

Speech Pathology with Christina Hunger

Ologies Podcast

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Hey there, what's up? It's the bee that is trapped in your car that does not understand that you opened the back window for it, Alie Ward. I'm here, I'm using my mouth, and I'm saying sounds to tell you about an episode that I have been hoping to do for about a year or so at least, so we're getting right into it.

This ologist got a Master's in Speech-Language Pathology from Northern Illinois University and works as a pediatric speech pathologist for early intervention; that means tiny kiddos. After her name, there are a bunch of letters: MA, CCC-SLP... I had to google them to learn that they meant Master of Arts Certificate of Clinical Competence in Speech-Language Pathology. Very fancy.

And like the rest of the world, doing nothing but bathing in hand sanitizer and looking at their phones in the beginning of 2020, I saw a video of a dog named Stella, a chocolate brown heeler mix, just asking to go to the beach, using a talking buzzer. And life kind of slowed down. I wanted to melt into the floor and contemplate talking dogs forever.

So I started following the @Hunger4Words Instagram and I would hear this ologist and her partner Jake training Stella with this expanding vocabulary. The day is finally here, I've been waiting this whole time. We have her on *Ologies*. It's happening! She's here. Not Stella. The dog is not here. The speech-language pathologist is.

But first, I have an announcement for you. I'm going to make this quick, but this one is really big, so please hold on to your one collective butt. I'm finally doing a live show, y'all! Why not! How bad could I screw it up? We're going to find out on May 18th, 2021. It's a virtual show, it's "Catching Up with Dadward, *Ologies* Live!" and it is featuring the return of our very first guest, Volcanologist Jess Phoenix. We're going to be catching up on volcanoes that have gushed molten rock since I talked to her four years ago, how she felt about running for office, where in the world she has been hammering rock samples since. She wrote a book. She's been on CNN a lot. So, May 18th, live. I might wear a ball gown. I might wear a tattered yellow sweater.

We will address questions that we never got to, ones that we never thought to ask the first time. I will probably swallow my words about a Pixar short. I will definitely tell secrets, and more. We will be tying up a lot of loose ends and she will probably be addressing the *Ologies* community directly to tell you how awesome you are.

Anyway, a lot of catching up to do. Tickets are \$12, or \$9 if you're a patron. Links for the live show tickets will be right in the show notes. There's a limited-edition shirt design, too. I'm going to be doing some one-on-one meet and greets available to patrons only because I love them. You can join if you want, Patreon.com/Ologies. But the live show is for everyone. Tickets in the show notes. Spread the word. May 18th.

Also, thank you to anyone leaving reviews. I read them all, and then I prove it by reading a still-drippy wet one to you each week, such as this one. It's short. AAVvaa4321 says:

Unapologetically passionate about science! This is a safe place for nerds.

A very short review, straight to the point. If you leave a review, I have read it, so keep leaving them. I love them; I cherish you all.

So we're going to get into speech pathology. 'Pathology' comes from the Greek for disease (hm?) but as you will learn, communicating is really individual and it takes all forms. Sometimes it's a baby giving hand signals. Sometimes it's a dog named Bunny having an existential crisis on TikTok.

But before you email me, this may not be the only speech pathology episode we ever do. I don't know. This is a weird one because not only is speech pathology a *huge* field, as you're going to learn, but this ologist is probably the first human being in the world to have legit conversations in English with her dog. So this is not a normal episode. This is a weird episode. And there's no way it can be comprehensive in terms of all speech-language pathology, and therapy, and also canine cognition, and cats who are pissed at you. So just consider this as a mishmash grab bag of a little bit of both.

You're going to learn the difference between speech and language, how we communicate without words, if you should teach babies sign language, how patient is the right amount of patient when training a pet to speak, how speech-language pathologists use different types of communication devices, contagious accents, pronunciation troubles, and a step-by-step manual to find out what is on your pets' minds, perhaps. So prepare to tune in and speak out about your newfound love for language and communication with someone who has a hunger for words. Speech-Language Pathologist, and Stella's mom, Christina Hunger, MA CCC-SLP.

Alie Ward: First thing I always ask is if you could say your first and last name and your pronouns.

Christina Hunger: Yes. My name is Christina Hunger and my pronouns are she and her.

Alie: Great! And speech pathology, oh people are excited about this! People have wanted to hear this for so long, and I'm not even completely sure what the field encompasses, which is why I'm excited to talk to you. Can you tell me, what does a speech pathologist do?

Christina: That is a great question. Speech pathology is such a rich, versatile field. We can work with anyone from a newborn all the way through the geriatric population. It's a very, very wide field but with the underlying themes of helping people communicate better. So, helping people who have speech and language and swallowing disorders, communicate, and even eat and swallow, to their fullest potential. So, I've always worked as a pediatric speech pathologist, but there are people who work in the schools, in clinics, in hospitals, in nursing homes.

Alie: I didn't realize that it goes, kind of, all ages.

Christina: Yeah, some people work with newborns who are in the NICU who are born too soon and their swallowing mechanism hasn't been developed yet, so the speech pathologist helps with feeding and supporting that. There are speech pathologists who work in nursing homes or in hospitals with people who have had strokes or who have dementia, Alzheimer's, Parkinson's. So, it's a really cool field because you can really find your best-fit job and really find a population that speaks to you and that you can get excited about.

Alie: And obviously, newborns aren't going out and giving speeches, but they of course need to use their soft palate and tongue, I imagine. So is it about more than just making words?

Christina: Yeah, so that's another misconception about our field, that it's just speech sounds and just talking. And that is a really big part of our field, but speech therapists are also the medical professionals who help with feeding and swallowing disorders. That's

something that I had no idea about when I was even still in college studying communication sciences and disorders. I didn't even fully realize that was part of our scope of practice until getting to grad school and until having a whole class about it.

So, it's definitely more than just speech sounds. There's feeding, swallowing, cognition. There's the whole difference between speech and language. I worked with a lot of kids before they were even able to speak, working on their language development, which also surprises people that someone could see a speech therapist before they're even talking.

Alie: Yeah, what is the difference between speech and language?

Christina: So, speech is just the actual verbal production of speech sounds, whereas language is the actual concept of the words and the meaning of the words. So, someone can have perfect language development, but maybe they have a speech disorder in which they're pronouncing words a little bit off or they're making speech sound errors. Or some people can have absolutely perfect speech, but they have a language delay or disorder where it's really hard for them to learn certain language concepts, like the meanings of words and how to use them, but when they talk it sounds absolutely perfect.

