Dr. D'Anne Rudden: Whoever named the parts of modern songs, knew what they were doing.

Verses, choruses, and bridges, all have names that relate to their role in a song. A verse, comes from the Latin word "vertere" which means to turn, as in turn a page of a new story, verses should tell the story. A chorus means a large group of people singing together which typically is what a chorus feels like. So, what is a bridge in a song?

Think of it along the lines of its real-world association. A bridge connects two parts of a song in a cohesive whole. A song's bridge is a section that's meant to feel different from the other parts while serving to connect them both. It's supposed to be a contrasting part yet one that still fits within the context of the song. Lots of times, bridges use a new chord progression, a new time signature, or even a new key. Often, bridges tie choruses and verses together.

Another interesting note for all of us that are non-songwriters, the bridge is never the very end of the song. A bridge is meant to take us back into the song, back into the chorus most of the time. So, what does that have to do with audiology?

Well, we've all heard the statistics, nearly 1.5 billion people globally live with hearing loss according to the World Health Organization, and that's 20% of the world's population. It is expected that by 2050, there could be over 700 million people with disabling hearing loss in 2014. From a speaking engagement at the national convention of the Indian Speech and Hearing Association, Dr. James Hall wrote an editorial for the hearing journal, where he speculated that each of the 1,500 registered audiologists and speech pathologists at the convention would need to see about 20,000 patients per day to even begin to provide hearing care services to those who need them most.

But that was almost 10 years ago, and it's still the same old song. I don't know about you, but I think what this song need is a really good bridge to lean into.

On the podcast this month, we are building bridges for audiology care with one of our profession's greatest minds, and arguably one of its biggest hearts. Dr. Jackie Clark is a clinical professor in the AUD program at the University of Texas, Dallas School of Behavioral and Brain Sciences. A research scholar at the University of Witwatersrand in South Africa. She is a co-founder and co-director of the Coalition for Global Hearing Health, as well as the past president of the American Academy of Audiology. She regularly consults with the World Health Organization's division of hearing loss and deafness.

Dr. Clark, welcome to The Hearing Journal podcast! I don't know if you're a musician, but you have been singing the song of better, more accessible global hearing health care and pointing us toward the future of teleaudiology for a very long time. Thank you so much for taking the time to chat with me today.

04:23 Dr. Jackie Clark: I appreciate the invitation, and I always love the opportunity to share what I can with others.

I was a musician, I grew up and started playing the piano when I was in elementary, then I transitioned to a clarinet, and that's a whole interesting story of it by itself of why the clarinet. When I finished high school, I tried to transition over to banjo which I really love, but my parents said that I can get banjo lessons after I learn how to play the banjo, that's a good reason when you live in poverty. Then, I transitioned to the guitar.
I love music. It’s just part of my DNA. I think that it’s important for us to try to live in unity, but also for us to march forward in unity. We have to understand that that’s where our power is. Splintering off with smaller groups and trying to say that we’re better, and we know better than you. By continuing in the splintering, it will not serve us well, it has already proven it does not serve us well not to be unified.

05:30 Dr. D’Anne Rudden: Wow! You’re getting us started off, by jumping right into the deep end of the pool, and I love that because you are not just someone who is an audiologist and walks in our shoes every day, but you are an influencer on hearing health care policy worldwide. So, how did that happen?

05:55 Dr. Jackie Clark: It continues to be a great journey, and I wouldn’t say I’m an influencer.

06:01 Dr. Jackie Clark: I started in fashion merchandising and marketing, which was my original degree, but prior to that, there was really no hope for me in my family because I had a lot of processing problems. I really didn’t understand a lot of what people were saying for quite a few years. I didn’t become a competent reader until I was in high school. I had auditory processing. I didn’t understand what people were saying—I was a mess.

My parents were really pleased that I graduated from high school because we were the first generation of high school graduates in my family. When I then started going to junior community college, I thought that’s about, that I can handle that maybe. From there, I met some ladies in Montgomery Ward in Greeley, Colorado, one of the oldest Montgomery Ward stores, and these ladies had been in that old antique store, since they were teenagers. They had spent their entire life working there, the floors are all worn everything from traffic. At that moment, when I realized they had spent their entire life in the midst of those two small rooms being joined together, I said, "That’s not me. I am not going to spend my life contained in these two rooms, and a very antiquated building, selling stuff." I enjoy selling. I’m great at sales, but not my story, so I decided to go into merchandising and marketing, graduate from Colorado State University, and came to Dallas to do almost an internship one semester long, and stayed. I stayed in Dallas.

