Welcome to TBD: Technology By Design. I’m your host, Matt Pearult.

Paul Farmer is a Harvard professor, chief of the Division of Global Health Equity at Brigham and Women’s Hospital and a co-founder of the nonprofit organization, Partners in Health. We talked to him a few weeks ago, right as the coronavirus was starting to accelerate. And so, it’s less of a focus in our conversation than it would be if we were speaking today. But regardless, in our current moment, a moment of health chaos, when each day brings news that seems unprecedented and frightening, Dr. Farmer’s voice is a voice we need. He provided care to patients in Rwanda and Haiti when those countries were going through their darkest experiences. And as you’ll hear, he carries those experiences into his work with patients today. He urges us to think broadly about the meaning of technology, to think twice before we act too quickly, to sacrifice quality for scale, and to know a place well enough, to really know that place deeply enough that you can celebrate its progress over time. Oh, and what does Paul Farmer do in his spare time? Plants trees, of course... So let’s get started.

Paul Farmer, Kolokotrones University Professor of Global Health and Social Medicine at Harvard. Thanks so much for coming on the podcast.

Dr. Paul Farmer  1:29
My pleasure.

Matt Perault  1:30
So you were just saying a moment ago that there are narrow definitions of technology. And there are broad definitions of technology. How do you think about those two things? How do you break it down?

Dr. Paul Farmer  1:39
Well, I would just say, it’s always useful to think a little bit more historically. So that when, you know when I hear the word “tech,” I can judge what is being implied. I mean, is it a platform that uses the internet? But I think in medicine, it’s better to think of technology... well for example, if you have a preventive (like a vaccine) use technology, if you have a diagnostic... and a lot of these new platforms are molecularly defined, that's an expression. Those are technologies and of course therapies. And it's not a bad idea, for I think, for a physician to start with that definition of technology as opposed to a more narrow one. Again, it sounds narrow to say, a vaccine, a diagnostic or therapeutic but I'm just saying medicine in general and public health also depend on technological advances. And those may have been in the 19th century new vaccines, or better sewage systems, right. And, and now it would include a number of technologies that would fit in the narrower definitions as well.

Matt Perault  2:54
And narrower definition you’re thinking of like the tech companies... Amazon, Facebook.
Dr. Paul Farmer  2:59
Well, yeah, yeah. And again, these are companies and endeavors that we're familiar with, because they support our work. You know, bringing this broader vision of technological advancement to more and more people.

Matt Perault  3:14
Yeah. So I'd love to hear the specific ways that you implement it in your work. So you've talked and written a lot about the idea of medical deserts.

Dr. Paul Farmer  3:20
Yeah. Thank you...

Matt Perault  3:21
And I think that technology often seems like a way to facilitate communication with places that otherwise might be deserts.

Dr. Paul Farmer  3:29
I would even just stick with the metaphor and say technology often allows us to irrigate medical deserts.

Matt Perault  3:35
Oh, interesting. Uh huh.

Dr. Paul Farmer  3:37
It's the life source of a lot of improvement in a place. Now, let me let me be specific, if it's helpful...

Matt Perault  3:45
Yeah, please.

Dr. Paul Farmer  3:46
So if you, I first went to Sierra Leone, in the summer of 2014. And I went there from Rwanda to a Surgical conference that was really about surgery in resource poor settings. And so technology would include such mundane things as operating rooms, electricity, and also new surgical tools, new ways of record. But what happened right after that was, you know, a massive outbreak of Ebola. And then you said, Okay, what are the technologies we need? What's the tech we need to irrigate this desert now? So you have to have some sense of what the problems are. And how you could use tech in this broader sense to alter the course of an epidemic and you know, that's the way of thinking about technology I'm uncomfortable with. And I would add, when we went to some of the big tech companies, including the one you were with, yeah. The first question was, how can tech help you respond to this epidemic? And we really encouraged our interlocutors, many of them in California, to say, “how can you help us irrigate this desert?” And some of the first gifts that we had were not a technological advance so much as support from the company and employees of the tech industry. And we also sought technological tools that we could use. But we really wanted their
engagement and their ideas and their resources in the broadest sense to help us respond to that epidemic. It's just one example of, you know, irrigating a clinical desert, to stick with the metaphor, would require, you know, a lot of staff, some stuff, a lot of stuff if you're trying to build a hospital, systems, which again, is a province of that industry as well. And how could we put that all together and irrigate the clinical desert? And that involved in recruiting, training a lot of people and building infrastructure, or reopening closed hospitals.