Alie: Oh!

Christina: Yeah, and I loved working on the language aspect of things, so I worked with a lot of kids who had some pretty severe disorders and disabilities which really impacted their language development and helping them say words through different ways in AAC, which is just using different adaptive devices to say words if you're not able to talk with verbal speech.

Alie: How much of talking is the tongue? I always wonder about that. How do we even know how to use this big floppy-flippy thing in our mouth to make all the sounds?

Christina: *[laughs]* That's a great question. That's actually something that is a pretty hot topic in our field because there used to be a lot of people who thought, like, tongue strengthening and how you position your tongue in your mouth was how we formed speech sounds. There was a lot of therapy focused on, like, oral motor exercises, which was just strengthening your articulators, the muscles that you're using to make sounds, without pairing them with speech.

But in recent years there's been a really big shift in the field. There's been this bigger awareness that focusing just on the muscle movements without pairing it with a sound actually doesn't help as much as just treating the mechanism as a whole and treating as you're talking and the whole process of making sounds, not just moving the muscles.

Aside: What is an articulator? Well, I'm using a bunch of mine right now to tell you that they are structures that help a person who speaks form words. So the main ones are the lips, the roof of the mouth, the back of the roof of the mouth, your teeth, your uvula (also known as the dingle dongle at the back of your throat that helps you not snort food up your sinuses). You also have a glottis, which is the opening between your vocal cords. And of course, the tongue, which is made up of four muscles anchoring it to your creepy skull, and then four more to move it around, to help you do things like eat pudding and trash talk your sister-in-law.

Christina: So it was this awareness that it's not just about how you can move the articulators. It's your brain telling the articulators what to do in the context of making a sound. [*"Out here, I call the shots!"*]

Alie: And I'm wondering... because I know I personally have interfaced with speech pathology. I had to go to a speech therapist when I was a little kid.

Christina: Aww!

Alie: I remember, I didn't realize that saying "tkchoo-tkchoo tkchrain" was not the way you're supposed to say it, so...

Aside: Sidenote: that sound is called a voiceless palatal-alveolar sibilant affricate, of course. Also known as "ch ch."

Alie: My sister and I went to a speech pathologist. But what drew you to the field? Did you have any personal experience with it?

Christina: I didn't actually have any personal experiences with it, but I knew when I was in college I wanted to do something in a health-related field, and I also was really interested in education. But I felt like careers that were strictly in the medical field or strictly in the education world, like teaching, just didn't quite fit what I was looking for. And a friend just recommended that I take a class in the Communication Sciences and Disorders major, and she said, "I think you'd really be interested in this. It's fascinating."

And I didn't really know too much about speech pathology, speech therapy, but as soon as I took my first intro class [*heavenly angels singing*] I was absolutely hooked. I loved this idea that there were professionals out there who could work with kids every week to help them gain communication skills and help them talk. It was just, like, this light switched on in my brain where I couldn't stop thinking about it. I shadowed speech therapists. It was just this realization that that's what I was really wanting to do.

Aside: And now she's arguably one of the most visible speech pathologists in the world. Well, *she* isn't as visible, necessarily, as her pup Stella, who is typically the one on camera while Christina's voice gently, patiently encourages Stella to express herself via a board full of buttons. [*clip of Stella pressing her buttons to say "Stella. Want. Outside."*]

That button, by the way, what is that called?

Alie: AA... C... E? A...? I'm getting it wrong.

Christina: AAC, yeah. It stands for Augmentative and Alternative Communication, AAC. And that means using any other way to talk besides verbal speech. So, if we go back to the difference between speech and language, verbal speech is one way that we express language, but there are so many ways that people can say words. We can use sign language, we can type, we can write, we can use gestures, we can point to pictures that symbolize a word. There are communication devices where you can push a button and the device says a word.

So, these are all different ways that we can say a word that just aren't verbal speech. And that's one of my absolute favorite parts of my field and what I've really gotten into now with Stella. But that's what I've loved most about being a speech therapist.

Alie: And the buttons... Did you use those with patients, clients, obviously, before that? What type of situations are those used in?

Christina: So, the buttons that I used, I hadn't specifically used with kids. But pretty much these buttons are really simple; you press down and it says a word that I had already programmed into it. I recorded my voice saying "Outside" or "Play" for example. So, I wanted to use some type of AAC with Stella, and again that's just another way to say words. So I was thinking, "If Stella's understanding words, I wonder if she could say words if she had a different way to say them," because she's obviously not developing the verbal speech skills like humans do.

So, I thought about my work with kids and the devices that I used with kids and I didn't think any of them were really the right size for Stella to hit with her paw. I just happened to find these buttons that are just recordable and they were the perfect size for Stella to hit with her paw. So, I didn't use those specific ones with kids, but it's just a type of AAC.

Aside: So, these buttons are about the size of an English muffin or the "Easy Button" from the Staples commercials. But Egg McMuffins can't talk, and "Easy" buttons are really hard to take apart and hack. And there are other recordable buttons sold as AAC devices but they cost around \$150 each. But the ones Christina found when Stella was just li'l floopy, droopy puppy, were \$19 for a four-pack, and they were made by Learning Resources.

My guess is that this company had no idea what happened overnight or how much business was about to boom, and they currently have 12,000 reviews on Amazon, most of which are about people's dogs.

Alie: At what point did you say, "Okay, I'm just going to try this." What did Jake think about it? Can you take me back to, like, the first day that you're like, "We're going to use speech pathology to see what our beautiful dog would like."?

Christina: Yes, so... some background info. I've said it before, but I was really, hugely obsessed with my field, and it was just this passion that I don't think a lot of people have the privilege of experiencing. I think a lot of people have jobs that they like but it's not this burning passion within them. So, Jake wasn't too surprised when I had this idea because he was used to me coming home from work and just gushing about the kids that I saw and what I was doing. I would ask all these questions and ask him for his advice, and he's like, "I don't know, *you're* the speech therapist," but he loved hearing these stories. So, when I said, "I have this idea. You know how I work with kids and I teach them to talk using communication devices... What if Stella could say words if she had a device? Why not?"

So, I was really, really excited about it and I really don't think Jake was too surprised because I talked like this a lot about my field, so he was ready to see what was going to happen. He was really excited to give it a shot too. He's a pretty adventurous and curious person as well.