Having worked in the retail industry for a few years then stopped because I became pregnant, and women don’t earn well, especially in retail. There has to be more to life than working in these larger stores. I was responsible for these stores. There has been more to this life than that.

I’m impacting the world in the way I would like. I always hearken back to how did they fix me? When I was in elementary school, how did that happen? And, that was something I don’t understand how, so then set me on the pathway. Originally, my degree was a Master’s in Speech Pathology, but I loved audiology and speech pathology, so I did a dual degree and it just kept going because I just had that time lost in Elementary and junior high. I kind of struggling to understand humans in general.

08:55 Dr. D’Anne Rudden: You’re walking in the shoes of the people that you’re serving. And, that speaks volumes.

Teleaudiology and telehealth are not new to you. This is something that you have been looking at, exploring, and championing for a very long time. For those people that think this just happened in the pandemic, give them a little history about the evolution of telehealth for audiology.

09:29 Dr. Jackie Clark: The evolution is pretty interesting because we seem to sit in a spot where it says over 20 years ago of nothing happening. There’s a lot of resistance to the typical mantra from audiologists when they could see that a machine could actually do the testing. Oh! What’s going to happen to us? There’s a very small concept of what audiology brings to the world.
It had to do with one of my outreach projects because I used to go to Mozambique and take students with me, and we do outreach there, which I understand there's a lot of need here in the US, as well. But you're talking about, we're rich in comparison.

It just happened that a few years after I started going to Mozambique, I met De Wet Swanapoel. He was still finishing up his PhD work. When I would come through port in South Africa to try to make connections with him, and some of my other friends eventually, my stay in South Africa became more prolonged. He said there's something I would really be interested in. I want you to meet Dirk Kircher.

Dirk Kircher is the most brilliant individual. He is very humble, and just a good kind soul, but incredibly bright. He's an MD, and he was the one that started going because South Africa's needs are huge. If you're trying to serve in communities that you can't access, then they can't access you. The need really appeared as glaring in South Africa and Africa, in general.

He started showing me some of his little toys, he started out with a whole wide breadth of medical telemedicine. I think, he really set a huge stage. But he realized he needed to hone in on one, and he honed just the audiology aspect of it. He learned audiology on his own and did the testing. Not to say he was doing clinical work at all, it was just to facilitate his tele stuff. The big eureka moment was having served in those rural areas where people can't access it, then the eureka moment was, "We could do this! Why are we not?"

When I came back and started trying to promote it, the push back was, what's going to happen? Are they going to take over? What do we do? Are they going to take over our business? There are always reasons for us not to do things. We like to think up reasons why we can't, but I tend to be of a mindset of how we CAN make this happen. What are the bumpers we need to put up to make sure we stay in our lane? That's ultimately what we need to keep in mind is we are the bumpers.

We got really involved in Texas, and I start pushing really hard for teleaudiology in Texas and getting it as a part of our scope, recognizing it within the state. We are the bumpers. What do I want audiologists to do? Audiologists at that time were hesitant and would think that maybe someone from New Mexico might be fitting hearing aids in Texas, or someone from Oklahoma might try to steal the business.

In my opinion, if you can't serve your population if they're easily swayed, then you got bigger problems in teleaudiology. You need to look inwardly at what you're doing. It is like that kind of catalyst setting it all in motion.

I have a lot of Irish in me, and I just keep banging my head and pushing because even if we move in millimeters, we can still move forward and recognize that we have to step back and breathe and look again, maybe we miscalculated something, and then slowly inching our way forward again. This is the way, and I keep saying thank you COVID because it forced us to say "Fine! We can do this."

I taught online for 10 years prior to COVID, and our faculty are saying that they can't do that. Yes, you can.