Matt Perault  6:08
So I don't know if this is taking the metaphor, helpfully further or if it's butchering it, but the other things I think about when I think about deserts are mirages, oases.

Dr. Paul Farmer  6:19
Yeah, nice.

Matt Perault  6:20
And I think if in the context of something like the coronavirus, for instance, there are people, I think the kind of dominant narrative has been about government censorship of information that would have been important for public health. But there's another narrative as well, that I think has gotten some traction, which is about disinformation and the problems of disinformation and how social media platforms have helped to amplify that. So when you think of the sort of the full landscape of ways that technology can bring some form of water or not to an area, you've talked a little bit about the positives, but what about some of the dark sides and how do you think about the deployment of technology tools in light of the fact that there are those dark dark sides?

Dr. Paul Farmer  6:59
Yeah, I mean, I was pleased to see the World Health Organization and other organizations really attack the epidemic of misinformation. It's happened, you know, and it's happened with every major health catastrophe and you know, I don't want to go to easy targets but you know the anti vaxxer movement is an example, if you ask me of, of that disinformation and in the in the face of a novel, or newly identified pathogen, in this case coronavirus. The tech we need includes some new things like an effective vaccine, right? But if you look at what's happening inside China, for example, and again, I... compared to whom has there been a lot of disinformation and delay?, I don't know I mean, that's not a rhetorical question. I'm just saying, you know, when you saw them build a hospital in less than two weeks, they were doing something that really needed to be done because the technology that we need clearly involves expert medical care, and particularly what's known as the low tech variety of supportive care or critical care. And those have meanings, those terms: supportive care, and critical care. That means, you know, if you're, if you look at supportive care, for example, you go into an emergency room in Durham. And you know, you're dehydrated, the tech you need is either oral rehydration or intravenous rehydration. And, and then if you can't breathe, as happens to a very substantial fraction of the patients, I mean, it could be even a quarter of the patients require oxygen. They will
sometimes require mechanical ventilation. Again, this is thought of as old-school low-tech, but not in the places that I work. Not in Malawi, Rwanda, Lesotho, these are really pressing matters as how can we bring that technology to bear on? Again, it may be thought of as old technology or not technology at all by many, but for people who need just that, that's the way to irrigate the desert for them. So again, not to stick with the metaphor too much.

Matt Perault  9:27
We love the metaphor.

Dr. Paul Farmer  9:28
The metaphor is awesome. I like it, too. And thank you for bringing up mirages and oases. You know, one of the things that we really need to focus on I think around coronavirus, although I've never seen a patient with it. I'd suspect that I will... is better clinical services, right? Because how effective a quarantine is going to be well, if it couldn't be done in China, and maybe it was somewhat effective there. It's not going to be done anywhere, right. So the one thing we need to focus more on is making sure that those afflicted get decent care and that'll be contested, right? The one thing we need to focus on others I know it's all about containing the illness. But I've been, you know, I've heard that song before, right? That's what we said around Ebola, right, which is just focus on containment. But people fled that containment only approach, as you might imagine, you know, they don't... people when they get sick aren't looking to be contained or quarantined. They're looking for help. You know, and I think that that's, we shouldn't get lost this time around with coronavirus, people will need medical care.