Alie: What was the first button that you tried?

Christina: I started with "Outside" and then just a few days later I added "Play" and "Water" as well. What I really noticed when I brought her home... I ordered the buttons, like, four days after she came home, so this was super early on in having Stella that I had this idea. And I was just thinking about how dogs understand words that we say to them and how they already communicate so strongly with gestures and vocalizations. And I was thinking... You know, I work with kids right before they start talking, and they have

all these language development skills that occur before words, and I saw so many of them in Stella, and I just kept thinking, “If she were a toddler, I would expect her to be starting to say words soon.”

So I tried these simple words, “Outside” “Play” and “Water,” because they were already concepts that she was expressing through gestures and vocalizations. And research shows, in humans, a direct correlation between a child gesturing for a concept and then shortly after being able to say the word for it. You can picture a baby who raises his arms in the air to gesture that he wants to be lifted up and then eventually learns how to say the word “Up” for that concept. So, I tried to pick words that Stella was already demonstrating gestures for communicating.

Aside: So at this point, Stella was only about eight weeks old, so an “Outside” button is something that a li'l potty monster definitely needs for sure. But she was just so teeny tiny! Could her little furry baby paws even press down on anything? They're so little!

Alie: When she started to get up and go toward the buttons and then hit, you know, “Outside,” or “Play,” or “Water,” what was your first reaction?

Christina: Oh... Well, actually Jake was the one who saw her first word. I didn't even see it. But he ran up... I was asleep and he recalled this story to me. I saw her say a word the next day, “Outside,” and I was so thrilled because it took weeks to get to that point. It wasn't like I just sat the buttons down and she started pushing them. It didn't work right away and I didn't know if it was going to work, so when I actually saw that she... She said “Outside” when she needed to go to the bathroom, and she was standing by the door, I was just so thrilled that this was going somewhere and that if she could start to say a few simple words, I wondered if she could continue learning more vocabulary.

Aside: So, a dog, talking, in this case, English, asking to poopoo outside. What is life? Is anything real? Nobody knows. If it had been me, I would have celebrated this by hijacking a barge and lighting cannons of illegal fireworks, and then I would have purchased a tiara for myself to wear until the day I died. But Christina, slightly more understated, a little more humble.

Christina: It was a really cool moment.

Alie: How many words does she have now?

Christina: She is using close to 50 words. [*“Oooh, fancy!”*]

Alie: Ah!

Christina: [*laughs*] That is something I never anticipated when I started this. I really just had the simple question, like, “Could Stella use a few different words to express some basic needs so that we weren't sitting there trying to decipher her whines?” I just wanted her to be able to be understood more and express herself to the best of her abilities, but I had truly no idea how far this would go and probably how far it can go beyond even what I've done with Stella so far.

Aside: Now, the average four-year-old knows about 5,000 words in their native language, and as an adult our vocabulary averages between 20-30,000 words. We learn about one new word a day until we're middle-aged, at which point, I guess, we finally have nothing to prove or nothing to say to anyone. If you listen to this podcast, you may have learned palatal-alveolar sibilant affricate... or not. It's fine if you didn't.

Now, Stella keeps adding to her vocabulary, which means that the wooden board that acts as her sound drop palette has expanded.

Alie: Do you have to figure out a way to put more buttons in places?

Christina: Yes. So, the physical space needed to have all these buttons is definitely a challenge. That's something that I'm really excited in the coming years to see, as this just gains more momentum and technology develops more, how we can have more words available without taking up just a ton of space.

For some context, until recently, Jake and I had lived in some pretty small apartments in San Diego. We had this one-bedroom apartment with a small living room and half of it was taken up by this massive board with 30-40 buttons on it. I know she could probably learn even more words if we had the physical buttons and space for them.

Alie: I'm so curious, at what point language starts to be used, kind of, metaphorically. Have you seen the way that she uses the buttons change? Did she start from just going like, "Hey, I gotta take a piss. Please let me out," to like, "Where have you been all day? I've been thinking about my own death."? Have you seen a change in her?

Christina: Yes, it's been a crazy change, and again, something I really didn't anticipate. But what I noticed was a lot of gradual changes over time and a lot of small milestones that I think a lot of people would miss, but because this was my job to observe this in children, and to really know their language patterns, and to understand language development, I was able to identify a lot of these milestones and really know the significance of how fascinating it was.

For example, water, I initially thought, "She's just going to use this to request water when she's thirsty or if I happen to miss that her water bowl is empty. She'll have a way to tell me," an easier way to get her needs met. And I was shocked when, not that long after introducing water, she started talking about me watering my plants. She was still really young at this point, and she would follow me from room to room as I watered my plants. And one day she just watched me with the watering can, sniffed it, and she ran over into another room and said "Water."

Alie: WHOA!!

Christina: I know! I talk about that in my book as one of the biggest, like, "Whoa!" moments. She wasn't requesting water. Her water dish was full. She didn't take a drink. She was simply just telling me, "Hey, that's water. I'm noticing that. I'm pointing that out." So, that was really one of the first moments. And then eventually she started generalizing words to mean other things. So, "Outside" stopped becoming just that she needs to go to the bathroom, but she would tell me when she wanted to play outside, or walk outside, or go to the park outside, or beach outside. And now she asks me and Jake questions. She says when she's happy or mad. She answers questions. It's really incredible.

Aside: It would be cruel to withhold from you the internet treasure that is Billi, a 12-year-old domesticated short-haired cat who has been trained à la Stella. Between all of Billi's buttons to express things like cuddles, and scratches, water, there's one for catnip, which essentially makes her owner a drug dealer, and I love that, but that's not this feline's favorite. She has a different favorite button.

[clip of Billi pressing in quick succession: "Mad. Mad. Mad."]

So before Christina introduced the greater population to the use of AAC, we used to know that a cat was mad because blood would seep from the wounds on our hands and our arms, but this is much more straightforward. And of course, a wagging tail is communication of happiness in a pup; we know what that means. A smiling human might be excited or content. But what if... What if your hamster loved you and you knew it? [*clip of Christina in a video: "I love you too, Stella."*]

Alie: I always am curious, when she says that she loves you, the button, how did you teach her, "This is what it means when we say, 'Love You'"? And also, how many people just need those buttons in their relationships?