13:38 Dr. D'Ann Rudden: Thank you COVID. It definitely forced us to get out of our own way because we didn't have any other choice, but now that we've gone back to normal, how do you keep audiologists in the game? How do you keep them interested in doing telehealth and teleaudiology?

14:02 Dr. Jackie Clark: I think that there have been a number of flames that have been lit from COVID. It doesn't mean that everyone has to embrace it, totally. If that's what you don't want to do, then don't do it. It goes back to
the business rule. Every 10-80-10 rule, you have 80% of the population that is going to do one thing, and that they're going to stick together. You also have that 10% influence, they're able to move the needle forward. That 10% ends up will eventually become a larger group. We will inch together.

There are states recently that had not even looked at their scope of practice for audiologists, and that's a plus to say that we need to look at our scope now.

Now that it is happening, and we have a written license for teleaudiology, unfortunately, it's baby steps because humans are just fearful of change.

15:09 Dr. D'Anne Rudden: Definitely. I've been around the block with audiology long enough to have seen a lot of fear and a lot of change over the years that we may be grudgingly working towards those changes, but eventually, we realized oftentimes that it was actually in our favor to make those changes.

15:33 Dr. Jackie Clark: Yes. Remember the Go, Go Boots and miniskirts? That was the ruination of all teenagers. Was it? Yeah, our society continued.

15:42 Dr. D'Anne Rudden: We all got through it. You are a scientist at heart, before we end this segment, I want you to give us a rundown of what the evidence and research say about the efficacy and the patient outcomes of teleaudiology.

16:22 Dr. Jackie Clark: Yes. It was one of the studies we did quite early on. De Wet came to the US to be an adjunct at the University of Texas, at Dallas. He and his wife came for three months, where they interacted with our faculty.

One of the things that we worked on was the efficacy and validity of teleaudiology. He ended up having his lab, have patients come in, in Pretoria. He would have his hands working, putting, and getting patients ready, and then he would test them from my guest bedroom in Florida, Texas.

Think of the distance. First thing, they're going to say, "Well, how much of a lag is there? How clean is that test? How accurate is it? That's always been the concern, but the data is clear that the lag which we also have in the US, and it's always expected in South Africa. I can't remember the millisecond time difference in patient response because the patient was in Pretoria, and he is up here. We did a repeat of that where I ended up being not one of the subjects because I can't shut up.

I do test for local people, and people in Pretoria, such as face-to-face versus tele, and compared the results to Divott's and mine. If you're talking about within milliseconds difference thresholds, then we are definitely within test-retest, but they were tighter than that 10 dB, and we're at about five dB.

There's no difference than if I were to walk into someone else's suite and do the test. The only lag or the difference is what always hangs us up in audiology, and with the population when we start doing speech testing. Unfortunately, I have what people feel is an American accent, but my voice is harder for someone who speaks other dialects in South Africa.

There have been some great studies, but not the ones that Devitt and I are involved in. They have continued to reinforce that there is no difference. None. We got to be very aware of making sure that we have secure transmission. It's not like you have to have Fort Knox at your door to make sure it's all safe, but even what we do have is very safe, and very clean, so why are we getting upset? The next part of it is why are we so worried about
having assistants do some of this work.

19:18 Dr. D'Anne Rudden: I'm going to pause you right there because that is a whole other set of topics that we should jump into next in the Aftershow.

I am blown away by you. I've listened to you for 20 minutes, and if you don't think you're an influencer, we have to hang out a little more because I will convince you that that is absolutely true. Thank goodness that you are on our side.

Jackie Clark, thank you for being on the podcast. We really appreciate all the work that you do to push us forward.

19:51 Dr. Jackie Clark: My pleasure. Thank you.

AFTERSHOW

00:44 Dr. D'Anne Rudden: We're back on The Hearing Journal Podcast Aftershow with Dr. Jackie Clark. We have been talking about teleaudiology and one of the things that you said in the first segment started hinting and bringing up this idea of using assistance. And I know that's been a topic that we've talked about on the podcast is the use of and the role of audiology assistants.

When you level that up to teleaudiology, what does that look like, how do we fit, how do we get over letting go of some of the tight control, and holding on to all the things? How do we let someone else do that? How do we see ourselves?

