps than an average person to take all that for granted. So when I'm told things have to work in a particular way, my first impulse is to ask why and try to figure out if things

could be different and how they might be different. I think that is why I describe myself as an optimistic person actually. Despite being somebody who can have quite a negative view of the world we live in at the moment, I am hopeful about a future that looks different to the present. I often come back to that Gramsci quote, 'Pessimism of the intellect, optimism of the will.' I think that we have to be hopeful. There's too much riding on it. We really do have to fight for something that's better and believe that it is possible. Because there's too much at stake for us to lose or to admit defeat.

DD: This has so many direct health consequences in all the fields of health and medicine. Thus we're taking away from the clinical interaction. Then you look at all these causes of ill health, myself looking at childhood predominantly, but in every life stage. So was that one of your main drivers for moving into global health and how did you make that next step?

AS: Yes, I think when I had got my philosophical training, I felt able to apply that to a broader range of topics. I started to feel as though there was the possibility to bring together my political anger and my political principles and my philosophical training. That felt great, because before I had kept my intellectual interests and my political interests apart. But it felt possible to bring them together and that that felt right and good. It made everything a lot easier actually. It was almost like the wind in my sails thereafter. That was what led me towards working on topics and global health. They were things that made me angry.

DD: It's interesting you talk about anger and I've always wondered, what is it that leads me to work on the topics I work on? I've never been really sure, because I haven't had a burning desire to do one thing. But I remember global health was described once as injustice. Then I thought, okay, that's something that links work on racism, or child marriage, or child nutrition, or air pollution, and all these very different topics. But there's something wrong about all of them. That children or people in general should suffer these consequences from things that shouldn't be the way that they are.

Can I press you a little bit more on your work on racism and xenophobia towards migrants? So these are topics that I've read your work on and watched you lecture on as well. From what you've said before, this links back to some of the events in your childhood experiences you've had. Can you just describe some of the work you've done on these topics?

AS: Yes. So I've always felt that in broader discussions about racism, migrants and in particular undocumented migrants or irregular migrants often get side lined. There is obviously a tremendous amount of hostility in the UK and in many other countries towards migrants. So in some ways, they are the most urgent social group in terms of interventions being needed, to actually amplify their voices and to make sure that their needs are on the agenda. So that, for me, has always felt very important. I have done various bits of work that relate to the health needs of undocumented migrants primarily, but migrants more generally.

I've looked at the National Health Service in this regard. So the National Health Service, one of the things you often see in the tabloid newspapers is, oh, it's the National Health Service, not the International Health Service. Right. Which is a way of saying, you know, only certain people should be allowed to use it. Of course, it's a nonsense statement because the National Health Service, something like 40% of its employees are migrants. So it really is the International Health Service in some very basic sense.

But of course, there's more to say than that. Some of the work that I've done, is to look at the fact that the National Health Service poaches health workers from global south regions, very happily and very intentionally, because it's cheaper than training people here. You take somebody, they're already trained, they're training was paid for by the taxpayers or the government of another country. You don't really fund any of that and so you almost get them for free, ready to go. So that's one side of the work that I've done.

Then the other side of the work that I've done, is looking at the ways in which the NHS is increasingly denying health access to anyone who is not what is called ordinarily resident within the UK. So you've got these two things in parallel, and they've often been discussed as quite separate topics. What I've done in my work, is to actually fold them into the same narrative. How could it be okay to poach these health workers on the one hand, and then deny health access to other migrants on the other. So I've looked at it through the lens of moral cosmopolitanism, which is this idea that our moral calculations and decision making should have no weight applied to borders. So we shouldn't think about where somebody is from. We should treat as equally worthy of moral attention, regardless of their particular origins.

But my argument is that it's actually very difficult to do anything about brain drain, which constitutes a tremendous extraction of value, constitutes an extraction of wealth from the

global south to the global north. My thinking, is that one solution to this very difficult problem is to ensure that all migrants in the UK, regardless of what their documentation might be, whatever their status might be, should be permitted to use the NHS for free. That's one of the ways, a sort of general way of making up for what we are taking. What the NHS takes from the global south.

