

Nguhi Mwaura:

Hi, welcome to Solvers, I'm Nguhi Mwaura.

Courtney Martin:

And I'm Courtney Martin. On this podcast, we have conversations with social innovators who are tackling the world's biggest problems to build a better future.

Nguhi Mwaura:

Today's episode goes to the heart of what arguably is the world's biggest problem, coronavirus. So I talked to Dr. Christian Happi about the pandemic in Africa. Dr. Happi is the director of the African Center for Excellence for Genomics and Infectious Diseases. He's also a professor of molecular biology and genomics for infectious diseases at Redeemer's University in Nigeria.

Courtney Martin:

Whoa, Nguhi, I'm not totally sure what that means, but it sounds very impressive.

Nguhi Mwaura:

Right? I think one of the best ways to understand the core of Dr. Happi's work is to look back actually. So I'd love to offer up a better framing by sharing a historical anecdote. Ready, Courtney?

Courtney Martin:

Yeah.

Nguhi Mwaura:

So during the 1721 outbreak of smallpox in Boston, Onesimus, who was an enslaved African from somewhere where we can only assume was West Africa, gave Cotton Mather, who was his enslaver, the key to beginning to understand how to develop a smallpox vaccine. Onesimus told the story of how, as a small child, a small amount of pus from a smallpox victim had been scraped into his skin with a thorn.

Nguhi Mwaura:

This practice had been passed down for generations and had resulted in building up healthy immunity. So these two quotes now, just in reaction to that story, the first is from Ibram X. Kendi of anti-racist booklists everywhere, notoriety. This is from his book *Stamped from the Beginning: The Definitive History of Racist Ideas in America*. And the quote goes like this, "Racist European scientists first refused to recognize that African physicians could have made such advances. Indeed, it would take several decades and many more deaths before a British physician who had come to be known as the father of immunology validated inoculation." The second is from Isabel Wilkinson's book *Caste: The Lies That Divide Us*, "Bostonians wanted nothing to do with a practice that had come from Africa and had been suggested by an African slave. Physicians dismiss the procedure out of hand and resented being told by a gaggle of ministers that Africans had devised the panacea they had long sought."

Courtney Martin:

Wow. I have to admit, I've read most of the books on every white person's anti-racist booklist, but I have not yet read Caste or that book by Ibram X. Kendi. And I didn't know anything about this history. I'm so interested, but can you connect this to Dr. Happi? What does this have to do with him?

Nguhi Mwaura:

Sure. So I share this anecdote because you'll hear in this conversation with Dr. Happi that in 2021, almost 300 years later, we haven't really come that far in changing our attitude towards African scientific innovation. Even worse, when Africans themselves are suspicious of our own capabilities and brilliance. So Dr. Happi approaches his work with an asset framing. He sees opportunity to push science further on the continent, precisely because we have to contend with so many diseases. So I do hope that everyone listening will be able to look beyond initial stereotypes and mental shortcuts to see the potential impossibility that Dr. Happi sees as well. So here's my conversation with Dr. Christian Happi in Nigeria.

Nguhi Mwaura:

Welcome to our podcast. So you're on a podcast called Solvers, and I'm going to start by asking you a very simple question, which is, what would you say you are solving for?

Dr. Christian Happi:

I'm definitely solving for two major things, solving the infectious disease challenge in Africa, but also, what I call building a critical mass of well-trained African scientists that can use genomics to address what I call public health challenges in Africa, specifically working toward elimination and control of infectious disease on the continent.

Nguhi Mwaura:

That's great. So those are the two things that I've heard, and I'm hoping that we'll be able to talk about both of them. So just starting off with the first part of what you do, tell me the story of what happened last February that led your team to share the first genome sequence of the coronavirus in Africa.

Dr. Christian Happi:

I can tell you that when we received that first box that contained the sample of the first suspect, the case in Nigeria, we were afraid. It was a box that was sent to us by the Africa CDC, and it was wrapped, it was a polystyrene bag and it was wrapped in a black linen. Not really the necessary high protection that you can imagine in the West. And it came in a passenger airplane. And I remember driving 90 miles with myself, my wife, and one of my students who went to the airport and then they handed it over to us. We didn't have all the PPEs, we didn't have all of the super protection. We just went in, collected it, and then drove back to the lab and then unpack it, and then just use it. And my lab team was like, "How do we handle this? We've never handled something that spread this badly." We knew that it wasn't killing as much as Ebola, but we knew that it was spreading like wildfire.