Christina: That's a great question. I think, as far as teaching Stella "Love You," I did just what I did with any other word and I just modeled it when I would naturally say "Love You." So every time I was naturally saying "Love You" to Stella, I also pushed the button for "Love You" to show her, "This is how you can say this too, if you want." And so it was really just in the natural context of if I was petting Stella, if she came up and was being really affectionate towards me, I would model "Love You." If I was really proud of her... So, I think it's pretty impossible to know if she perceives "Love You" in the exact same way that I do. But at the same time, it's also really hard to know if another human perceives a feeling like love in the exact same way as someone else. So, I think based on her use of "Love You," she uses it a lot when she is wanting some affection, some scratches or belly rubs. She uses it a lot when we've said no to a request, and then she'll come back and say, "Love You" and then the word again that she's wanting. So that's been really funny.

Alie: [*laughs*] Oh my god, that's so adorably manipulative and I love it. "But I really love you!" I mean, how do you say no to that afterward?

Christina: I can't! It's so hard to. She does make it trickier to say no in those circumstances.

Alie: Oh my gosh. I have so many questions from listeners. Is it okay if we just dive in and I bombard you?

Christina: Sure!

Alie: Okay, cool. Because there's just so many. Some of them are about canine speech pathology. Some of them are about humanoid, so they'll just kind of go back and forth. Is that cool?

Christina: Yeah!

Aside: But before we address your questions, a few words about sponsors of the show who let us toss money at a worthy cause. And this week Christina chose iTalk Autism Foundation, which donates communication devices and education on communication devices to autistic folks and families who need them. So you can learn more at iTalkAutism.org. Thank you Christina and to the following sponsors for making it possible to get more devices to the people who can use them.

[*Ad Break*]

Okay, your questions for me to ask a person who asks dogs questions. Normal.

So, let's go back a few steps in her career. Let's start with some human language questions.

Alie: Okay, a few people, Casey Broughton, Alia Myers, and Bennett Gerber all wanted to know: What is the most common source of speech impediments, in your work?

Christina: Ooh, so if we're just talking about speech impediments like unable to produce a sound in a certain way, there's a lot of different potential etiologies. Some kids could have a phonological disorder in which they actually process two different sounds as the same sound in their brain.

For example, 'r' is a really common one where kids will hear, like, 'w' sound and 'r', and that all is processed the same way in their brain, so it takes a lot of just having the child hear words that start with 'w', words that start with 'r', and differentiating the speech sounds, and then teaching the child how to produce the different sounds just on their own, and then words.

So, it can get a little complex, but a lot of it can be just difference in processing or difference in how they're actually moving their articulators when they're producing a speech sound, and just helping the child adjust that.

Aside: So kids might be hearing different sounds! That might be one cause.

A ton of patrons like Brooke Ratliff, Bonnie, Shannon Miller-James, Elizabeth Edwards, Melissa Po, first-time question-asker Emily Cookson, and first-timer Kayla Smith were all on the same page asking about the origins of speech difficulties.

Alie: A lot of people had questions about nature versus nurture. Ashley Bray says: First-time question-asker; Can speech impediments pop up after traumatic events? I lost my brother, and ever since, I've stuttered and tripped over my words.

A lot of people just wondering, kind of, where lisps, and stutters, and speech impediments might come from. And also, is speech impediments the correct verbiage, or have we updated that at all?

Christina: Yeah, I mean, speech impediment is still definitely used. To me, that means having trouble saying specific sounds. So, that's definitely okay to say for talking about this in a broader sense. As for the trauma aspect, I've definitely seen that. There can be a correlation between some trauma and stuttering specifically. So, in that case, like if I were to receive a child on my caseload and I knew that was going on, I would work in conjunction with a mental health professional too because if that's the etiology of the stuttering in that case, the child would be better served focusing on that than the surface level of the stuttering.

That's something where, in an intake form and during an evaluation, really figuring out where this could have come from, if it could be something like that, like trauma-based, or there's a lot of times where it's not based on a traumatic experience, there's a genetic component. Research shows there's just some slight differences in the brains of people who have speech sound disorders and different speech impediments. So, there's not one specific cause. There's a lot of different factors at play, and that can come together in the right environment for, kind of like, a perfect storm situation, like more predisposed to developing a disorder.

Aside: Quick aside. One thing that is amazing about language is how elastic it is. And as a person who tries to ask shameless questions as much as I can, I am glad that I asked that. But if you ever have questions about ableism and terminology, I highly suggest the

style guide at the National Center on Disability and Journalism. I will link that on my website. A ton of helpful stuff on there.

Also, my pals on Twitter who use #ActuallyAutistic have expressed a preference for identity-first language, so I wanted to respect that and pass it on.

Now, speaking of malleable speech, some patrons wanted to inquire [*like a Canadian*] about the nature of an [*like an Australian*] eyccent, such as Reagan L Hereford, Karl T. Face, OtterApocalypse, Parks, Rebecca, Renee Q, Leah Darpel, Arianna Mattson, Scottish person Nuala A, Chicagoan Ivelisse Sanchez, not-good-at-Spanish-accent-people Jake Mahr and Casey, and Southerners James Hales, Ellis Ussery, and first-time question-asker Mark Harrington.

Alie: There's a certain type of person who goes on vacation and comes back with an accent or starts talking like people around them. What is a predisposition for that? Is that just theatrics, or is that someone who has more musical intentions and that's how it comes out of their mouth?

Christina: You know, I honestly don't know the answer to that one, and we talked about it in grad school too, in some of my classes. It's kind of a hot topic of why this happens with some people and why it doesn't with others. So, there's some research that shows people who can live in an environment with a new accent for years and they still never take on the new accent. But other times people do. They go on vacation, and they come back, and you're like, "What happened to you? You sound like a different person!" So, to my knowledge, I don't think there's a clear answer on that, and it's something a lot of people are still wondering.

Aside: So if your college roommate's boyfriend was one of those guys who came back from a week abroad speaking the Queen's English and you hated him, just calm down. Some researchers from UC Riverside published a study in *Attention, Perception, and Psychophysics* that found that folks who adopt accents really easily, it's called the Chameleon Effect. They are not necessarily drama-starved sociopaths, but rather the inverse. They tend to score higher on empathy and wanting to connect with people.

I was reading one quote from an accent-reduction coach and speech pathologist named Ilana Shydlo, who says, "Intonation, cadence, rhythm, inflection, word stress, tone, and pitch comprise a great part of what a listener perceives in a person's speech." So, empathy and musicality may both be at play with picking up accents. Go figure.

