SoundBites Podcast Transcript
Episode: A Discussion with Legends of the Hearing Aid Industry

Dave Fabry: Welcome to a very special issue of Starkey Sound Bites. I'm Dave Fabry, Starkey's Chief Hearing Health Officer, and with me today, this is a topic and a podcast that I've really been looking forward to for a long time. Two, I don't think it's hyperbole to say, two industry legends who've been witness to and instrumental in the development of the hearing aid industry, continuing to impact it and report on it and chronicle it as we've been discussing here prior to turning on the camera today.

First, Mr. Bill Austin, Starkey's founder and chair, and as well, Karl Strom, who is currently the editor-in-chief of HearingTracker, and also someone that I've known both of you for, let's just say a few decades.

Karl Strom: A little while.

Dave Fabry: We could say a few, a little while, and is really a privilege to sit with both of you today and have a conversation a little bit about the way that you both have innovated in this industry from different ends of the spectrum and reporting on it and continue to impact the industry in many ways today. And Bill, you can shrug all you want, but your humility is, in my mind, you've made a tremendous, tremendous impact on this industry.

Karl Strom: And we have, and we're the young pups here. I've got 30 years, you've got 40 years, and Bill has 60...

Bill Austin: Two.

Karl Strom: 62.

Dave Fabry: 62 years.

Karl Strom: 62 years. I mean, I've written articles before and said that Bill, more than anybody I know, has had the kind of a front row seat to the hearing industry for 62 years.

Bill Austin: Through the history of hearing aids, there's various new inventions, great new inventions. And if you look back in the archives, you find that those things were thought of before. And not only that, fairly well stated before as far as explaining to patients how hearing aids work and what they can expect and what they can do.

So, I think that hearing aid history is, if you block it into pre-electric hearing aids, which is the Akustik devices, and those Akustik devices were designed to fit in canes, walking sticks, fans, there was bone conduction fans and air conduction fans and various bells, tubes, horns, and those devices certainly help people for a long time. In fact, there was such a proliferation of those devices that in the late 1980s and early '90s, there were big catalogs showing all manner of them that you could look for the device you thought you would like to try to get some help from.

A lot of otosclerosis then. The help that was supplied was limited. They didn't have the power to really help bad hearing losses. But what happened is they were better than nothing. It gave you a little boost. And so, people were appreciative of that. They got a few more cues and they were able to hear.

Dave Fabry: Well, and it's sort of interesting you bring up the pre-electronic era because I think the way I'd like to channel the discussion is really on the technology and on the process because you've been highly influential in the process of dispensing and how hearing aids are sold in the market, and you've been so over decades. But in that pre-electronic era, many people who are new to the profession may have been interested in the past few years that there were bone conduction hearing aids that would actually vibrate your teeth.

Bill Austin: Yes.

Karl Strom: People were biting on. In your museum, it showed us those fans.

Bill Austin: That was a common process used in the late 1800s. They would create a hearing fan that was Bakelite. It was a thin plastic. And the person would have a fan. And on the back of the fan, there was a network of strings that went out to the edges, which you could apply tension to the fan and get just the right tension for the right vibration from the sound.

So, when someone was speaking like in church, a minister, the wearer could discreetly put the edge of the fan between their teeth and bite it, pull on the strings and direct the fan towards the kind of direct it discreetly towards the sound source and help their hearing. And there were all kinds of efforts that were made.

Dave Fabry: And the fan one was really a multipurpose, multifunction device in the sense that if it got a little hot in the place of worship, you could use it as a fan.

Bill Austin: Yeah, that's true. They didn't have air conditioning then. The one fan I showed you, Karl, was actually given me by the patient who used it. And I fit her with the hearing aids. She'd lived that long. And it was many years ago. But that's what I mean about if you're old enough, then you remember the original guys. So, I knew people who use those, who use carbon hearing aids and vacuum tube aids. We still service vacuum tube aids when we first started all-make repair.

Dave Fabry: Okay.

Karl Strom: And you probably still saw some of the A and B battery types of aids.

Bill Austin: Oh, absolutely, yeah.

Karl Strom: Yeah. And when you came in...

Bill Austin: You would show the ladies how they could harness those things up and not have anyone see them.

Dave Fabry: So, cosmetics have always been part of the package.

Bill Austin: They wear the battery packs often on the hip, where with the bigger skirts of the day, that wasn't noticed.

Dave Fabry: So, those were the early days of powered devices, but they used carbon. Carbon batteries were the first powered, weren't they?

Bill Austin: The microphone was carbon.

Dave Fabry: Okay.

Bill Austin: The battery was not carbon.

Dave Fabry: Battery, what was the battery composition?

Bill Austin: The battery composition. It wasn't mercury. It was alkaline.

Dave Fabry: Alkaline.

Karl Strom: Oh, right.

Bill Austin: So, they had that battery as a source of power to the microphone. The microphones were big.

Dave Fabry: Enormous.

Bill Austin: So, you'd wear them outside on your chest, looked like you had a big metal. And on the back, you could adjust the volume and you got a little better boost than you could get out of the fans and the acoustic things.

Karl Strom: And everybody in my generation saw the church microphones that you picked up from the-

Dave Fabry: You could plug them in.

Bill Austin: Yeah, and you could plug them in, with a handle to your ear. Yeah, like an old telephone.