DD: I've done a little bit of work on undocumented migrant children in the UK. As you say, migrants often do very well. But some of the people do worse, or the undocumented group often labelled as illegal migrants and particularly for children. Many countries give free access to healthcare for children regardless of their documentation, but the UK doesn't. That's part of this whole hostile environment towards migrants. So we're trying to openly stop people from coming here. Then we're putting groups of children at disadvantage who can't access healthcare in hospitals or whose parents are worried about it and rightfully so. That seems so wrong, frankly, for a trivial amount of money they (the government) make these stances. But I think they're political gestures, I don't think it's much more than that.

AS: No, I think you're absolutely right. In some of my other work, I've actually tried to crunch the numbers on this and show just how trivial and they are. I mean, frankly, even if it did cost the NHS something quite substantial in order to provide healthcare to everybody who needed it. I still think we should, right? But the point is, it doesn't. What all the figures seem to show, is that the additional bureaucracy of working out who is chargeable and making sure they get charged, employing people whose job it is to charge people. All of that comes to much more, than what is actually then recovered by charging them. So I think you're absolutely right. It is ideological. This is a way of communicating that people are not welcome of creating the hostile environment. It's not about economic concerns.

DD: And it's so badly done, the way some people are picked out, who might be chargeable is often just based on your name. I remember getting a letter for my son enquiring whether we should have to pay for his medical expenses.

AS: No, absolutely. It encourages racial profiling, of course. It forces healthcare practitioners towards that. For many of them, it's a very morally distressing situation, I think for healthcare workers. Because they're being put in a situation where they're being asked to ensure that people are charged and to make decisions about who they think is maybe chargeable and who

is not. That's a very awkward position to put somebody in. It clearly creates an institutional racism.

DD: So linked to these power dynamics that we've talked about, other aspects of your work has been on abortion and on the global gag rule. Can you describe what the global gag rule is and then just how it's become such a political football?

AS: Yes, so the global gag rule. Its official name was the Mexico City Policy. So it's a policy that was introduced at a conference in Mexico City by Ronald Reagan. What it did at that time, was to ensure that any organisation that accepted US federal funds for family planning, would have to certify that it would not perform or recommend or discuss abortions. So that came into force and then was taken away again by Clinton, put back again by Bush, taken away again by Obama, put back again by Trump, and extended, so that it no longer applied only to family planning funding, but to all global health funding coming from the United States. Which was an eight point eight billion dollar pot. So if you were an organisation in the global south in receipt of US funds, you had to certify that you would not perform or actively encourage abortion in any way. That's including funds that you may have taken from anywhere else as well for your abortion care. If you were taking any US money, you couldn't perform abortions using any of your funds. So that was enforced for the whole for four years of Trump's presidency.

What it has meant is that abortion services, but also essential health services more generally, have been decimated in many global south contexts. That damage, although Biden has now reversed that policy, the damage will obviously have a very long tail. More than that, the fact that this policy can be reintroduced and will be by any future Republican US administration. The fact that it's there is just so worrying. Because what it's doing is exploiting the dependence of global south populations on global north aid, essentially. Now, the fact that any population relies upon handouts from the global north, is already extremely telling about the mess the world was in. Just how troubling the state of global health is. But the idea that the United States or any other state or institution would use that dependence to take its own domestic moral fault lines and force them onto countries that are very distant, on to people who are extremely vulnerable. It's really extremely concerning.

DD: What strikes me about the power of the voters in swing states in the US, and it's not even all the voters, it's a swing voters in the swing states. So the small number of people in places

like Ohio, that their vote matters so much to other people around the world. It's unfair on them, because they would be voting on their own domestic issues, but it gets extrapolated in these ways to affect millions of people around the world.

AS: Yes, absolutely. I think this is imperialism, right? This is what imperialism means, is that you can force your values onto those who have no power to influence your democracy. So the people who are being affected by the global gag rule, have no way of making US politicians accountable. Have no way of voting for something different. So, as I say, it is imperialism. I think it's a sign that some of those major features of colonialism, that we tend to think of as belonging to the distant past are still alive and well in the present. We see them in the global health landscape.