Now, let's address the question of why can't you roll your Rs? Why can't you do it? I know that you think that I just saw directly into your soul, but actually a ton of people apparently have this issue, as evidenced by the number of patrons who pleaded for Christina's help, and I'm looking at you, Kat H, Evelyn, Alia Myers's roommate, broken-engine sounding Lisa Taylor, Jessica Janssen, Kaycee Kaiser, who cites this inability as one of the biggest disappointments of their life, Diana Burgess, Michael Williams, whose wife makes fun of this non-rolling-R ability, first-time question-asker Etti, and Kristen.

And there are also alums who also went through speech-language therapy, Rebecca Kidder, Megan, and Spencer Cupp, who are all bad at rolling Rs. They all want to know: Can Christina fix them? I mean, of course she can.

Alie: That kind of dovetails into a lot of folks who had questions about if there is a trick to rolling Rs in Spanish.

Christina: I can't roll my Rs in Spanish, so... That doesn't bode well for me as a speech therapist, but that's something that I struggle with too. So if anyone knows that trick, please let me know because I've tried everything and I haven't been able to get myself to do it.

Aside: Okay, maybe not. But I looked this up for y'all, and rolling Rs, it's called an alveolar trill, for crossword and trivia enthusiasts. But okay, this skill is handy if you're speaking a ton of languages, like Thai, or Hungarian, some French, Portuguese. Rolling Rs can totally be learned, unlike turning your tongue into a taco, and that is just cruel genetics; you either can or you can't.

But Rs? That's a skill. I did some digging and I read one blog post that suggested you say the word 'butter', and then ponder the word 'butter'. Just by saying the word butter, you did a little tongue flutter. That is the same thing as a rolled R but shorter. So just relax the tongue and let it flip-flop in your throat wind, like butter, but longer. I'm not a speech pathologist, obviously, but Dad's doing her best, my bebes.

Speaking of babies, a lot of you had questions. Courtney Jones, Miriam, Lavender Lane, first-timer Margeaux Dennis, and BolognaShoes, who wrote in: Our 13-month-old is amazing at communicating via sign, but so many people have told me that it's hindering his learning speech. Am I totally fucking my kid up? Asked a person, once again, delightfully named BolognaShoes.

Alie: You know, a lot of folks asked about sign language in babies and whether or not that ends up delaying their verbal speech. What are the speech pathology thoughts on that?

Christina: Sign language is excellent for babies. That is something I love talking about and I love seeing, because what happens is, again, the difference between speech and language is, language is the concept of a word and expressing words through any sort of means. But verbal speech is actually producing the sounds through your mouth, and there's a lot of coordination that happens there.

Babies are actually able to express these concepts earlier than their verbal speech skills develop. So what happens when you give babies an opportunity to express a word in a different way, like through sign language where those motor systems have developed before the motor systems of their mouth, they can communicate more effectively and faster. So, this means that babies are able to say words sooner with sign language than with verbal speech. And all of the research shows that it only can help their verbal speech development or it will stay the same. It will not hinder it.

So it's actually really cool because research shows that any type of AAC use... sign language can be a type of AAC, or a communication device can be a type of AAC. Incorporating that does not decrease the verbal speech. It actually increases all forms of communication, and that's because success in one area just sparks success in all of these other areas. So the sooner kids are able to communicate and understand the power of these words, the more motivated and understanding they are of how this all works.

Alie: So if you have a bebe, go ahead and try some sign language.

Christina: Yes! It's so fun. It's super cute too. I love seeing babies when they sign "More," "All done," "Milk." It's adorable, and it's very helpful as well.

Alie: And in terms of, like, American English Sign Language, do you have any tips for adults acquiring sign language?

Christina: Any tips... I took sign language in college and in graduate school, and it was really fun. It was... Also, I realized how challenging it was when you're an adult learning this, because I never realized how much awareness of my hands it took to figure out what one hand was doing and how my fingers were moving together. So that was just really fascinating. But I mean, I highly recommend learning if you're interested. It's really fun.

Aside: I found a wealth of resources for anyone wanting to learn ASL, or American Sign Language, on the website for the National Association for the Deaf, which had links to different programs and tips. And they offered this great background, kind of like a pep talk lite. Their website says:

Like any spoken language, ASL is a language with its own unique rules of grammar and syntax. To learn enough signs for basic communication and to sign them comfortably, can take a year or more. Some people pick up signs more slowly than others, and if that is the case with you, don't be discouraged. Everyone learns sign language at their own speed. Be patient and you will succeed in learning the language. The rewards will be well worth the effort!

Sign language classes can be found at community colleges, they say, universities, libraries, churches, organizations, clubs of the Deaf, and lots of other places. And if you have someone in your life who is deaf, just imagine what it could mean to you both if you got out of your comfort zone by learning something new to bridge that communication. I literally just started tearing up just thinking about it.

Or you never know when it might make a really big difference to a stranger. This morning, I got on a 7am flight, and I happened to be sitting next to two lovely people, Elise and Chris Rodriguez [phonetic]. They were high school sweethearts, together still, and they both went on to become American Sign Language interpreters. So both are hearing, but it was really lovely to see them communicate with each other in silence on the plane. And they also told me about a friend of theirs, Sal [ph.], who is deaf, who can communicate in the sign language of, I think, seven different countries. So, sign language. Very wonderful to learn.

Alie: On the topic of sign language, Megan and Nico Peruzzi both wanted to know: What are your opinions on Koko the gorilla? Megan says: There's still controversy around Koko's mastery of sign language versus Penny, her handler, projecting herself onto Koko. So, what are the thoughts on making sure that humans aren't subconsciously queuing animals to speak in a certain way?

Christina: Mm-hmm. So, once I started teaching Stella to talk, I became really fascinated with any other experiences of interspecies communications. So, I read a lot about Koko. I read Penny Patterson's book, *The Education of Koko*, multiple times. I watched videos of Koko, and actually I've connected with Penny Patterson now. She read my book and had a lot of really great things to say about it, which was really cool for me.

But I think Koko was just fantastic. I think Penny did a great job teaching her. And I think when you actually go back and read the books that she's written, you can really see her thought process and all of these, again, little milestones that were happening that create this larger movement and this larger understanding of what's going on. So, I'm a big fan of Koko and Penny Patterson's work. I think she did a really excellent job.