Karl Strom: It was one of the first thing that I remember about in the early '60s, mid-'60s about hearing aids.

Bill Austin: Absolutely. Yeah.

Dave Fabry: And then we saw also in the museum some of the early hearing aids from the early '50s hearing aids were among the very first medical devices certainly to use integrated circuits and transistors. Transistors first. And then integrated circuits came later.

Bill Austin: Integrated circuits that would come until about early '60s.

Dave Fabry: Yeah.

Bill Austin: Transistors came in the early '50s, and vacuum tube aids came in the early '20s. So, that World War II was in there and there was a big focus on supplying the war effort. And so, hearing aid kind of stayed at its point that it was in in the '30s slightly, but still vacuum tubes. People tried to make them smaller.

Karl Strom: You said that Sonotone was one of the original kind of families of it, and others branched off of it, but there were a lot of hearing aid. You showed us a Zenith hearing aid. So, there were a lot of different companies.

Bill Austin: There were a lot of different companies in the US and Europe. There were so many different people trying to make hearing aid, hearing devices. Most of them didn't do too much volume. And so, you see a rare battle now and then. A company that went away was Gem Earphone, G-E-M. And they made quite a few hearing aids, but they vanished from the scene.

Akustik on the first electronic hearing aid company. And Sonotone, which started in about 1912, were the two big, big hearing aid companies that spawned off everything underneath them. Now, EA Myers, I think he started on his own with RadioEar in Pittsburgh. He was separated from the other guys. And that came out of the idea of a radio where you'd use a vacuum tube radio after they were first made and you could turn up the volume. So, his hearing aids were table models like radios, the first ones. And in the meantime, other people were making smaller vacuum tube aids.

Karl Strom: And you pointed out that EA Myers, his daughter married Sam Lybarger.

Bill Austin: Yeah. In fact, I think that might've been a granddaughter because EA Myers was an older guy, and the company was EA Myers and Sons. So, when he started, he

was there a couple years, and then it was the torch was passed to the sons. And then I think one of the son's daughters married Sam Lybarger.

Karl Strom: And Sam Lybarger was oftentimes thought of as kind of the grandfather of acoustical standards. And he served on a lot of ANSI committees, did a lot of groundwork for modern hearing aids.

Bill Austin: They made bone oscillators that were used not only for hearing aids, but for testing hearing for bone conduction tests. And a lot of the audiometers were using RadioEar oscillators.

Karl Strom: But to stick with Sam Lybarger for a moment, he had the Lybarger half gain rule. You've seen all of these different strategies for fitting hearing aids at the same time from that era all the way up to now. And I'm sure you have your own way of secret recipe as you will for fitting hearing aids.

Bill Austin: Look, it's not secret at all. I have ideas. I think about things a lot, but people are looking for the easy way. My ways always require a lot of effort. Hearing is subjective. Hearing is individual. Hearing is unique to the human being. So, if I want to do a good job when a patient is in front of me, I'm not thinking about golfing or fishing. I'm not thinking about anything else except that one person. It's all that's on my mind.

I'm gathering every bit of information I can get from them because little tiny things give you cues. I listen to what they say, I ask questions, and we do some basic measurements. We look at audiograms, which gives us a general idea. But the audiogram is not a very good predictor because I can have a patient with a very poor audiogram, very bad audiogram and good [inaudible 00:13:16]. I can have a patient with much better audiogram and much better [inaudible 00:13:20]. I can have a patient with a poor audiogram that doesn't need nearly as much power as most people do, or as the real ear formula would say you need it. So, it's all wildly variant.

So, if you want to do a really good job, you just have to listen to the patient. They used to say, "Well, the early hearing aids, those were just amplifying devices." The early hearing aids had a whole series of different receivers for different frequencies. There were ways that we managed sound.

But fundamentally, if you give a person a clean sound that's distortion free and you have about a six DB proactive rise slope on it, and you turn it up and you vent it properly, you're there. And that's about as good as you're going to get when you start trying to jerk the frequency response around according to the audiogram with very steep skirts, you cause harmonic distortion. The harmonics are no longer aligned with the fundamentals. It's screwing everything up. But people who only think audiograms try to follow that around. You can't follow that around. That's not right.

The other thing you got to realize is the fundamental peak of receivers, that's the output transducer. That's the sound that's going into your ear. It doesn't matter what the circuit's doing. That peak is pretty much, it's the main factor, so you should know where it is, and it usually works to your advantage with most hearing losses.

If you try to reverse slope amplify, you get a hearing aid that sounds just awful, that doesn't work. So, even though the sound is down in the lows and it's rising, you still have to fit that with the six DB proactive rise or it won't sound good and you'll lose high frequency cues in upward spread of [inaudible 00:15:36]. It just doesn't work good. And it creates a very bad sound. Hearing aids that sound really mellow to a person with normal hearing that don't sound like hearing aids work really good for hearing impaired people.

So, first we had carbon mics, then vacuum tubes, then transistors, and it got more powerful with vacuum tubes and it got more powerful than tubes, but the sound didn't get better. It just changed it and allowed you to address a more severe hearing loss. Then you talked about the early transistor aids. And they were big and cumbersome. Eyeglass hearing aids were built into both temples in the very beginning and thick, big things.