DD: On that topic, can you talk a little bit about neglected tropical diseases and your conceptualisation of these? So these are diseases like dengue, schistosomiasis, chagas disease. Can you talk about some of the work you've done on these diseases?

AS: Yes. So I first encountered neglected tropical diseases when I started my current job, which is at the Brighton and Sussex Medical School. So I joined this medical community and was involved in all these interesting conversations with lots of clinicians and researchers. So neglected tropical diseases are usually not diseases which are easily transmitted between humans. So they don't tend to pose the same global health security risk that some other diseases do. They do not have scientific properties in common for the most part. They're quite a kind of medley. So what's uniting them, is the fact that they are neglected, rather than anything that is biologically the case about every single one of them.

The term bothered me, this idea that there's a group of diseases that are just neglected and neglected as part of the terminology. An accepted part of the terminology, just struck me immediately as a moral philosopher, as really, really worrying and pointing to something potentially very interesting. You just listed some of the diseases that fall within that category. What draws them together, is that they are neglected from the perspective of funding and research. So what I then did is obviously look at the geographical distribution, which is across the global south. These are diseases which primarily affect global south populations. They're often described as diseases of the bottom billion. They are neglected, they are ignored, they are treated as a low priority, even though they are enormously disabling to large numbers of people.

So I just started to think quite carefully about what it meant for a disease to be neglected, but also what it meant for a disease to be tropical. It's pointing to a particular set of regions. It's implying at least at face value, that the fact that these diseases occur in those world regions has something to do with them being tropical regions. Which makes it sound as though the climate is the determining factor. In my work on this, I've tried to move away from that environmental determinism and point out that climate is not the issue here. Some of these diseases were prevalent in global north populations.

So podoconiosis, for example, which is a neglected tropical disease. Which causes swelling of the lower extremities when people walk barefoot on red clay volcanic soils. Well, podoconiosis was once upon a time observed in Scotland. But widespread shoe wearing practises, have meant that it's now limited to regions where people cannot afford, for the most part, to wear shoes. So this is not a question of climate for many of these diseases. It is a question of poverty.

I just think that unless we do the work, when we talk about neglected tropical diseases of digging in a little bit more on what we mean by tropical. Digging in a little bit more about what the word neglected is doing there and what it's telling us. I think unless we do that work, we're expected to just take it at face value, as a group of diseases like any other. Whereas I think there's a lot more to learn when we start zooming in and questioning some of that vocabulary.

DD: Yes. They don't occur in rich tropical countries.

AS: Exactly.

DD: So thank you. Outside of work, you're a keen runner, keen footballer and very much into reading literature. Can you tell me how these different hobbies are important in your life?

AS: Yes, so I run every single day and for me, it's really important to just gathering my thoughts, getting some time outdoors, getting some light on you. As somebody who sits in front of a computer all day long. I think it is really important to have a way of getting away from that and having some time just away from technology as well. So it's quite therapeutic for me running.

I read a lot. I read lots of novels in particular. That, again, is a form of escapism I suppose. It takes me away from my everyday work. But I also think there's so much that you can explore in a novel that's morally interesting, actually. I find myself thinking about this more and more. That obviously, as I say, escapism is one aspect. It's not supposed to be about work, but I think in some ways the novel is an amazing petri dish almost for exploring how humans behave in extreme challenging conditions. Also getting inside the head of another person. Pretty much the best way to do that.

DD: Arianne, thank you so much for joining me today. I could carry on talking about these things for so much longer. I mentioned to someone that I was interviewing you and talked about all the things that you've done and that you worked on. She said that you sound like a genius. Marrying together such different disciplines, which I suppose was common in the past historically. But now it's so rare and it's really wonderful that you can bring these ideas and learning and experiences to global health and advance global health issues. So thank you for joining me today.

AS: Thank you so much for having me.

DD: Thank you to my guest Arianne Shahvisi. This episode was produced by myself and Amaran Uthayakumar-Cumarasamy. The theme song is Paper Stars by Pop Stars by Liam Aidan. This is a global health lives podcast. Thank you for listening.