Alie: I still remember that story about how she blamed the kitten for ripping the sink out.

Christina: [laughs] Oh yeah.

Alie: One of my favorites.

Aside: Koko, not Penny.

Christina: Yep. And I think too, just like... When thinking about the human projecting the meaning or the queuing, that's something that's been really interesting with Stella, seeing how she communicates with people other than just me and Jake. She talks when we're not in the room. She calls out to us to say a message. She talks with other people. She talks completely independently. So, if it was something where I had to be standing right there, or you know, commanding her to say something, then yeah that wouldn't be this true communication; it would likely just be queuing.

But the fact that she's been so independent with this and used words with all kinds of different people in all kinds of situations is really showing more of that true communication.

Alie: Not just me, but a lot of listeners are curious how your work with Stella has influenced your work with humans.

Aside: Folks wanting to know where Sasha Mervyn, Shelagh Leutwiler, and first-time question-asker Sey, who said about AAC devices that many neurodivergent and disabled people benefit from their use, but they aren't normalized, whereas everyone is excited about talking puppies, and asked if Christina is looking for ways to use this platform to advocate for AAC devices as well. Sey also asked:

Alie: Do you think that Stella and her talking friends are having a positive influence on how people see humans that use AAC? And a lot of folks just want to know: How has this changed the way that you approach your work?

Christina: I really hope that it has a positive impact on the field of AAC in general and just people who use communication devices. This is something that, for the first time in history, all of a sudden there are thousands of homes around the world who are incorporating AAC into their daily lives with their pets. And this is something that, unless you know someone who uses a communication device or you're in the therapy world, you wouldn't have a reason to know about AAC or to even think of it as an option or know how to interact around it.

So I think just the more awareness that we as a society have about different ways to say words, different ways to communicate, how to talk to someone with a device, how to teach through a device, I really just think it's going to make a big impact on the population of people who need devices because suddenly so many more people will be aware of AAC and aware of when someone needs help, what they can do and where they can go to get that help.

So I do see this really inspiring a bigger movement in that area and just changing this consciousness and educating people about something that they might not have interacted with for another reason.

Aside: But no matter how interesting we find language, not everyone in your household might care. First-time question-asker and big Hunger4Words fan Courtney Eschbach Wells wrote in: We have tried teaching our cat Andre to use buttons, but god love him, he just does not care.

Andre, you're not alone.

Alie: And you know, Sophie Duncan has a question: Can all dogs be taught to use the speech buttons, or are some dogs just inherently smarter than others? I'm not sure if Sophie has a dog or if Sophie doubts her dog. I ruled out my own dog because she's... there are certain things we try to train her on that she just has no interest in. But are they more incentivized to try to use the buttons because then they can say what's on their mind?

Christina: You know, I think it's something that we're going to learn a lot more about as a lot more people continue to teach their dogs. My hypothesis is that every dog has this potential to learn, but there's probably a range of normal in dog language skills just like there is with human language skills. Like, every single human can talk, and can express language, and understand language, there's just this range... Even within the normal range, there's a range of the low end of normal, the high end of normal. I think all dogs do have the potential; it just depends on their age, their environment, their health, all those types of things.

Alie: Yeah, Crystal Robarts asked: My dog is almost nine, can he still learn to use the buttons? But it's really just, give it a shot and see?

Christina: Yeah. I mean, that's my best advice right now. I've seen a lot of people teach their older dogs. One of my friends taught her eight-year-old Chihuahua how to use some buttons and say some words, so that's been really fun to see. I've had other friends teach younger dogs who are one, two, three years old. This idea is so new in society and in the world that we're going to need a lot more information before we can really say with certainty what is and isn't possible.

Alie: Isn't it kind of bananas to think that just a few years ago there were probably zero people doing this, and now there are thousands? That must... Does that blow your mind, ever?

Christina: Oh... Every day. I mean, it's so crazy. It doesn't even feel real to me. It doesn't even feel like I started this because it feels so normal to me. I've been teaching Stella this for three years now, and now there's a bunch of other dogs doing it, and it just feels like it's a part of the world now. I forget that it wasn't too long ago, and it's still going to be brand new to millions of people.

Alie: A few people, Jordan Mitchell and Genevieve, both asked for advice on training. And Jordan Mitchell says: Like many other people during quarantine, we bought some buttons to teach our dog, but he is deathly afraid of them, and when I click it to teach him, he runs away even though it's just a calm recording of my own voice. So what's up? Do you ever see that with any dogs?

Christina: So, initially Stella... She wasn't, like, terrified of them, but I don't think she was... She wasn't super accepting of them right away. At first she ignored them, and then she kind of got startled by them. But the more that I modeled words and just had it out, the calmer she became and the more normal it became for her to see these buttons in use.

So for that, I would recommend just taking it slow, starting with... You can just keep the button out and try to just stand by it, sit next to it. You don't even have to push the button yet if that really triggers your dog. It's about helping your dog see that this is calm, and comfortable, and safe; just spending time near it. And as your dog is getting more comfortable just being around the buttons and seeing that you're by the buttons and it's okay, then introducing pushing it again in, again, a very calm way.

You can pet your dog, provide some verbal reassurance, and hopefully that will help your dog become a little more comfortable with them and not as startled and alarmed when they hear the sounds that they maybe haven't heard before or weren't expecting.

I do have a lot of really great tips in my book. At the end of each chapter, I say some takeaways for what worked for us and what you can do at home. And then in the back of my book I have a whole section on tips for teaching your own dog at home.

Alie: Are you going to merchandise the buttons as well? Does that ever... Are you like, "I have enough things on my plate right now!"? But is that something that you had to think about as a business model?

Christina: Yes. So, right when this all came out for the first time, it was the end of 2019, and *People* magazine had written a piece about what I was doing with Stella, and it just went crazy nuts. Like, actually went viral. And from that point, I was just flooded with people wanting to do a lot of things with me. Create courses, create products, all types of things. And what I really wanted to do the most was to get the information out to people, and I wanted to share our story so that people understood where this came from and understood how they can see their own dog's communication potential and harness it.

So to me, the information was most important, and then I did partner with Learning Resources, the company who made the original buttons that we used, to create a Talking Pet Starter Set, which is buttons paired with activities that I wrote so people know what to do with the buttons when you get them and how to start introducing them.