Matt Perault  10:36
So that charge makes a lot of sense to me. And I've seen it in your work like when you talk about the socialization of scarcity and, and trying to ensure that the fictions that people might create about cost barriers are interrogated in some form. And that makes a lot of sense to me. But I also think cost pressures are real. And technology in the not old-school variety, but in the new-school variety seems like at least in some circumstances, not all certainly not a panacea, but might be a way of delivering cheaper care in certain circumstances. Maybe there's a quality there, there's a quality knock in that delivery. But I assume not in all circumstances. And I think in some circumstances, maybe that quality trade off might be worthwhile if it facilitates more deployment or deployment at scale. I assume you disagree with that, but I'm kind of curious about how you think about it.

Dr. Paul Farmer  11:28
I'm not sure that I disagree with it. Because I have to face it too. I mean, you can't. Someone like me, is of no value. In fact, I left that first trip to Sierra Leone. I left that meeting, you know, and there were a lot of us from Rwanda and thought there's no way to stop this outbreak from coming into the moving west. In this case, you know, if you look at the map "West" means the capital cities of three countries. And even then it seemed that it was impossible to stop. And that proved to be the case.
But, you know, a friend of mine and a colleague of mine, who's an infectious disease doctor from Sierra Leone, died of Ebola on the 29th of July, we had just, you know, left at the end of June. And so getting back to this point of someone like me is nothing without an army of colleagues, particularly nurses, community health workers, and lots of tech in this broader sense of staff, stuff, space and systems. So the space in that case, we weren't even... all the hospitals were shut down. You know, by the time we returned in, you know, in vigor with a lot of people, every medical school, every school, nursing school, every school period was closed, the hospitals were largely closed. So part of the tech intervention... We were looking for panaceas, we were looking for some way to protect ourselves, we were looking for ways of putting on personal protective equipment where we wouldn't sweat to death. Right. And again, we had people reach out from the tech sector and we said, we want new tools, but we also have to have the old tools and we need people to open these hospitals. And, and all this to say, you know, without, you know, this attention to the resources needed to respond to a medical emergency, it's hard to have leapfrogging technologies, right. And there are ways I think that could reduce the cost and improve the qualities. But often they involve not just new tools, but the systems to deliver them and again, that would be uncontroversial, I think within a tech industry.

Matt Perault  13:57
Although I'm sort of, I guess I am inclined to push on without a lot of evidence to back it up. But I am curious about, I would think you need. You can't have zero infrastructure. But there are lots of different contexts, examples of where technology has been able to deliver very functional banking systems that have given more people access to credit, even without the underlying banking infrastructure. I don't think that's monolithic.

Dr. Paul Farmer  14:21
It isn't monolithic. And I agree with you. Let me go back to another example. Which is Haiti after the earthquake, 10 years ago. You know, I would just say again, as a historical example, again, and even more so massive global attention, massive assistance from the private sector, including companies. But one of the hardest things about that year and those years was that there was a push to have something similar to e-banking occur in responding to the earthquake, but the place was littered with the dead and the injured. And what we ended up doing an addition. Well, what I ended up doing with my colleagues was to deliver medical care, right, to the critically ill and injured. But we ended up building a major teaching hospital as part of our response to that saying, you know, there's some things we just can't get around. And we have to have ways of training Haitian doctors and nurses. And again, that's not a counter example. It was just disappointing to some of the people who would ask us, hey, is there some gadget or special magic bullet? And, you know, sometimes we'd say well bring it on, what do you have in mind, but other times you said, well, someone's got a, you know, actually provide care and if there is no infrastructure, and again, in that instance, the major teaching hospitals of the oldest country in Latin America, were all destroyed because the earthquake hit the capital city, which is where they were all clustered. So we ended up making our tech, and let me just, you know, to I
is the largest solar powered Hospital in the developing world and we did rely on things that would not have been around recently. But we also, you know, are committed to training physicians and nurses. And I'm glad we did that, you know, I'm glad we... I'm glad we built that hospital and I'm glad we, you know, it's not that I'm glad we went back to an old-school way of thinking about medicine. It's rather that, you know, you need to be able for health care providers to use these new technologies.