I want you to give us your lens on how that works and what you see especially with teleaudiology.

01:51 Dr. Jackie Clark: I think because we are unfortunately human, and we also know that we tend to run off of fear. Fear is a good thing. I'm not discrediting fear, it is important. I would say that's exactly how cavemen knew not to go after some big beasts because they knew they were going to be killed by the beast. There are also ways for us to manage that fear. Instead of having the fear paralyze us (which is where we tend to be is just paralysis) we can use that fear to make some intelligent decisions, and then tamp down the fear so that we can then start mobilizing ourselves because we want to make sure that we don't have a bad actor coming in.

The fear factor of what audiologists consistently have said for many decades of why they didn't want to do teleaudiology, is that someone might take over their stuff, or they are going to have to hire an assistant. And boy, that assistant might take over what they are doing or take over my patients. I've heard that way too many times saying, "The assistants going to take over my practice, and they're going to move to another place."

I like the Mayo model tremendously because they have a number of audiology assistants that they hire that are really for us. It is going to be the way for us to continue to serve hands down, and we've got to push the fear to the side and start thinking intellectually about the bumpers and the curbs.

In Texas, one of the things that we did when we started talking about teleaudiology and part of our code and our licensing was about the assistants. Let's try to be clear about who will be the assistant, and what will their scope of practice be. So, they can be licensed and knows how they can get their education. Again, let's put fear aside because we don't want to be paralyzed, we want to move forward.
I always like to use the whole model of radiology. Radiologists are not the ones that are moving your arm onto this plate. They are not doing the actual physical manipulation of your body for a mammogram. That's not what the radiologist does. They have radiology technicians who are their assistants. Do they feel like they're fearful? Well, apparently not because you will not see a radiologist doing radiology front line work. They're the ones that are going into the more advanced thinking about what it means. Is this really a shadow or is this an indication of some other pathology? It is where we have to go in audiology. We need to let go of that saying that we have to have our hands on the audiometer. We love testing patients, and we love interacting with patients. But, if we can teach an undergrad student how to do a pure tone very quickly, then I'm sorry, I just don't think that's an advanced notion, but that's a very basic notion.

Why don't we let go of that fear and let's make a better plan to implement? It also to the total audiology needs.

05:05 Dr. D'Anne Rudden: This might be a little bit of a tangent, but sometimes it's because we have a hard time wrapping our heads around who we really are. If you can't identify the differences between you and an assistant, or you and a hearing aid dispenser, then maybe that's where the fear comes in.

05:37 Dr. Jackie Clark: Preach it, my friend.

05:38 Dr. D'Anne Rudden: When I'm listening to you talk, I'm wondering if that's the route.

05:45 Dr. Jackie Clark: I believe it is. When there's the fear that the assistant is going to take your patients, if you're fearful that you're not demonstrating what your AuD was all about, which is the breadth of knowledge, the anatomy, and physiology you have learned, then again, that's when you need to be looking at results. We've got to be better all the time by thinking and keeping current. These are not straight-up conductive hearing loss, I see the TMs are doing fine. There's something else going on giving this impression, but what is it? Let's go back to physiology. The assistant doesn't know this.

06:28 Dr. D'Anne Rudden: I don't know if that also stems from the hierarchy of what and what not to handle such as what to diagnose, and what words to use because we are not a physician. Where do we fit? Who are we? Those are the pieces of the puzzle that we get to handle.

06:50 Dr. Jackie Clark: We do. Again, it goes back to the fear of the diagnosis. It is one of the mantras we tell our students that we do not medically diagnose; however, we have been trained to say, "Oh, it looks like the problem in this particular part of the auditory system, which could be..." he could list three things.

When we write our report to the physician that we're referring them to, we're trying to rule out some of these possibilities, but we're not defining what it is. We're concerned about a retrocochlear issue, we're concerned about a conductive problem, which might be stemmed from. If we send the patient blindly to the physician, then they're going to say, "What exactly is the problem here? What is it that you saw? What is your red flag?", those are what they need to know.

07:43 Dr. D'Anne Rudden: Right. We are supporting their diagnosis.

07:48 Dr. Jackie Clark: We're not diagnosing at all.