Dr. Christian Happi:

And handling that in the lab, we needed extra precaution. People were extra careful. We went through the process, we didn't know what would come out of it. And I can tell you that when we had the confirmation that we had a sequence, we were just so ecstatic because we were like, "We did it." And then imagine, we did it in record time because we knew how the rest of the world struggle to get the

genomic sequence. We did it in 48 hours. It was such a great feeling to know that, look, we were able to contribute to what I call the global response. By providing this information, it is possible to do it in Africa with Africans and make the information available to the rest of the world. We really felt very proud at that time, but here we have nothing. But the reality is, with courage and with determination, we are making a difference.

Nguhi Mwaura:

That's incredible. So when you say it was unprecedented, what are some of the things that had to happen before COVID even arrived in Africa or in Nigeria for you to be able to do the sequencing that quickly?

Dr. Christian Happi:

As many people say in the genomic community, genomic sequencing is the bread and butter of [ESG 00:07:11]. So we have done this for several epidemics. We pioneered genomic sequencing for Ebola in 2014, 2016 in the outbreak of Ebola in West Africa. We did it for the first time during an outbreak, we made the data openly available to the international community for those that were interested in developing countermeasures, like vaccine, drugs, and then diagnostics. And then we translated this genomic sequencing information into a rapid diagnostic test that was approved by the USFDA and the WHO for emergency use. And the introduction of that test really changed the dynamic in the field and was a major factor in actually bending the curve on the continent. But then after that, we went on to use genomic sequencing to sequence the first set of Lassa fever virus in West Africa and in the world. Then the development of the sequence of that virus accelerated the pace of diagnostics and then for vaccine for a disease that was actually neglected.

Dr. Christian Happi:

You can see that between the time where we actually made the first whole genome sequence of the Lassa fever virus, and now, is less than 10 years. And I can tell you, it's less than 10 years, and it's all about seven years, between that time and now, we've moved from a disease that we had no diagnostics for, develop a rapid diagnostic test for it, but also, that paved a way for the international community to develop what I call a vaccine for Lassa fever. So again, that is a clear demonstration of how we can use this technology very powerfully in order to address problems on the continent. And the third example is how we're able to use genomic sequencing in 2018 to uncover a mysterious outbreak or to uncover an outbreak of yellow fever in the Southern part of Nigeria. Toward the end of 2018, school children were dying in the Southern part of Nigeria of a mysterious disease. All testing proved negative for the most common diseases in those community.

Dr. Christian Happi:

Again, the Nigerian government and the minister of health in his own wisdom, knowing exactly the firepower that exists in our facility, sent a sample to us, and again, within 48 hours, we found that it was a lineage or a strain of yellow fever that was circulating in that environment. That strain was very different from the previous strain of yellow fever circulating in Nigeria in the past 92 years. We made this information available to the National Center for Disease Control, they declared an outbreak, and then within two weeks, this outbreak that killed tens of children, were actually contained and thereby averting thousands of deaths that could have resulted from an outbreak of yellow fever in those communities. And then, naturally, we expect that for COVID we did the same thing, really saved the day

again, and put Africa on the map because at least it gave an opportunity that Africa could do things fast and accurately.

Nguhi Mwaura:

Yes, I think that's so important. And what I hear you saying is that over the past 10 years, there's just been really leaps and bounds in terms of Africa's capability to both detect and sequence a lot of different viruses, but it seems like the story is still just about the big outbreak, so Ebola and now coronavirus. What would you say is influencing that? And why aren't we hearing more stories about the wins that we're having against infectious diseases?

Dr. Christian Happi:

Well, it's simply because Africans don't talk much about their stories. And then the stories of Africa are actually spoken out of Africa by people that don't know Africa and then by people that don't understand what Africa is all about. And I think if there's anything to write home about, about this pandemic is a fact that the so-called specialists under the so-called models really do not know anything about Africa, because I think their model has fall flat wrong now. And it is clearly because Africans don't control the narrative about African story. And that's one thing that we are trying to do here, that is basically narrating the African story through the perspective of Africa by Africans, that we understand the reality of Africa on the ground, and then also proving to the world that Africa can do better.