Karl Strom: And generally, only amplified unilaterally too, right?

Bill Austin: Siemens patented in-the-ear aid in 1928. They couldn't make one. They didn't make one. It was never made. They probably didn't make any kind of in-the-ear aid until long after we did. But that didn't matter. I mean, it was an idea. People used to try to patent ideas. They still do. I never tried to patent ideas. I think ideas are a dime a dozen. Accomplishing something is another subject.

The first in-the-ear aid was made in this country by a guy in Walnut Creek, California named [inaudible 00:17:21] found a florist in 1957 that had a gigantic ear. It was absolutely huge. So, he took a plaster cast of the ear, plaster of Paris, which we use in those days, and cast by the [inaudible 00:17:42] metal process like you would make a jewelry, a hollow shell that would fit this guy's ear. He nickel plated it, then gold plated it with a thin layer of gold.

So, now he's had it as a shell, and he could take the smallest parts at that time, which were still too big to really make in-the-ear hearing aids for anyone. But the size that Dahlberg used on his first Miracle-Ear aid, that would fit inside this thing because the guy's ear was so big. And he made that but couldn't make any more because nobody had ears that big.

Then a couple of years later, the parts were getting smaller. So, by 1960, '61, they were trying to introduce that as a possible solution. I said at the time, "It's not a good solution because you can't modify it because it's cast metal. You grind through the thin metal."

Karl Strom: And you're doing ear molds.

Bill Austin: And I was doing ear molds, so I said, "I'll just hollow out the ear molds and I can make them." So, it wasn't my idea. And by the way, the first directional, which I said was made by Martin Witkowski at our Willco factory, that wasn't really his idea. That idea came from the Bosch Company, fuel injections. Well, at one time, they made hearing aids, but they were a creative German company like many German companies were.

And before World War II, a guy at Bosch wrote a patent for a directional microphone. And then it just went into the wayside and nobody ever thought it about it again until Witkowski started reading the patent and tried to make one by hand and did successfully in the first directional microphones, even the ones that were sold to MAICO for the early MAICO direction behind-the-ear hearing aids were made by hand by Willco. But then we couldn't do them at scale. So, that went to Noel's Electronics to make.

Karl Strom: Okay, so you had all of this background with your Uncle Fred, starting with your Uncle Fred and then buying the original Starkey. Explain how you evolved into being such a powerhouse for in-the-ear hearing aids and one of your, I don't know, one of your many legacies I think is really kind of getting the whole ITE hearing aid thing rolling in the United States.

Bill Austin: Well, there were reasons that I did it. People psychologically, if you have a hearing loss, the ears, the hearing aid should go in your ear. That's empty space. You don't put your eyeglasses on the back of your head to see, with your eyes in front, so it makes sense to the patient. Secondly, if it's custom form to the ear, it'll ride with them. If they're playing tennis or moving around, they could do anything.

And thirdly, if you eliminate the tubing resonance from running through the tube, you can shift your energy peak a little higher, which is good because most losses are higher frequency in nature. You need more energy out there. And you could get subtle high frequency cues off of the pinna, from pinna effect. So, there's a reason why I thought it was better.

The reason why it was worse for all the other hearing aid companies is they were harder to make. But remember I said I never minded working hard. All my ideas required hard work. They require skill and hard work. So, when we send a person to open a new production around the world which we were opening, we would not send an ear mold tech with less than five years experience of making shells for our hearing aids to be there for the opening. Because if they hadn't made literally hundreds and hundreds and hundreds of them, they couldn't get the nuances. So, anyway, there was a reason why I wanted to make them.

But the reason why Starkey is successful goes back to the reason that we're in business in the first place, and that's why we've lasted. I attribute it. I don't

attribute it to being a smart businessman, clever salesman, la-di-da, anything else than this. I came to Minnesota because I wanted to be a missionary doctor. I intended to enroll in the University of Minnesota Medical School. I took a job making earpieces to make enough money to pay for my tuition. I had never had a quarter's tuition paid for me in my life. No books paid for me there.

There I was going to school and an old man with a bad, bad hearing loss came in and they weren't able to help him. They called me upstairs and I went to work on the guy. I made him a perfect fitting earpieces that wouldn't leak. He's having a lot of feedback trouble before. And when he could hear, I saw in his face, I saw in his face what it meant to him to hear. I was just stunned because I never thought hearing was very important before that. I thought I was going to be a doctor and save lives. I was going to do important work with this two bit hearing aid business. And when I saw what it meant to the patient, then I knew it was important.

And so, I rode home on the city bus and the cantilever of the bus, there was a quote, "The true path to humility is not to stoop till you're lower than yourself, but rather to stand at your true height against some greater nature that will show the real smallness of your greatest greatness." I saw that quote and I said, "That's how I feel." I wanted to be challenged.

So, I got home and I sit on the upstairs single bed cot that I had to sleep on where I was staying, and I started talking to myself just like I'm talking to you guys. And I said, "Bill, the reason you want to be a doctor is so you can help people. If you do this work, you'll be able to help people and you won't kill anyone." And so, the next thing I said was, "How many people as a doctor can you help a day? 20, 25, night will fall. You'll get up the next day, another 20, 25. And you'll spend your life and you'll help a village." And I said, "Bill, you're not likely to impact the world."