07:50 Dr. D'Anne Rudden: One of the things that I also know about you is that you are an advocate for audiologists being more collaborative with the healthcare teams. One of the things we should be looking at is the other
professions and comorbidities that are associated with hearing loss. Talk about how we become a more cohesive part of the health care team.

08:27 Dr. Jackie Clark: The first step is to recognize the value of your degree. Sometimes, we get a little insecure as audiologists, but, an Au.D. and a Ph.D. in audiology have a great breadth of information. Honestly, it's exciting when you are engaging with other professionals about the auditory system. I love talking to my fellow audiologist, but I mean, other medical professionals. You will learn more if you try to engage and interact with them. Of course, we don't want to come in acting like we're smarter than them or because that's really a little off-putting. How many of us would like to talk with someone that is trying to show us that they know more than us? It does enrich our experience in dealing with patients and understanding some of the pathologies.

I learned a lot from my medical friends—that's how we do it. One of the great examples is the pea pod that I learned about some years ago. You have Podiatry, Optometry, Dentistry, and Pharmacology. Those folks have started marching in time together as a group saying that those people with diabetes need to have their pharmacology checked on a regular basis to make sure everything is okay if they're diabetic. They need to have their feet checked regularly to make sure that there are no sores. Optometry if (patients) might have some vision problems. Dentistry, if there is a problem that occurs that's associated with the diabetics. If we start looking at that, then that's a good partnership. The audiology needs to be there. It needs to be a pea pod, I don't know.

I won't say we insert ourselves, but we need to share with other professionals, what we can bring to the table. By the way, did you realize that you can expect some hearing loss? Do you want us to monitor that? The beauty of it is that when a person goes to the pharmacist, and they get their meds, the pharmacist then goes, "Hey, have you had your feet checked, recently? What about your dental?" They asked the patient when was the last time you've had this check. So, it really is an organized, orchestrated way of patient care.

11:07 Dr. D'Anne Rudden: So, that brings up the role of the pharmacist. How that has come to the forefront of where we receive a lot of our medical care? I'm not sure if those folks intended to be on the front lines of every healthcare condition, but they clearly are.

In your article in The Hearing Journal this month, you talked about a model of having hearing testing teleaudiology within the role of a pharmacy.

11:39 Dr. Jackie Clark: Yes.

11:40 Dr. D'Anne Rudden: I hear my colleagues going, "Well, I don't want them to be able to screen hearing in a pharmacy."

11:46 Dr. Jackie Clark: "It's going to be loud." Welcome to the modern world, we have noise-attenuating headsets, remember? Can we get a clean test and at least say that can we do a screening? Do I need to have them referred? Do they need to go on to have further testing done because there are some conditions that we already know will result in some hearing loss? Why not have it at a pharmacy, and use your noise-attenuating phones on because that is a model that actually is in use now? Again, that was in South Africa.

12:21 Dr. D'Anne Rudden: What I'm hearing you say is like, instead of being fearful of whose doing hearing screenings, where it's happening, how often it's happening, we should be singing the song of hearing screenings because, at the end of the day, it doesn't matter who's doing the hearing screening? If they find an issue, they're going to be looking at an audiologist to be the next step in that.
12:53 Dr. Jackie Clark: Exactly.

12:55 Dr. D'Anne Rudden: We're so hung up on the screening part, that we can't get past it.

12:59 Dr. Jackie Clark: We can't get past it, but screening is supposed to be a pass-fail. Those who will pass, the next time around they may not pass. It's not like they're going bleed to death.

My mantra is, I'm not going to live my life in fear, and that needs to be an audiologist mantra. Do not live your life in fear, look at opportunities, embrace the opportunities, and set fear off to the side because the fear will totally paralyze us.

13:23 Dr. D'Anne Rudden: Who else other than pharmacists? If we look at telehealth-enabled strategic partnerships, what professions make the most sense? You mentioned a couple, are there others that are just not thinking about?

13:40 Dr. Jackie Clark: Yes. We think about children, and we don't lock arms with nutritionists, especially some of these children that have some failure to thrive or have other conditions. We would expect with the young system that's still trying to mature. I am concerned about the sensory system that is taking a hit because of malnourishment. I understand that we are a wealthy country, but you can still be malnourished by the poor food choices that are made. So, the ones are the nutritionists and the dietitians. We can also partner with the dietitians with our pharmacology folks, as well.