Alie: Ah! What a great gift, too. Someone gets a dog? Have some buttons! That's awesome.

Christina: Absolutely. Yep. My whole goal is just getting enough and as much information out to people as possible to help them teach their own dogs.

Alie: There's just so many good questions. A couple more listener questions. Audrey Rose Calovich, and Michael MacLeod, they both asked if Stella has ever exhibited behavior that indicates – this is in Michael's words: That she has a mental concept of the self. And has she become self-aware? And I think a lot of people have seen that Bunny video where she's like, "Who's this in the mirror?" [*clip of Bunny: "Who?"*]

That's been such a marker for cognition in terms of primates and certain animals. Do you see Stella having that kind of self-reflection at all?

Christina: Yes. So, Stella talks about herself by saying her name, and she'll differentiate between Stella, Jake, and Christina, so that's been really fascinating to see. I was actually so surprised. I thought it was really intriguing that when I introduced our three names... I didn't know what would happen. I just wanted to try and see what would happen when I gave her the chance to learn how to say our names.

She used her name so often. It was so cute. It reminded me of this toddler being able to say their name for the first time. She would just walk over to the board and just repeatedly, "Stella. Stella. Stella. Stella. Stella." And then eventually she started pairing "Stella" with what she would want to do, so "Stella outside." "Stella eat." "Stella play."

It's been really funny, recently Stella will... Now we live in a house and we have a backyard for the first time since she was really little, and it took some getting used to

for her because she was always used to us in apartments having to take her outside on a leash. We were always with her when she was outside.

So now she's understanding that she can be outside by herself in the backyard, and she'll talk about that. Sometimes she wants all of us to go outside, or she'll tell us to come outside with her, but other times she'll say things like, "Stella outside. Bye," like she just wants outside on her own. [*Ouch.*] That's been really fascinating to see develop, and I absolutely think she has self-awareness.

Alie: Erin Ryan wants to know: What do you say to the haters that argue that Stella doesn't *really* talk or doesn't understand what she's really doing? And Erin says: PS, big fan of Stella.

Christina: [*laughs*] Thanks for the clarification.

Alie: [*laughs*] Yeah. So, how do you address people who might not understand how nuanced language is?

Christina: You know, it honestly doesn't bother me too much because I've just accepted that this is a really new idea in the world, and it just takes time for people to see this, and it takes multiple people doing it, and it takes multiple different perspectives for it to really become cemented in society and this, like, known fact or known theory that's happening. So, it doesn't bother me too much. I just try to explain that, you know, I'm teaching Stella in all the same ways that I teach children words, and I used my expertise in language development to understand the milestones that were happening and know what to teach and when.

This whole journey I've been observing her progress and seeing what's working, what's not working, when she's learned a word based on the context that she uses it in, if she's able to say it independently or if she needs cues, if she's able to pair it with other words. She's able to generalize it to other meanings... So, there's all these factors that are going through my brain as I'm observing her and keeping track of her development. So I think that's just something that other people don't know and don't see when they watch my videos. It's not their fault; they just don't have the same perspective.

Aside: So the best armor against doubt or flak is confidence, perseverance, and a lot of passion. And maybe some sweet doggy belly rubs also.

Alie: Beth Sauter has a great question, wants to know what your reasoning is for using your and your partner's name with Stella instead of "Mom" and "Dad," and do you judge people who use "Mom" "Dad" on their buttons instead?

Christina: Oh gosh, no. I definitely don't judge people who use Mom and Dad. It just made sense for me to use "Christina" and "Jake" because we don't have any human children, so we weren't calling each other Mom and Dad. So, Stella was already hearing us call each other Jake and Christina, you know, for a while before I even introduced those words.

So I just thought it would be easier for her to use those words and use our names when she had already been hearing Jake and Christina. Whereas if I would've added Mom and Dad, that would've been totally brand-new words for her because we had just never used that in our vocabulary. But if people do refer to themselves as Mom and Dad, even if they don't have kids, if they refer to themselves as Mom and Dad when they're talking to their dogs, then by all means use Mom and Dad. It's just about what your own communication patterns are.

Alie: That's a great point. Whatever they hear the most, probably.

Aside: Mow-mow, Pop-pop, Dingus, Lover, just let your dog in on those titles.

Alie: Quinn West, first-time question-asker says: As a deaf adult who spent over a decade in speech therapy, do you think that the field would ever be willing to stop promoting oralism on deaf children (now known as listening and spoken language)? I know speech therapists can be necessary and do a lot of good, but I also know my community is hurt.

And I wasn't aware of this, but have you seen any attitudes changing? Do you have a particular way of working with people who are hard of hearing or deaf?

Christina: So, I think that just comes from needing a lot of education, and I'm so thankful that I had some really great classes in college and graduate school that really educated us about Deaf culture, and I do think there is a shift happening because I'm seeing more and more that people are having conversations with parents of children who are deaf about all of the different options instead of just throwing one option that the speech therapist might think is best in that moment.

But I really do hope that there is this shift because I know Deaf culture is very celebrated and people are very proud to be part of it and to use sign language especially. So, I do hope there is a shift. I think there is, because in our education, which was just a few years ago that I was in graduate school, we really did talk a lot about that and figuring out the best path forward for each person and each family, not making these assumptions or generalizations about the best path forward for communicating.

Aside: Sidenote: just for some context, some deaf and hard of hearing folks express feeling at odds with the field of speech-language pathology. And I looked around, and I'm going to quote a 2015 paper titled "The Cultural Gap: Deaf Community and Speech-Language Pathologists" published out of Portland State University. And the paper begins with the statement:

Within the Deaf community, Speech-Language Pathologists have been viewed as enemies. In the 1920s, Deaf schools were only teaching children how to communicate orally. Deaf students were punished for using sign language to communicate.

And this type of valuing spoken words over the language of signing or valuing cochlear implants over being deaf or being hard of hearing has been called oralism. So with more ways to express thoughts and opinions via social media now, issues like this can gain a wider audience and be addressed.

And on that note, I also wanted to share that my friend Shannon Feltus, she had thoughts as her wonderful son Aidan is on the autism spectrum, and she wanted to toss some praise as Aidan's speech therapist. She wrote to me:

One thing I think is really important to touch on is that speech is so much more than just parroting back words. We don't think about how complex and difficult communicative speech is until it becomes a hurdle. Our speech pathologist has so much grace and patience, and it often feels like we're making zero progress, but the speech pathologist always reminds them how many steps it takes and keeps me sane in the process.