Matt Perault 16:39
So one trade off that I think a lot of people feel forced to make, that seems like you haven't had to make, is between scale and deep work. So I... Silicon Valley is all about scale. It's about how do we get a product into the the safest, best, strongest, most exciting, most high value product into the most number of people's hands as easily as possible, and scale has value on its own. Because I used to say if I was in charge of Facebook, we would have had two users. I'm not someone who's good at scale. But fortunately there were a lot of engineers in Silicon Valley who are. Your charge seems to be focused really on depth, on connection to patients, on doing things like building hospitals. And it seems like some of the charge that you, the charge from you is we don't always have to trade off between depth and scale. And I think one of the reasons you haven't had to do that is because of the excellence of your work and your ability to secure resources and the publicity that surrounded your work. And so I assumed that the resources available, facilitate both the scale and the depth...

Dr. Paul Farmer 17:45
I would, I would just say that it's not, it's not the case that I haven't had to face that. Yeah. I mean, this is the, this is what I worry about every day, is that connection between quality and scale every day. So, and again, I'm sure that I would have been in your camp with two users yet. We have millions of patients that we see, every year. And just to go back to that example, of the hospital in Haiti, it's just one hospital, right. But it happens to be the largest teaching hospital in Haiti. Now. It happens to train the largest number of Haitian physicians and nurses. And it's a public hospital. We may have built it with private resources, and again, a lot of help from the private sector, which we had not had in Haiti before the earthquake. But we built it as a public facility. Why? Because we're obsessed with scale. Right? And, you know, how do you bring somebody to scale in public health or medicine? If you go to a place like Rwanda and I just got back from there yesterday? They're obsessed with scale. Right? The Government of Rwanda is obsessed with national scale. So when they invite people like us into the country, we know that we're going to be caught in that same dilemma that you were facing in Silicon Valley, you know, how do we have depth? And how do we reach scale? And it's a real tension. We were invited there and love the work and... but in the end, if you look at the 30 districts in Rwanda, we were sent to three of the last four with no hospitals at all. So the leadership of Rwanda said, Hey, knock yourselves out on depth. Just go build those district hospitals. And then we'll talk about scale as you're going deep. And, you know, so if you're working with the public authorities, in this case is called the Ministry of Health and you know, their equivalent of HHS or whatever we say in the States. Every policy, every endeavor, we went through that Bureau, the public sector health authorities, and they insisted that
we think about scale. So we you know, and that that happens to a lesser or greater extent, depending on which of the places that we're talking about. But no one when I'm seeing patients at Harvard at the Brigham Women's Hospital, no one says to me, at the end of day seeing patients, hey, you know, how did you contribute to to the scale of the better infectious disease care or better antibiotic usage? No one ever says that to me, but in public health when you're working with poor people, everyone says it all the time. What's your plan for scale?

Matt Perault  20:35
So how do you...

Dr. Paul Farmer  20:36
Is that too provocative?

Matt Perault  20:37
It's not too provocative at all... I'm actually just curious about how you think about the real trade offs. I mean, when you when you're seeing patients in that day, you there is sort of more scale oriented work that you could be could be doing. And I think there are real opportunity costs at the same time, there would be real opportunity costs of thinking only about scale.

Dr. Paul Farmer  20:58
I'm smiling because I know now, after all these years that I do that clinical work for me, you know that I need it, to think about things like scale. It's one good way of being honest. Like if you're a teacher in a public school, you're going to pay attention to the students who are there with you, and some of them will have trouble, and some of them are doing well. But, you know, a teacher gets to teach individual students and the equivalent, and in my work as I get a lot out of seeing patients, and it's never more than a few at a time, right. I mean, the scale part is Partners in Health, you working with the public authorities, whether it's Rwanda, Haiti, Malawi, wherever Russia, you know, and trying to learn from that experience. So the academic side, you know, I mean, my day job as a medical professor at Harvard, that's the only job I've ever had. So seeing patients in Rwanda or Malawi or Haiti, I do that because it sustains me. But when you're talking about Partners in Health has 18,000 employees around the world, it's a big endeavor in a small budget, big group. So that's another way of reaching scaled community health workers, nurses, physicians spread out over almost a dozen countries. I don't know if I really answered the psychological part of it. But I'm saying the return that I get on seeing patients, whether in Boston or anywhere else is, it's not in the scale department. It helps me think about scale.