I decided right at that moment that I could be challenged by helping more people through the hands of many. I knew that I couldn't do much with my two hands, but I knew that if I could find other people that accepted the values that I thought were important, if they respected those values and accepted them as their own, then we could build leverage and we would stand on those values and the leverage would be the hands of many that would pull on the leverage that we had to move the world. That's what I felt. And so, I said, "If you do this work, you can impact the world."

I had a little rental house that I bought from scrapping cars. That's why I have those old cars over there today. I feel so bad about. I slay a lot of them. Anyway, during the Korean War, metal had a good price and I took them down. I bought this little rental house because I had more money than I needed to buy my first car. I bought my first car when I was not even quite 15, just about 15. I knew as soon as I was 15, I could get a learner's permit, and I had a kid lined up down

the road that was 16 and had a driver's license. And if he could ride with me, then I could drive.

So, I bought my car. I had enough money left. I bought this little rental house. I sold that house for $3,000. I had to make a profit before I ran out of money. People tell you got to have financing for three years if you start a business. I had enough financing for three months. If I couldn't make it work within three months, I was out of business and I didn't know anybody that would give me money or loan me money. I wouldn't ask anyone. I wouldn't ask my father for money for sure, and I wouldn't ask anyone else because why are they going to risk money in a crazy-

Dave Fabry: How old were you at the time?

Bill Austin: ... crazy kid. 19.

Dave Fabry: 19.

Bill Austin: So, anyway, I've got this idea, and it was very slow for a long time. I had to sell hearing aids to pay the bills and worked on developing the in-the-ear hearing aid. I had enough far enough along that I started open a little factory and hired a guy from the Tone Master hearing aid company in Peoria, Illinois to be the production manager.

Karl Strom: And was he the gentleman you said made the best ear molds that you ever saw, or [inaudible 00:28:43]?

Bill Austin: That was Paul Jensen.

Karl Strom: Paul Jensen.

Bill Austin: So, I made my own ear molds then. And Paul made better hearing aid ear molds than I'd ever been able to make because he had developed a process of pouring, casting the shells hollow. I was taking a solid block and grinding them out. It was laborious and it left the inside rough and burying thicknesses of shell. You'd have to leave it thick enough so you couldn't see through it but thin enough that you could get all your parts. And it was a little more work, a lot more work. I took the parts over to ... This is early 1964, over to Goldentone.

And Goldentone was owned by a guy that owned a TV store named Johnston. And he'd acquired the Goldentone hearing aid company, which had been existent. He sold Zenith TVs. And anyway, Ray Clark, a World War II veteran that flew for England in War II, had invented a cattle prod. Johnston said, "I'll trade you the hearing aid company for the cattle prod." Well, the cattle prod never went anywhere, and the hearing aid company didn't either. They were sitting in the building owned by Dan Lang and Henry Kuzma. And he hadn't paid the rent

in over six months to Dan Lang. Dan owned the building and they didn't know what they were going to do.

And I came in and I said, "I've got these components and I want to make these hearing aids." And Ray Clark said, "Well, we can't do that." But he showed me these old Goldenton eye glass aids. I said, "No, I'm not interested. This is what I want." I started to leave. It was by the front door and a voice came from the back room and said, "Don't leave. I think we can do that." And so, it was Dan Lang. I went back there. And so, he started making hearing aids for me. And I was supposed to get $15 a hearing aid override on any that Goldentone sold.

Took them in my car to the first IHS convention they ever went to, paid the expenses, signed up some people to buy the aids, Milt [inaudible 00:31:30] in Indianapolis, Maury Perelman in Louisville, Kentucky, Lee Schaffer in Rochester, New York. They were all good customers that I brought on board, but they never could pay me because they never had enough money. So, I went on my way determining that wasn't going to work and just kept evolving and making my own hearing aids.

Karl Strom: And Bill, that was the era of single line dispensing, too, right? I mean-

Bill Austin: Yeah, pretty much single line. You had a brand and that was it.

Karl Strom: You stuck to it. So, how did you get your feet in the door of those businesses and get Starkey kicked off?

Bill Austin: Well, at that time, I couldn't get decent service, so I didn't like the way it was being done. And so, I started an all-make service business. And I started policies that were just different than anyone else. They were all parts and labor at that time. And you just pay to have your hearing aid repaired. And they'd charge you for a new receiver, this or that, something else. You'd wear it two days and maybe drop it on the floor, the microphone. They'd say, "Well, it's the microphone this time," they'd charge you again. The only warranty was on the part they replaced, and it was always a different part. I didn't like the whole system. It was set up for being dishonest and cheating the patients.

So, I said, "We're going to charge a flat charge. No matter what's wrong, we'll take care of it. We'll service any kind of hearing aid made, including even old vacuum tube aids. We serviced everything." And we made them look like new when we sent them back. For the eyeglass aids, some of the dealers were afraid to heat and bend them because you could damage-

Karl Strom: Electrical components?

Bill Austin: Yeah. You could damage it. You had to do it just right. I knew how to do it, but they didn't know how to do it. A lot of them. And I said, "Go ahead and heat

them and bend them. If you break them, we'll take care of it. No charge. We'll recase them." Because they need to fit decently. I wanted patients to be happy with hearing aids because I thought anyone saying something bad about our business not only reflected on the person that sold it in the company, but it reflected on the entire industry. And it kept people from coming forward that needed help and should get help.