Dr. Christian Happi:

I think there's one thing that we should be talking about. I usually just put this narrative forward, it is a fact that while people look at Africa as a continent that is plagued with diseases, I don't look at those diseases as challenges. I look at those diseases or those viruses and the pathogens circulating in Africa as opportunities in disguise, because right now we are proving to the world that we can handle the infectious disease better. We handled this coronavirus better than the rest of the world. And this only could come true because we know this virus better than any other person. We have managed more virus-

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Dr. Christian Happi:

... this virus better than any other person. We have managed more viruses than every other continent in the world. At any point in time in Africa, a country, we're managing at least two disease outbreak at the same time. So, outbreak and pandemic response is not always a matter of money. It's also a matter of experience. It's also a matter of understanding what these viruses are all about.

Dr. Christian Happi:

And then, you could see that through the COVID-19 pandemic. It is not necessarily because you have a lot of resources. It's not necessarily because you can buy 20 doses of vaccine for one person while he needs only two, but it is also about understanding and knowing how to manage disease outbreak.

Dr. Christian Happi:

And that, why the west is failing to recognize and give credit to Africa about its ability to manage disease and epidemics, Africa should be blowing up its trumpet. People within Africa should be talking positively about African stories.

Dr. Christian Happi:

It is clear now for some of us that are back to Africa to change the narrative that we're making the impact. It is clear that we're actually doing things the way that nobody ever expected. Africa today is using genomics as a way to drive the response to COVID-19. This is something that wasn't in existence in 2014 or 2016 during the Ebola outbreak.

Dr. Christian Happi:

The heads of state in Africa, in their wisdom, realize that coordination is needed for Africa to respond to the epidemic and to pandemic, and they established the Africa Center for Disease Control. The Africa Center for Disease Control leveraged institutions like ours, and we work together, and we provide them information, and they are using this information to work in real time to detect this variant much more faster than the west. You could see example in South Africa, where [inaudible 00:13:41] actually detect all these variant before any other person, made information available to South African government, and then they are using it effectively.

Dr. Christian Happi:

You could see the case of Nigeria where we identified this new variant. We're making this information available to the Nigerian government, and they are using it effectively in a very surgical manner in order to respond to this pandemic.

Dr. Christian Happi:

Imagine a country the size of Nigeria, 230 million people. Look at the number of deaths, just less than 2,000. Number of people infected. I mean, over a million, but then so many recovered. It tells you that Africa has what it takes to respond to these pandemics. Africa has what it takes to mitigate this pandemic. The west should come and learn from us.

Nguhi Mwaura:

So, there's so much that you've said in there, and I'd love to just tug on one of those threads, which is, I think I've heard you said coordination and experience are two of the things that really has helped the continent respond to coronavirus in a real way.

Nguhi Mwaura:

As we look forward, and I think a lot of the experts are saying that this is not a one-time event, other infectious diseases will start to pop up in different parts of the world. As we look forward, what are the things that you would want both the continent of Africa to learn from this experience, but also the rest of the world?

Dr. Christian Happi:

Well, first of all, let me start with the rest of the world. The rest of the world need to understand that there's a need to collaborate. There's a need for cooperation. There's a need to partnership. We can only be as weak as the weakest member of the link. That is clear.

Dr. Christian Happi:

And, any pathogen that emerges in the most remote place of the world has the probability to reach New York or Tokyo or Moscow within 36 hours. Then, there is a need for cooperation across the globe. So, we need to work together to have a better world and then to have a safer world.

Dr. Christian Happi:

Now, talking about Africa, I would say that Africa need to reduce its overreliance and its overdependence from the outside. Africa needs to strengthen its research, innovation, and working collaboration in order to strengthen... what I call is innovation is innovation.

Dr. Christian Happi:

Basically, because you can see that through this pandemic, whereby we relied so much on the outside when it comes to supply chain and then all of the need, the PPEs and everything that was needed to mitigate this pandemic. So, therefore, Africa should come together and work and set up vaccine development platforms and centers whereby we could actually develop vaccines based on the pathogens that are circulating in Africa to address African problems.

Dr. Christian Happi:

So, going forward also, I would suggest that the world build what I call an early warning system for pandemic preemption and pandemic response. We have just set up a program along that line, and this program will be supported by many philanthropists across the world, but we're just piloting it. We call that program Sentinel, and Sentinel that we set up in [inaudible 00:16:36] is an early warning system for pandemic preemption and pandemic response, and that is built on three major pillars.