Matt Perault  22:46
Yeah. Do you want to push more on the psychological end of it?

Dr. Paul Farmer  22:50
Well, okay... okay, Matt.
Matt Perault  22:53
Since we've known each other for so long.

Dr. Paul Farmer  22:55
Yeah, well, you know, I one of the traps that, I think we see in public health is that people are so obsessed with scale that they forget individual patients and therefore, they're exceptions. Meaning the exceptions of those patients like, you could I could take that more clinically. But I, you want me to take it psychologically? So I'll just say, a lot of health policies are crafted with scale in mind. And then they run against the hard surface of families, people, you know, the, the, the fact that the you know, every person is different, and I, I just think seeing patients is my way of, you know, remembering that...

Matt Perault  23:41
I wonder, I wonder, too. I've never thought of a doctor as a creator exactly. But I have thought a lot about people who work in the more public side, and I think policy can be a creative enterprise, certainly, and I have, at times felt very in touch with the creativity of that as an exercise.

Dr. Paul Farmer  23:57
Well, I'm a very I just want to say I've found The Rwandan there, you know, I found a lot of people in Rwanda to be extraordinarily creative around policy. And that was a very good experience. So instead of just railing against bad policy, they invited us to participate in the crafting of policy, but I don't think they would have done that if we weren't taking care of hundreds of thousands of patients.

Matt Perault  24:24
Yeah, that seems right. And I also think being creative can sometimes be different than being a creator. So I have sought balance in my life that's... does much less good for the world than you seeing patients does for you. But it might scratch some similar itch like I, after some time working for a West Coast company, I started surfing, which feels like a creative exercise for me for whatever reason, there's something about the ocean and the contact with the water that is felt creative, and you can at least yet take a phone in the water. So there's a mental distance from work... and I've been cooking more which has created a creating exercise. And that's... As those things I sort of realized at some point that the the opportunity to create was an important balance to the what do we do about net neutrality? What do we do about section 230? reform or federal privacy law?

Dr. Paul Farmer  25:14
I'm always obsessed with section 230 requests, what is that Matt?

Matt Perault  25:18
It's intermediary liability protections for tech platforms.

Dr. Paul Farmer  25:21
I say again, what is that, Matt?

Matt Perault 25:23
So it's the some people refer to it as the Magna Carta of the internet.

Dr. Paul Farmer 25:27
All right, that helps it...

Matt Perault 25:28
but you were making the point, which is it's more grounding to be in your kitchen making good pasta.

Dr. Paul Farmer 25:33
Yeah, I think that you know, the way that we'd nourish or scratch that itch is going to vary significantly. I like the idea of creativity, even if you're not creating something. I mean, I yeah, you know, my equivalent of your surfing would be planting trees or gardening. You know, you're creating something but you're just like you didn't create a wave in the ocean. You know, we didn't create the species that we're planting but there is something I think creative about about about planting things, right. And if we get back to policy, you know, is it possible to be creative around policy and make that nourishing? Well, I think it is. I think that's what you're telling me as well, in its best moments.

Matt Perault 26:18
Yeah. So as in previous interviews, people have asked you about how much you travel. And you've talked about coming back from Rwanda a couple of days ago yesterday. And they've asked you questions about travel and burnout. And I think often your response has been about the excitement of the work and how fulfilling that is for you. So I'm curious about that. Because in lots of professions, people travel heavily, I'm sure not the way that you do, but travel heavily. And I'm curious about what that's like for you. And I'm also curious about it in terms of your sense of place. Because it seems like even if you're not burned out, you're getting really fulfilled by the work that you're doing. It's a long time away from Boston and Cambridge in your community there. Does it feel to you like you have multiple roots in multiple places?