They are so much more than just a speech pathologist. They are also a therapist for parents who are struggling.

Which I think is a really great acknowledgment. So, some people are visual, some people might be verbal; we're all different with different brains, and interests, and abilities, and we all deserve to communicate our thoughts, and feelings, and needs, and be listened to. It's not always easy for any of us, and patience and encouragement is key. And Christina really, really stresses that in her book.

But what else is not easy?

Alie: Questions I always ask: Hardest thing about your work, hardest thing about your job right now? Has it shifted a lot? What's the most frustrating thing? It can be anything, huge or petty.

Christina: Hmm... Let's see. I think if we're talking about just being a speech pathologist in general, I would say the hardest thing is not letting your job totally run your life. People who are speech therapists and who are in any helping profession, we all just want to help and we all want to help to the best of our abilities. And sometimes it can be really challenging to separate work, and life, and understand that even if I'm doing my absolute best, there are factors that I can't control and there's a lot that goes into a person's communication and their health and progress. So, I think just taking it easy in that respect can be really challenging.

Aside: Not doing a good enough job is the hardest thing. Ah! My heart. I just love how much this human loves her work.

Alie: And what about your favorite thing about speech pathology?

Christina: Oh my gosh... It is so incredibly rewarding helping another being, whether it be a dog right now with Stella or humans, express themselves. I mean, I've worked with kids who went years without having a functional communication system until they were 16 years old and got a communication device and said their first words. It just makes you so grateful for this skill that most of us have naturally, being able to talk. It just really makes you thankful for communication in general and just wanting to help everyone have that power, because I truly can't imagine a life in which you're not able to say what's on your mind.

Alie: I imagine that must be really what drove you into the field, too.

Christina: Absolutely. That's 100% the most rewarding thing for me and my favorite part about our field.

Alie: I wonder if it's ever weird for you to have your voice be so recognizable, because talking to you, I'm like, "Well, of course, this is Christina Hunger's voice," because I've heard you *in* the AAC buttons and just talking to Stella. Is that something that ever is weird for you to hear your own voice so much?

Christina: It is weird, and just to know that there are so many people around the world who know of me and my dog... I don't think that's really fully hit me yet. Sometimes if we're out and about, Stella will get recognized a lot because she's a pretty distinguished-looking dog, but that's always just so strange to me because pretty much everything has been via social media or the internet, so to actually have those in-person experiences where people are recognizing us is really, really strange.

Alie: And it must be great too now to have a book out so if people ask your advice in the comments section, or when you're out and about at the hardware store, you can always just tell them, "It's all in my book. You can read my book."

Christina: Exactly. It feels so good to be able to say that. Again, when this all went crazy at the end of 2019, people had *so* many questions, understandably so. I just wanted to be able to share all of it and I didn't know how, so that's where writing a book came from, just that I wanted to be able to share all of this to all of you. So it feels really wonderful that people will finally be able to access all the information I've been thinking about and wanting to share for a while now.

So, having things on your mind and wanting to share them, that's what it's all about, whether it's through a screen, or a sign, or a tail wag, or a soliloquy, or a button, or an expression. And keep asking patient people shameless questions in any form, and of course listening to each other.

As I warned you, this episode was barely able to scratch the surface of this ology because it's such a huge ology. And if you would like to learn more about Christina's work, and her speech pathology, and Stella, and dog training, get your hands on her new book. It's called *How Stella Learned to Talk*. It's out literally today, May 4th. We timed this on purpose. And if you buy her book in the first week of its release, you get a free video course! I looked that up. She didn't tell me that; I just found that out myself. So get it sooner or later. I don't get a kickback. I just like to help you get free stuff, and it's a great read. I tore through it. I was reading it this week and it's really wonderful. It's a great read.

Christina and Stella are [@Hunger4Words](#) on Instagram. Her website is [HungerForWords.com](#). I'm [@AlieWard](#) on [Instagram](#) and [Twitter](#). We're [@Ologies](#) on [Twitter](#) and [Instagram](#). And tickets for that live show, [Catching Up with Dadward](#) on May 18th with Volcanologist Jess Phoenix, those are going to be available. There's going to be a link in the show notes for you. And I'm not sure if this is the only time I'm ever going to do a live show. I don't know if we're going to do them quarterly, or monthly... We're just kind of testing it out.

So if you have ever wanted to do a live show, join on May the 18th. Get your tickets, they're \$12 or \$9 for Patrons. There are also limited-edition shirts available for this inaugural show. Jarrett designed them! They feature some magma; I'm very excited. I love them. May 18th. Get your tickets now. There are links to all this stuff in the show notes and up on my website [AlieWard.com](#).

Thank you Patrons for supporting the show and sending in your questions. Thank you Erin Talbert for adminning the [Ologies Podcast Facebook group](#). Thank you, and belated birthday, to witchy woman Shannon Feltus, her sister and *You Are That* co-host Boni Dutch, and now Noel Dilworth and Susan Hale for helping with [merch](#) orders too. Thanks to Emily White of TheWordary.com for making transcripts for the show and Caleb Patton for bleeping them. Those are up on our website at [AlieWard.com/Ologies-Extras](#).

Thank you to both mustachioed editors, the very hunky Jarrett Sleeper and the dino and kitty podcast, kind-hearted, Steven Ray Morris of *The Purrrrcast* and *See Jurassic Right*. They make this whole shebang with me each week. Nick Thorburn wrote and performed the theme music.

And if you stick around until the end of the episode, I tell you a secret. And this week's secret will only matter to people who are on the West Coast, probably, and I'm sorry, but there's this magazine called *Westways*, and it's the magazine that AAA puts out if you're a member, and low-key it's my favorite magazine. I get so excited when it arrives in the mail.

And there's a game where they hide a poppy somewhere in the magazine because that's the California state flower, and you try to find this poppy, and I have read every single edition of *Westways* AAA magazine, and I've only found the poppy twice! [laughs] And I'm like, "Who's finding these poppies?? Are they really even hiding them?" But every time I'm like, "This is the issue. I'm going to find the poppy." And y'all, I found the poppy today! I took it with me on the flight, I was leafing through, and Boom. Spotted the pop. It felt good.

Okay, berbye.

Transcribed by Emily White at TheWordary.com

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