Dr. Christian Happi:

The first pillar, it is our ability to detect pathogens early enough before they harm us. The second pillar of Sentinel is called connect. How do you connect this information that you are getting in terms of diagnostic technology and then diagnosing result very quickly to the public health systems so that they can respond in a more coordinated and a more precise manner.

Dr. Christian Happi:

And, thirdly, the third pillar is empower. How do we empower the healthcare workers so that they can use new detective technology and then connect the information in real time to the public health authorities?

Nguhi Mwaura:

Dr. Happi, what would you say to any donors or any philanthropists who are listening about what it's actually going to take to build out a system like Sentinel so that it is really effective in detecting the next potential pandemic? Or the next virus?

Dr. Christian Happi:

I mean, a group of philanthropists believed in us, and then they've given us, for instance, 100 million dollars to start this program piloted within west and central Africa. This has been demonstrated, because within eight weeks of this new pandemic, not only we went on to develop very quickly in Africa

an [inaudible 00:18:00] screening system that can [inaudible 00:18:02] people to do sit home and then screen and then go to the next nearest testing facility.

Dr. Christian Happi:

But, secondly, within eight weeks of this pandemic, we're able to develop what are called rapid diagnostic tests against COVID, and this is a nucleic based acid test, and that is leveraging what we'll call genetic technology called CRISPR. This was done here and within Africa, and that is actually approved already but the US FDA and their own emergency use authorization.

Dr. Christian Happi:

So, it shows that if you have a new virus at each point in time, you have the capacity to quickly respond, that is not only detect the virus but develop diagnosis very quickly and make it available to those in the front line, imagine for a second if you had the ability to quickly recognize what COVID was in Wuhan, imagine for a second if you have the ability to develop a diagnosis against this within a week in Wuhan. That can tell you that this outbreak wouldn't have... I mean, what became in Wuhan as an outbreak wouldn't have become a pandemic.

Dr. Christian Happi:

So, we have the ingredients. We've demonstrated that already within the small confinement of Nigeria. Imagine for a second if Nigeria wasn't intervening in a very surgical manner in the way that we're providing the data. They are seeing this data in real time. They are seeing it happening, and then they are going exactly where the hot spots are, and then they know exactly what to do.

Dr. Christian Happi:

So, we are demonstrating this in this small environment, so with 100 million dollar, we're [inaudible 00:19:26] to do this and then we still have to do more out of this. We just started. But then, we believe that by projection, with a value like two billion dollars, we can actually scale it up across the globe and then make a safer world.

Dr. Christian Happi:

Now, it's a small investment compared to what the globe has lost just within the past one year. Do we want to continue to live in a world that is at that high risk? Do the company want to really lose so much money, and then the health, what we call the mental health is also at risk. I think this investment is needed.

Dr. Christian Happi:

If people want to work with us, we're willing to partner not only us but partner with other investors and other organizations working in this space so that we can actually come up together and then create a better and safer world.

Nguhi Mwaura:

So, I heard you mention a little bit about the vaccine and vaccine nationalism as you were speaking before. At the beginning of the pandemic in February and March last year, we were hearing a lot about how we're all in this together. We've all got to pull together as a world to really fight it, but now that there's a vaccine available, would you say that's still the case? Are we still all in it together?

Dr. Christian Happi:

So, people have to be very careful, and I think it just makes a lot of sense to react uniformly across the world so that we can all together control this virus. But then, at the same time, I'm saying if there's anything to learn from it from the African standpoint, it is a fact that, you know I mentioned it before, and I alluded to it before, it shows our vulnerability, and then going forward, if Africa had developed its own vaccine or had something, would have had a voice at the table, and then people actually treated us with a little bit more respect, and then we would have actually negotiated better so that at least while counties are using 10 doses we could have said, "Okay, well, we can use five and then we'll give you three." But right now, it is like they use everything and they give us nothing because we have no alternative.

Dr. Christian Happi:

So, I think it is just the message that we can get here, but then the world needs to understand that vaccine nationalism is not really helpful because if you can vaccinate everything as much as you want, keep 10 additional doses for each citizen, but if a variant comes in that your vaccine will not manage or will not treat simply because you ignore a place where transmission was going on, then you are back into trouble.