So, our policies were designed to help the dispenser help the patient, to please the patient and back them up. Well, that became a popular concept. Within two years, we were the world's largest service place for all makes of hearing aids. And so, I kept working on the in-the-ear aids, but that gave me entree to the dealers across the country. Even if they sold something else, they sent service to us. And once they knew me, they began to decide they could trust me. And I did the best I could for them every time.

Karl Strom: And was the leap to building hearing aids and selling them to these people, was that a big risk for you?

Bill Austin: No, it wasn't. It wasn't a big risk. What I said, I said to people, "I would have a hearing aid that we'd finish after the pickup was gone in front of our building in St. Louis Park." And that last meal pickup had gone downtown. The last pickup was like 5:30 or something.

Dave Fabry: Sure.

Bill Austin: Or 6:00. If you didn't get it done by then, it didn't go till the next day. And so, I'd take one hearing aid, drive it downtown in my car, walk up on the backloading dock at the main Minneapolis Post Office, talk to the people there and ask them which bin was going out next to be sorted. And I would be sure it was in the right bin. It went out because I said, "The hearing aid is important to the patient." It might be a graduation, a wedding anniversary, who knows what it might be, but any day without hearing is not a good day. So, I said they need it back.

And people would tell me when I'm getting in my car going downtown to people that work for me, they said, "That's stupid because it costs more for the gas to drive back and forth," even though gas was cheap then, than we'd make in profit on that transaction. But I didn't mind losing money occasionally to keep our reputation really good. Our reputation had to be as good as it could possibly be.

And I said, "Our reputation has to be good because it's our most valuable asset, and we're going to do something besides just repairs." I knew we were going to sell them hearing aids when I was satisfied that we had a good product, I still wasn't satisfied. I couldn't make adequate venting for the mile losses. Vents at those days in-the-ear aids, we'd put tubes through and it didn't do it.

Finally had a guy, Austin Reynolds, in Rochester, Minnesota. He came back and forth. This is already in '72 when I'm getting at the end of my design, I'm making them for other people. And in '72 during the summer I guess it was, he was saying, "No, I'm still occluded. I'm still occluded." It went back and forth. Finally, we cast through a great big cast through vent like we use today. And I thought, surely we would have too much feedback, but we didn't. And the guy was happy. There it was. His name was Austin Reynolds. So, then I knew how to vent. It wasn't the tubes. It was those cast-in vents that we've used ever since.

And I'd gotten held of Paul Jensen. He was making all the molds for Starkey. Harold Starkey had a little ear mold company and that's how he got the name. And I wanted his shells. I knew I needed the shells. So, August of 1970, I bought that little ear mold company for $13,000. It wasn't worth 13 cents, but it was incorporated and my business wasn't. It was much bigger. What I really was buying was Paul Jensen and I could have hired Paul Jensen, but I couldn't do that to Harold. He was a nice old guy. That would put him out of business.

So, he retired to Blackduck, Minnesota with his wife, who was a registered nurse to run a nursing home. Paul came to work for me. We had beautiful shells. Then I had to work on the performance. So now, I could fit the mile losses, but how could I fit the most profound losses?

Well, Westinghouse in Canada was making an integrated circuit at that time, which was the most powerful thing I could find. When we put that integrated circuit into the hearing aid for our push-pull really bad losses instead of the transistor circuit that we were making. And we made those transistor. We assembled the circuits with the capacitors and resistors, all of these peripheral parts that you have to have.

But what we did was we beta checked our components to make sure they matched. And other companies would get components that were graded. You get a transistor that's this grade, another transistor that's this grade, another transistor is that grade. And the factories would take from each grade to make a hearing aid. The hearing aid would vary all over the place. By beta matching the hearing aids, I was able to get a little more dynamic range that the components and make a better sounding device.

So, we got a better sounding device than most of the hearing aids that were being sold. We had nice shells. We had everything. And then we got the push-pull circuit. And I was able to fit the worst hearing losses, really bad hearing losses. I could fit everything with in-the-ear aid. So, I said, "We're ready." January 1st, 1973, I sent out a letter. There was no advertising. No flyers, no brochures. I sent it out with the statement. The December statement came January 1st. I'd save on postage. I would only-

Dave Fabry: Now, in that January letter, was that when you said, "Here's the hearing aid worthy of your consideration"?

Bill Austin: Yes. I said, "We do something other than make ear molds and service hearing aids. We make an in-the-ear hearing aid worthy of your consideration." That was the words. And then I went on to say, "The provision of better hearing is unpredictable at best. No one knows how someone else hears except the patient. So, our hearing aids will be on 90-day trial." That was considered heresy. Instead, the industry changed.

We said the hearing aids have to be provided on trial. And I felt that because the industry couldn't afford a bad reputation from somebody. I said, "They don't buy a piece of plastic. They buy better hearing, and that's unpredictable at best. So, it would be unconscionable for us to take their money for something that they thought they were buying that they didn't get." So, I said that, and then I went on.

The last thing I said was, "Furthermore, we address the hearing loss, not the pocketbook. So, if you have a patient who can't afford our hearing aid, just write Starkey Fund on the order and we'll provide the same hearing aid for your poorest patient as we do the wealthiest at no charge." And it was a trust thing only. They didn't have to send in a financial statement.