We're only limited by what our imagination cannot think up as we start thinking about partnering with a variety of people. South Africa to me was a big eye-opener because they do partner regularly with a lot of the frontline workers that are out there. A nutritionist is not a doctor, but some have doctorates in nutrition.

The pediatrics are also the frontline, especially when you're talking about some of these children that do have a failure to thrive, and they definitely need to fall into that area of keeping an eye on their auditory and sensory systems.

There's a variety of people. Let's just start thinking beyond our noses by thinking further, outward of who we can partner with a lot of opportunities, and great ways to learn things.

15:19 Dr. D'Anne Rudden: I want you to get out your crystal ball and take a look into the crystal ball of audiology, and speculate for me because you're clearly one of these people that is always looking towards the future.

What's happening with telehealth and teleaudiology in five years, or 10 years, or even 25 years when hopefully, we are both retired? I don't know, maybe not. If I can do hearing tests around the globe from the comfort of my kitchen, Island. Maybe I'll rethink that.

16:03 Dr. Jackie Clark: Well, you know, Dirk, Devitt, and I sat down once we were talking about doing just that kind of how we can have people volunteer to do audios from afar? That's not far-fetched. That notion was probably about 15 years before its time, and I think we're finally getting closer to that notion.

The crystal ball is, I see so much opportunity for audiologists, especially if we can just get rid of our baggage of fear, and think of the opportunities that are that are waiting for us. The next part of it is it goes back to what my mother always said, "What do you care about what they think about you?" That always lands right in the middle of my brain when I feel especially when you're the president of the American Academy of Audiology.
you're attacked by people for the words that they say, and that they don't know how to monitor. At those times when you're going, you will be thinking that maybe you are not doing a good job. We have to look back and look within what I can offer.

And by golly, I don't care what people say because people like to run their mouths. Especially, very insecure people love to nitpick other people because that's their way of making themselves feel better. But there's so much opportunity, and I believe COVID has pushed a lot of people off of the high center.

I do believe we're going to see more of concierge audiology. I'm starting to see more of that pop-up. I think, that's going to take hold and go pretty wild because that's going to depend on teleaudiology.

There are so many opportunities that it's hard to put my finger on one thing other than look at it and don't become paralyzed with fear. Just embrace that little bit of fear because that keeps you on your feet and keeps you wise. You then are going to make a plan on the back of it all. Do I need to pivot? Do I need to shift back a little bit? Do I need to turn right? Just be savvy with it. There's a lot of excitement and a lot of great things that are there for Audiology.

18:19 Dr. D'Ann Rudden: It's almost as if I could go back and tell my 20-audiology student-self, "What did you think was not going to change over time?"

18:32 Dr. Jackie Clark: That's exactly it. Humans doesn't like change. It is part of being human. What I always tell my students and I share it with people when we have challenges is that you look at the pearls and see how beautiful they are. If you know the story behind how the pearls are formed, they're inside this shell. It's the sediment and dust junk that comes into the shell that causes the clam to excrete a hormone. The hormone then causes the pearl inside to grow and get more lustrous. So, whenever we're having tough times when things are hitting us in the face, a lot of debris, and a lot of stuff, that's when you have to say that you are going to shine, and you are going to shine now. That's really part of it. It takes effort and some bruises, but we're going to shine.

19:30 Dr. D'Anne Rudden: Dr. Jackie Clark, I have loved our conversation, and I hope that you keep rumbling with change and pushing us all toward the future because we're better for it because of folks like you.

Thank you so much for the conversation today.

19:48 Dr. Jackie Clark: Oh, thank you. I enjoyed it. Would you send your thoughts to my bosses, they don't like my grumblings.

19:53 Dr. D'Anne Rudden: Oh, I'd be happy to! I'll be your advocate, anytime.

19:56 Dr. Jackie Clark: Improvement. We're not going to do that.

20:00 Dr. D'Anne Rudden: Thanks so much.

20:01 Dr. Jackie Clark: Thank you.

20:03 END