Nguhi Mwaura:

So, our road to being vaccinated here on the African continent is definitely going to be a long one, and the message is we need to be thinking about how do we build our own in-house capabilities. I personally have questions about whether there's actually a very deliberate effort to lock the continent of Africa out, because then you just have a people who are sitting and waiting.

Nguhi Mwaura:

But, I'm going to switch tacks here a little bit. I would love to hear a little bit about you and your background. So, you were at Harvard for 12 years, and then you moved to Nigeria, so what brought you to Nigeria? What was that journey like?

Dr. Christian Happi:

I think the journey back to Nigeria was actually built around the fact that Nigeria is the most populous country in Africa, and if you wanted to impact Africa, you need to impact Nigeria, because then the [inaudible 00:22:38] effect of your impact will spread across the continent. But, that is one thing.

Dr. Christian Happi:

Then, the second thing is the fact that I have a very strong affiliation to Nigeria. First of all, I did my master's in Nigeria and then I did my PhD in Nigeria, so in a way, I felt... And then, while I was doing that, at Harvard, I was working on malaria, and was still working in Nigeria, because we had field sites in Nigeria, so naturally, you expected me to be back to Nigeria to make most of the impact, because it's a terrain I was really used to.

Nguhi Mwaura:

So, a lot of scientists and actually a lot of people would say being at Harvard is the pinnacle. Why would you then, in some ways, go back, "backwards" to spend your time and bring your expertise to Nigeria?



Dr. Christian Happi:

It was basically coming back to change the narrative. I got tired of hearing people speaking and talking about it, telling the story of Africa from American and from European lenses. I think I got to a point where I felt like, "Look, it is high time with the knowledge and skills that we have to go back to Africa, empower young Africans, and then establish a platform where Africans can start doing high quality science and talk about science and talk about diseases and problems of Africa within the lenses of Africa and with African perspective.

Dr. Christian Happi:

I think by doing that, we will change the narrative, and I'm glad that we're gradually changing the narrative. One of-

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Dr. Christian Happi:

... narrative. And I'm glad that we're gradually changing the narrative. One of the major impact that we made was started with Ebola outbreak in 2014, where we actually did the first sequence of first 99 genomes of the Ebola virus. And then, you know what? We made it publicly available. We had a lot of challenges doing that because, in those days, the idea was for colleagues from the West to parachute down in Africa, collect the sample, and then go and do the research afterwards. Then they could see the data being produced from Africa and made live available, which means that they could not do what they were planning to do... I mean, what they used to do before.

Dr. Christian Happi:

And then, I'm happy that pioneered what we call "open data access," where people can have access to information. And that has become the norm for COVID-19. Think about [Geset 00:24:45]. Geset is a database where everybody's depositing their database. Think about it. 10 years ago, or as in 2014, 2016, 20 years ago, that didn't exist, but we pioneered open data access. We're happy that that has become the standard, and then we'll keep innovating and we'll keep pioneering from Africa. So in a way, you can see that we are changing the narrative. We are changing the way Africans are looked upon, and then that is really telling African story from African lenses and from Africans' perspective.

Nguhi Mwaura:

So I love that idea of really coming back to change the narrative in science. And I think that there's a lot of people think about it in different sectors. When you think about your own sector, what are some of the common things that you are having to combat, even while you're on the continent? What are some of the narratives and ideas that you are having to come against, when you are thinking about changing the narrative?

Dr. Christian Happi:

Of course, the first challenge that you face are actually internally. The first thing that you actually face within Africa is a simple fight back because I want to believe that because we've been colonized and we're so battered as Africans. We've been told so many times, and through the media and then through all our colonial time and then from generation to generation, that we're good for nothing. The average African believe that he cannot do anything meaningful. The average African person may believe that

anything that come in from the West or anything that a white person would tell him or anybody, another person, is better than what he thinks.

Dr. Christian Happi:

So you, first of all, need to change that mindset and let people know that they as good as any [inaudible 00:26:17] out there. I'm not against collaboration. So, I'm for working with partners, collaborating with partners, and then we can actually do this together. So the average African thinks that, when he has to collaborate, he has to be an inferior person. He doesn't believe in terms of equal partnership and equity in the collaboration. The average African person would tell you that "Look, anything the white man says is absolutely correct and is justified."