And our loss and damage coverage, you didn't need to send in a police report. It was all based on trust, which some of the companies tried to institute. And most of our people were very trustworthy. And so, those were our policies from the beginning. And they were policies that were appreciated by the dispensers. Our hearing aids worked really good. And our problem was keeping up. We didn't have a problem with advertising or trying to get our problem was keeping up with the orders because it just kept spreading.

Dave Fabry: Yeah. You by then had perfected custom. You had begun this trail of innovating in that space and really delivering.

Bill Austin: They were nice looking aids. The edges had to be rounded edges. The battery doors had to be rounded. There was no square edges on it, so it would blend with the ear. And I said, "We're not making it invisible. It's not obtrusive." When you look at someone, you should look at their eyes. Not, "What the heck is that on their ear?" Your eyes shouldn't be drawn to the ear, not that it's not there, but it shouldn't be drawn there. And so, those were our guidelines of what we did.

Dave Fabry: And then with the 90-day trial with a hearing aid that, like you said, the advertising was to build a hearing aid worthy of your consideration. You already had the all make repair, so you were servicing products that other single line manufacturers-

Bill Austin: We should do things.

Dave Fabry: And you were providing them with an opportunity then. And for the next decade, from early '70s until '83, you continued to innovate in making better performing smaller custom devices.

Bill Austin: I did.

Dave Fabry: And then '83, the other thing I think that everyone remembers in 1983, President Reagan. And you fit him with the custom device when BTEs were the norm, because this is now an area that I was in in the early '80s, 70 to 80% of devices were behind the ear, but they were also fitted on one ear. And I think that's something that people don't talk about a lot, that you not only fit then President Reagan with a custom hearing aid. You fit him in both ears.

Bill Austin: Well, I'd been fitting people with both ears.

Dave Fabry: I know.

Bill Austin: Since the '60s when I started, I didn't fit one ear.

Dave Fabry: But you were zigging when other people were zagging. And people were concentrating on one ear and you were fitting ... What led you to that revelation?

Bill Austin: People hear better with both ears, that's all.

Karl Strom: And there was a lot of like Ernie Zelnick and guys like that were starting to accumulate some good evidence for that at the time.

Bill Austin: It just makes sense. So, in the 1970s, as I said, early in the '70s, 1970, '71, we did the real ear microphone with Dick Martin. Then we started making devices that would help people with niche problems that you couldn't make money on it because there wasn't enough volume like headband bone conductions for people with atresia ears, power stethoscopes for hearing-impaired doctors.

Not a lot of doctors wanted to admit to hearing loss. They thought it made them look incompetent. So, I built it into the stethoscope tubing and made it black like the rest of the assembly. And hopefully, the patient would know any difference. Not only that, the doctor could leave it in his ear and it had a hearing aid function on so he could hear and then switch it into the steth mode.

Karl Strom: Right. And you did a lot of that in that-

Bill Austin: I did.

Karl Strom: Didn't you?

Bill Austin: All that creative stuff.

Karl Strom: With your engineers and-

Bill Austin: All of the books, the counseling book, they said hearing aid is more than the device itself. It involves the family. And we need oral rehabilitation.

Karl Strom: I have articles in hearing instruments of you going back to the late 1960s anyway. There's probably some before that.

Bill Austin: So, I worked on that stuff. We made the first tinnitus masker aids and tinnitus maskers for a guy in Portland, Oregon that was researching tinnitus.

Dave Fabry: Vernon.

Bill Austin: Right.

Dave Fabry: Yeah. Jack Vernon.

Bill Austin: Jack Vernon. And so, we started working with him in the '70s. So, anyway, as the evolution goes along, we were selling the RE-1, 2s and 3s and 4s to universities to do pro bike research. We made the hearing science lab with classic experiments in acoustics so they could ... It had gates and filters. You simulate all kinds of things. You could make any kind of hearing aid you want off this big thing, but you could do other classic experiments.

We made HAL, the Hearing Aid Laboratory, which had a little acoustic chamber and you could measure responses like a fry box. We made an egg chair for testing, which was spun mold out of fiberglass, which was an egg that was patted inside and had speakers for it as a little bit of an interesting test environment for people and all kinds of-

Karl Strom: And we were talking about you did some of the first real ear stuff and got some of that rolling as well.

Bill Austin: That was early on. And then we just kept evolving different things. All I did was I kept working on trying to help find ways to help people hear better. And I think that's why Starkey is still around today and successful is because our focus has been on serving better. We have to serve better today than we did yesterday, and we have to serve better tomorrow than we serve today. We're always working on improving and climbing that mountain. And I think if I can reach tomorrow, it's going to be beautiful. And I think I'll just have to climb a little bit higher. And we're getting there. We're really getting there.

I said in an article in 1980 or something, I think that if you said that, what's the future of the hearing aid industry or hearing aid business, I would say there is no

future. The hearing aid in the future will involve more than just hearing people. It will be a communication bridge across language barriers, distance barriers. Hearing loss is just a barrier. We need connectivity to clouds and other devices today to get all the information we need. So, the hearing aid has to do that.