Dr. Paul Farmer 27:03
Yeah, I mean, well, here I am back at my alma mater. And then I've been coming here for decades. And I don't know, I know you're pushing me to say something personal. So I will. You know, when I came here as a freshman, you know, I, I was living in a bus, and that is, uh, you know, I'm not, I mean, I have a lot of brothers and sisters and they don't travel as much as I do. So you can't make that connection... by they also lived in the bus. I'm saying, you know, for some of us that led to a sense of roots. I mean, it's not like we grew up on some, some neighborhood in a town or a city, like a lot like most Americans, actually. Right. We didn't and for some members of my family that resulted in a desire to be more rooted. And that was not the impact on me. If again, if I could make that claim of causality and and after I graduated from Duke in, ready?
1982 I went to Haiti the next year, and I still go to the same village. It's not, it's not, it used to be a squatter settlement, it doesn't look like that now, and the younger people don't even remember it as a squatter settlement. But every time I go there and look at the trees, and you know, my neighbors, it's, it restores also that sense of place, and I can develop that better than most, more than most people. All that said, for my students and trainees and colleagues, none of us recommend. We don't say you should do what we do. But good teachers don't do that. Right. They don't say you should do it. You should be interested in what I'm interested in, say, What are you interested in? In? What are you interested? Right? And for the great majority of my colleagues, they would not choose to be that itinerant, but somewhat, you know, some find it very bracing to be like I you know, last week in Rwanda, how many I've lived there for years, right? I'm traveling there is different. But I learned something new every time. And of course, I see. You work someplace for 15-20 years or in, you know, 30-40 years, you see a lot of change. And that change is largely positive, by the way, like if you if you stick with some place, this is another part of the scale and depth issue, if you stick with some place. Whether it's a town, a district, a nation, you're going to see change. And I don't want to sound like a malurist or whatever, but it's largely positive... things get better. I mean, Haiti's faced horrible problems since the earthquake, and the earthquake itself. But if you actually look at the numbers on things like maternal mortality, infant mortality, you know, the ways that we assess health and well being on a scale, on a sense of scale, everything in Haiti has improved. People are really, a lot of Haitians are surprised to hear that, because, you know, you don't sense the improvement on an everyday basis, but it's very profound.

Matt Perault  30:42
I was gonna say, I think, at least in my experiences in Rwanda, it seems like it is celebrated there, there is a sense of it there, but not in Haiti?

Dr. Paul Farmer  30:50
Well, I mean, Rwanda is unlike any place that I've been, I must say, to go from rock bottom...

...To go from rock bottom not that long ago, I mean, I was 34 when the genocide happened, and I was watching from Haiti and Harvard, you know, and thinking they will never recover from that. Never. And they did. They have.

Matt Perault  31:21
Yeah. And quickly.

Dr. Paul Farmer  31:22
And quickly. Those are the what's happened there... Those are the steepest declines and mortality ever documented anywhere at any time in human history. You know, and it is celebrated, and it should be. And so that that's like, other worldly, you know, and very inspiring. I think. Now, are there a lot of poor people in Rwanda? You bet. It's a very poor country. But every year there's more people pulled out of poverty, more people going, I mean, the demand for university training is so steep that we ended up
building University there. It’s very it’s even steeper in Haiti, because more people have gone through high school and have gone to university. And there's just a lot of talent in either place, but Rwanda has really done something remarkable.

Matt Perault  32:16
Paul Farmer, thanks for coming on the podcast.

Dr. Paul Farmer  32:18
Thank you.

Matt Perault  32:23
This has been TBD: Technology By Design… a podcast hosted by Matt Perault. Produced by Sarah Cromer, with music by Velvet Negroni.

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