Dr. Christian Happi:

So we are basically... First of all, our first combat is make people understand that the fact that you own this parasite... You see, God is not stupid. He created Africa with a lot of natural resources, but I can tell you what. He gave us a very powerful, very strong, a very powerful biodiversity. And as part of the biodiversity of Africa, you find virus. You find parasite. You find pathogens. And Africa should leverage it. These are the things that we're basically telling people, that the viruses and all of the things that are emerging from Africa are a blessing in disguise, and we should leverage them to treat the world.

Dr. Christian Happi:

We should be able to use... Africa should be the leader in the world when it comes to diagnostics, development, testing, development against infectious disease. We should be leading the world in terms of developing therapies and leading the world in terms of vaccine, because it is part of our biodiversity. It's very important that we start making Africans realize that these biodiversity that we have should be considered as wealth and not challenges and not problems.

Dr. Christian Happi:

So those are the first thing that we are fighting from within. Then the second thing that you fight from within is actually the lack of support. You don't have support from the environment. You don't have support from the government. You don't have support from people around you. And then the third thing that you really suffer from within is lack of financial resources. The Africans' government and then the African private sector really do not believe in the power of research. You could see most philanthropists in Africa will not invest money in Africa. They will go to Harvard and then donate money because they suffer from what I call inferiority complex. They suffer because they want to be associated and affiliated. You see philanthropists that leave Africa, go and donate \$10 million in institutions in the West, but they cannot donate \$1,000 in the communities near them in order to support the kind of research that we do.

Dr. Christian Happi:

So these are things that you got to fight from within, and then that becomes very, very, very, very, very important. But then, the last thing you want to fight from Africa is the fact that, going back, those hawks that have been touring Africa and then have taken Africa for granted, believing that Africans are just the ground where they can go and then collect sample and do everything, start fighting you because they don't feel... They feel that you aren't really going to change things. Very few of them are that collaborative. Some of them believe that countries and places in Africa, they are property. And nobody, even African, have no say when it comes to things happening over there.

Dr. Christian Happi:

So those are some of the challenges that you meet. But then, I also want to stress here that we have many colleagues and friends in the West that are very collaborative. And lastly, the other thing that you fight in Africa is the fact that Africa fear... especially the education sector in Africa... It fears the diaspora. Africa has a phobia of the diaspora because the system, the academic system in Africa, has been taken over by mediocres. And mediocrity really would try as much as possible to fight the diaspora because the diaspora would bring in some excellence, and they don't want to see it. They want to maintain the status quo.

Nguhi Mwaura:

So much of what you've just said makes me think that what we're really fighting is a continued legacy of colonization in terms of, even internally, that internalized inferiority, that internalized sense of not being good enough or not deserving to be on a world stage. And then, on the outside, it's really having people see the African continent still as a dark continent, a continent that still belongs to other people and not the people who actually live on it.

Nguhi Mwaura:

So you talked a lot about the threats, or the challenges, rather, that are within. When you think about the challenges without, and you've talked about the potential lack of collaboration from the global north or even in belief in African capabilities, what would your advice be to those people who genuinely do want to think about what does collaboration look like? Not crowding out African scientists but really working with, hand-in-hand, to be able to build these systems that will help us, as a world, kind of fight infectious diseases. What would your advice to those colleagues be?

Dr. Christian Happi:

My advice would be that they should approach Africa with humility. They should approach Africans with honesty. A few years back, I wrote an article in [inaudible 00:31:03], where I was promoting... where I say "root and not parachute." Research collaboration can prevent the next outbreak. The idea is that they should invest in Africa and develop the capacity of local Africans and work with them as partners and collaborators. They will see a lot of benefit into that.

Dr. Christian Happi:

But it's very important that they actually work with... they set up real partnership, partnership that is founded on four major pillars. Openness, one. Co-creation, two. Then partnership, three. And then you could think about equity. So, when you work on all of those things and work with Africans based on those pillars, then you will realize that you have tremendous benefit on the work that you are doing in Africa.

Dr. Christian Happi:

I can tell you that there are quite a number of people from the West that really work with African on these pillars, but a large number of them do not believe. They believe that they own up some countries, they own up some continent, and that the Africans do not have what it takes to deliver. And unfortunately, they have really not investigated or interacted with Africans deeply because I can tell you that Africans are super smart. It's just about approaching them and making them realize that they have so much to give. And yet, they are not just given the opportunity to prove that they can give that much.