In 1998, at a meeting that we called engineers and people from around the world in Germany, I described this further because at that time, it wasn't possible in the '80s.

Karl Strom: And your present company included some real legends that you've been employed over the years. Dave and Dale Thorsten and Jim Curran and Earl Harford and Dave Preves, and you can go on and on.

Bill Austin: People that are employed because they want to be here. And as the keeper of the faith, I can't let the ownership go to a bunch of people, not because I want it or need it, but because they'll decide they've got to sell out for money. And I know I won't sell out. I'll keep reinvesting that in the future because that's where I think we should go for the people we serve. We have to serve better and we can do so much more.

It's a new generation of hearing aids now. So, hearing aids have gotten smaller and smaller. And then, we had digital hearing aids. Well, at the beginning, people said, "Oh, my gosh, digital is wonderful. It's so much better." Well, the real reason for digital is so you can help people hear better. And so, we had to evolve our ability to do that. And it took a little while to do that. And we are doing that today. And we've made really good digital hearing aids. They've gotten better and better and better. And the other companies have. But all of us have made hearing aids.

We made the first device now, that's not a hearing aid. I still don't know what to call it, but it's beyond hearing aids and because it doesn't have the limitations that hearing aids have always had. And so, once those limitations are taken away, we're able to do a lot more.

But now that we can help people with normal hearing without having them feel like they're wearing a device that they're hearing normally only better they have super hearing, we can start adding features that make a hearing aid ubiquitous. You can't be without one. It's like an iPhone because it will be your monitoring system for your health, will report that. It'll be a therapy system if you fall. It'll know before you fall. It'll know that you're a candidate for falling, that you're going to be falling soon. It's going to do so much to help people.

And that's what I said years ago. We're going to help people be healthier, live longer, and perform the task better. That's what a hearing aid does. A hearing aid will help you perform the task better because it helps you hear and respond to people. It helps you perform the task better because you can tap your and connect to the cloud and say who hit the most home runs last year. You can find

out anything you want to know just like that, the direction to the airport, what's the weather in Tokyo. It doesn't matter. You could ask and it's all there.

Karl Strom: And the future, what you're talking about sensors and-

Bill Austin: Yeah, the hearing aids will talk to you in the future. They'll talk back. They'll recognize your voice and other voices. We have all of this potential coming at us. It's coming very fast. And I realized that we couldn't do that with the people we had. We'd been trying to make progress for years with the people we had. And I kept telling them, "We're not getting anywhere. We're not getting anywhere."

And that's when we sent out a search for Achin, for new head of engineering and we wanted to go outside the industry. And he was a head of artificial intelligence at Intel. And so, the guy was deep and experienced and very sharp. He had made Siri and what is it, all kinds of things, did the robotics shows for the Super Bowl and the drones. So, he's just a very visual, brilliant, creative guy.

And so, it ended up that I met him. He came here and he really hadn't intended to go to work, but he'd written a paper about me. I'd never heard of anyone in my life and there has ever been anyone since that had written a college paper, thesis or something, paper about me. And he'd chosen a public company, Microsoft, and a private company, Starkey. And anyway, he wanted to meet me. And so, I took a big board, like you see the horse races at the track going up the board, and the guy that gets to the top wins the teddy bear or something.

And so, I said, "This is what we're going to do. These are all the things we're going to do to help people live longer, perform the task better, be healthier." And I said, "Some of them are going to be harder, more difficult than others." And I said, "So, that's okay. That's just one of the measurements we're going to do. We're going to do all these things and that's our future. That's what we're dedicated to doing is making a device that will help people better than we've ever helped them before."

Karl Strom: And that's why when I asked you in another interview, "What's the future of hearing aids?" You said, "There is no future in hearing aids. There's a future in these new types of devices."

Bill Austin: Right.

Karl Strom: Of course they are going to compensate for-

Bill Austin: That's where the future will be.

Karl Strom: Right.

Bill Austin: So, because we focused on that, it's taken years and we've got billions and billions of bytes of sound information now that we're working with. Our AI is getting smarter and smarter and smarter. So, Achin estimates we're five years ahead of anyone else. And he said, "Within another couple of years, it'll be 10 years ahead," because we're doing unbelievable things. In the meantime, we keep trying to go to the next. We'll keep trying to go to the next level.

But Achin said, "I want to spend the rest of my life trying to help people and do something good instead of making gadgets and things." So, robots, so he's signed up in for the right reasons and that's why our good people sign up because they buy into being part of that. We're one team. No one can do it alone, but together we can impact the world in a positive way.

The world needs that now. And it needs something else that we have at Starkey. Our caring that we reflect the people. It's deeply embedded in this company, deeply embedded. And so, that respect that each individual is worth the best we can do for them is part of our culture and part of why we go to work. It makes our life meaningful, gives us purpose. And the people who buy into that find that this is a good place to work.

Karl Strom: I've also gotten the sense that there is some and there's a fair amount of levity or of your own way of determining which way you're going to go sometimes. I was talking to Earl Hartford before he passed and asked him how he started that student education program. And apparently, you didn't think it was going to work necessarily, but you said, "Well, go ahead and give this a shot." And it really impacted some influential audiologists down the road.