Nguhi Mwaura:

Wow. So Dr. Happi, just to go back to kind of yourself and your career, you've talked a lot about hope and your hope for the continent. But what are some of the heartbreaking moments of your career and in your work? And if you want, could you pick up on maybe just one instant of when that was really poignant?

Dr. Christian Happi:

One of the most heartbreaking moment of my career is when I lost one of the most important, if not the bravest, doctor in Africa during the Ebola outbreak in 2014, 2016. And that was when Dr. Sheik Umar Khan in Sierra Leone died. This was a doctor that took care of hundreds of people with Ebola virus disease. And then, at some point, one day I was told that he is sick. He was a captain. He was a champion. And then, because he was taking care of so many patients, he was tireless. I think, at some point, he got exposed and got infected.

Dr. Christian Happi:

When Dr. Khan got infected, I suggested that they shouldn't keep him in Kenema, where he was the captain and he was the head of the team fighting for Ebola, that he get taken to one place. That moment was a time where I cried to the whole world. We needed medicine to treat him. I cried to the whole world. I requested from everybody to give me whatever they could have to treat him. I requested for him to be medevac-ed to the UK or to the US. Unfortunately, he wasn't a citizen. He couldn't go.

Dr. Christian Happi:

Unfortunately, for some of the nurses from these countries, UK, Germany, and everywhere, when they are citizen, on the ground, got infected, they medevac-ed them. And then they give them treatment in the best facilities. And then, they survive. Another friend of mine who was working in Kenema... I don't want to mention the name here... an American citizen, a doctor... I can mention Dr. [Aaron Crozier 00:34:19]. He's all over the US and giving talks on Ebola. When he got infected, the same medevac that were refused was given to him. He was taken over and then to America and then got treated. Today, Aaron Crozier is alive, but Dr. Sheik Umar Khan is dead. And that made me realize that our lives are not equal.

Dr. Christian Happi:

Our African life is cheap. The other lives are very expensive and very precious. Anytime I talk about this, I get very emotional. I remember asking for medicine for Dr. Khan. I was told that it hasn't been approved by WHO. And unfortunately for him, he died. But those that got exposed and traveled back to their country got treated with the same medicine that Dr. Khan was denied. And that, for me, made me realize that, look, our lives are not equal. But that is also something that made me very determined because I keep saying, "In his memory, we'll keep fighting until the status quo will change."

Nguhi Mwaura:

What a powerful story and what a powerful legacy that he's leaving behind. Thank you. I want to wrap up now and ask a question we ask all our [inaudible 00:35:38] guests. Would you share with us what your words to live by are, so to speak? Is there a quote or a song or a poem that you go back to for strength or inspiration?

Dr. Christian Happi:

I believe in one thing. One thing that drives me is that, when I go back into history and even back in the Bible, you realize that we're all born equal. And-

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Dr. Christian Happi:

You realize that we're all born equal. And then you realize that when it comes to science, really, look at it, science was born in Africa. Look at Egypt. Look at the Pyramid. Look at how Socrates, an older philosopher came to Egypt to learn and took that back to their country in Greece and other places. It shows clearly that Africa has a lot to give to the world. What happened between the Great Pyramids in Egypt, you can imagine the level of physics and maths that got there. Up until today, the secrets of those Pyramid is not revealed. It means that we have something in us that many people don't have. And that's what drives me. That what makes me believe that, look, I also have to contribute. If our forefathers and our ancestors contributed so much to civilization, I wonder how much Africa could contribute to the present world, if given the opportunity. Let me just put that statement there.

Nguhi Mwaura:

Oh, I love that. I absolutely love that. Thank you so much for your time. We really, really appreciate it. It's just been an amazing conversation. Thank you, Dr. [Happy 00:37:06].

Dr. Christian Happi:

Thank you.

Courtney Martin:

Wow. What a great conversation, [Nguhi 00:37:18]. I so appreciated that. I found it especially interesting to hear a scientist talking about narrative change. That really surprised me, to be honest. I thought he'd focused on this incredible project he's created, the science behind it, which he did, of course. You pulled that out of him really beautifully, but he also talked about the colonial mindset among Africans, not to mention the rest of the world, with such passion, something that you laid out when we first launched this conversation. What did you make of the way he talked about colonialism and the way it's sort of infiltrated the minds and hearts of your own people?

Nguhi Mwaura:

Yeah, I think that Dr. Happy did something that other solvers we've heard on the podcast talk about, which is you can't just focus on the issue at hand. You really have to get into the layers and into the depth. And I think at the heart of it is this thing that's so much harder to solve for than just mapping a coronavirus genome. You have to get into hearts and minds and, essentially, the colonial project really did destroy any belief in anything that, not just Africans, but Black people across the diaspora, had to offer and really worked hard to build a narrative of inferiority that was then internalized and has been passed on.

Nguhi Mwaura:

So I thought it was incredibly powerful because that's what he's actually having to fight. It's not just about getting enough funding. It's not just about being recognized on the world stage, it's how do you

help people rebuild that sense of worthiness, almost, which is so interesting because right at the beginning the story of Onesimus is so indicative of what has happened to African histories. It's been rewritten. Other people have taken credit for it. We see that time and time again with just giving credit to the wrong people about where did knowledge actually originate from. And so if you continue to do that to a people for 500 years, then yeah, you're definitely going to have a lot to contend with.

Courtney Martin:

Yeah. Well, and I love, I think the way that you framed it up and the way you both navigated the conversation retaught me, I feel like I need to keep learning this over and over again, that we have to look back in order to look forward. Like we have to truly understand history and keep re-understanding it and keep revisiting what we thought was true in order to understand what can be true, if you know what I mean. Like, of course, I know about colonialism in a general way, but I feel like I need to just continually learn from people who are refining that history and reframing it in our contemporary times so that I can keep pulling the thread forward to understand how it affects what's happening today with vaccine nationalism and all of these present day and future implications of our understanding of that history.

Nguhi Mwaura:

What you're saying, Courtney, actually reminds me of a quote. Oh, I hate this like African proverb saying, but like, I don't know who to attribute it to. But it's the saying that, "Until the lion learns how to write, the stories of history will always celebrate the hunter." And so I hear you on like, yes, we need to go back in history and really start to uncover what is the history that we've been taught versus what actually did happen? History doesn't have an objective lens. There's always someone that stands to gain from whatever history it is that they're teaching. And so taking the time to actually unearth what was real, what wasn't. And it's really hard on a continent where for a lot of cultures that was oral history and part of how that was destroyed was by indoctrinating and allowing English to kind of become ... or whatever lingua franca it was. So whether it was English or Portuguese or French, allowing that to be the language of communication also really destroyed histories and cultures in that process.

Nguhi Mwaura:

So, yeah, I do think that we need to look back in order to be able to look forward, because I think then you would actually start to think about how much contribution has the continent already given, and then start to really question, well, why don't we see opportunities where others see lack? I thought that the story that he shared about the polythene bag of the coronavirus sample was really powerful because initially, I had thought, "Oh, my goodness, it sounds incredibly unsafe. Why couldn't they have done it better?" But as I've thinking about it more, I realize that they've done so much with so little. And I think that that does end up being the story of the continent is like, how do you do so much with the little that you're given and then how do you celebrate that? And not from a lens of lack, but rather from innovation.

Courtney Martin:

Yeah. I mean, constraints. Talk about constraints. It's just profound what we can do with limited resources. And also, one of the lessons for me, as someone coming from like a Western white background, is how damaging having more resources than you should have is. That limited resources in a context of oppression is totally screwed up, but in the context of having too much and damaging the planet, damaging our interdependence by like resource hoarding, et cetera, understanding the beauty of

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limiting your resources and the ethical duty of that feels really profound on the flip side. Wow. Well, so much here and so timely, just so profoundly important for this moment we're living through. So thank you for that conversation, Nguhi. I learned a lot.

Nguhi Mwaura:

That's it for this episode of Solvers. You can subscribe to the show on Apple Podcasts, Spotify, Google Podcasts, or wherever you're listening to this. Solvers is brought to you by The Skoll Foundation, hiring social innovators to transform our world.

Courtney Martin:

Solvers is produced in partnership with Aspen Ideas by Golda Arthur, with help from Jessica Fleuti, Ava Hartman, Ryan Jacobs, Trisha Johnson, Marcy [Krivanin 00:43:33] and Zach [Slovik 00:43:34]. Our music is by Wonderly. Email us at [solversatskoll.org](mailto:solversatskoll.org). Tweet us @skollfoundation, #solverspod, or me, Courtney, @courtwrites.

Nguhi Mwaura:

And if you like what you heard, please rate and review us and share this episode with someone you think would love to hear Dr. Christian Happy's story, too. See you next week.

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