Bill Austin: Well, I've always done that. People will do more if they believe in something, if they have a passion for it. And so, I may test them. Ideas are a dime a dozen, but if they can beat on the table and say, "I can make it work, I will make it work." If they have passion for it, then I'll support it. Because if they didn't have that passion, it wouldn't get there. It wouldn't be that significant. So, Earl believed that. And so, I support it.

Dave Fabry: Oh, go ahead.

Karl Strom: We were talking about legacy before. What do you think you'll be remembered for and what do you want to be remembered for?

Bill Austin: Here's what I think that I'm remembered by people who will never know me and will never know me because the caring that I reflect gets reflected to the family and the community and that it lights an inner light in people. It gives them hope. If they're cared about and someone thinks they're worth it and they have value, all of a sudden someone else will think it, they're worth it. So, I think probably my biggest legacy may not be hearing aid inventions, although we've tried to push that and make other people keep up with us and copy us. Our policies

were very important. But probably the biggest legacy is the caring, the light we reflect.

Karl Strom: And you personally have fitted a lot of people all over the world.

Bill Austin: Oh, a lot of people all over the world. But that's what I think will only thing that won't be remembered, but it will become part of life ongoing. So, I think as you reflect that light to someone of your ... You've given your life, you've given a part of your life, a piece of time to them and only them because they were worth that piece of your life.

And when you give that to them, it lights the light inside them and you can see that reflected back to you, which feels good. You're bathed in the light. It makes you stronger and you want to go on and do more. But they reflect that light then onto others. And that keeps being reflected forward and forward and forward.

Dave Fabry: And I think that really summarizes, I mean, the issue of a hearing aid manufacturer thinking about the technology, but for as long as I've known you, you operate by the mantra, "So the world may hear," and I've been in all corners of the world, seeing you provide the opportunity for people to hear and connecting them, providing that light looking forward. And I think it's because you've not been paralyzed by the dogma of the moment. I mean, you brought up Lybarger from 1944, said a half gain fitting rule was going to be the key to success in fitting hearing aids.

I've watched you develop the WFA fitting model, which is based on super threshold on audibility. It doesn't even need the audiogram. And why is that? Because you can scale it and you can get to so many more people in all corners of the world that doesn't depend on plugging something into the wall or using a piece of equipment, but it provides people with the opportunity and the chance to hear.

Bill Austin: You can quickly arrive at the sweet spot for their hearing. It's scalable. It's something we can do to bring hearing to people all around the world. And it's not possible otherwise.

Dave Fabry: There's no other way that you could have built it that way-

Bill Austin: There's no other way you could-

Dave Fabry: ... through audiometers, through a half gain fitting rule, all you need is your hands.

Bill Austin: There's too many millions of people and it takes too long.

Dave Fabry: Too many millions of people.

Bill Austin: There's not that much equipment [inaudible 01:03:32].

Dave Fabry: For me, it's the caring and it's a solution that provides us a scalable and sustainable approach by involving the community and the people that are not there when you are able to go over and teach them and be there and fit them. But in that way, it takes a big, hairy, audacious goal to be able to say brashly. And I think you take that statement literally because I've seen you get off a bus and fit someone that you saw struggling with hearing in more than one occasion. And it's that caring.

Bill Austin: That's all I know how to do. So, I have to give what I can. I can't solve all the problems. There are many problems.

Dave Fabry: That one.

Bill Austin: There always have been. But I can do one thing that I know how to do, and so I must do that one thing. Otherwise, who am I and what am I good for? So, it's very simple to me. So, that's why I think people say, "Oh, I was a great salesman," or "I was this, that, or something else," or "Bill Austin was some sort of a genius." I'm not a genius. I'm not a great salesman. I've hired people that are smarter than I am. They're all around here.

But what I think has kept Starkey going when a lot of companies have gone out of business is that we had one goal, and it wasn't to make money. It was to help people. The people want to be helped. They don't want to be outsmarted. They don't want to be duped out of their money, but they're willing to pay a good humble servant that helps them. And that's the reward you've earned.

So, I've never wanted any money I could make from winning the lottery or Vegas or anywhere else. I want money that's really given to me because I've served well. That's good money. That money has sold. I could do something with that. So, it's not bad to have competition. I knew we could do it better. And the reason I knew we could do it better is because I was willing to work harder than anyone else. I was willing to stay there really late at night or all night. I used to work all night a couple days a week because I'd be going too fast, otherwise I had to slow myself down.

Karl Strom: You worked late into the night in the lab, I've heard.

Bill Austin: Oh, yeah. I always did that on into my 40s and 50s and 60s. Really, I think anyone can be successful in business. They just have to want to be a good servant. That's the only reason a business exists is so it can serve. So, the only thing you need to do is try to serve better. And if you do that, you're in demand.

Karl Strom: In a lot of the early years, Starkey wasn't always known as a technology company like it is today. You oftentimes anticipated, it seemed like you anticipated the needs of dispensing professionals before even they might've been able to articulate or you don't disagree.

Bill Austin: No, I don't disagree. Now that we have a real way to progress, that we see a path clear for the future to progress on, we will move forward. And artificial intelligence machine learning is going to be a big deal, a really big deal.

Dave Fabry: And you've proven. I mean, AI is a machine capable of doing. You look at some of the visual things that it can do to pick out tumors in the body with much greater precision than humans can to be able to even some of the navigation with better driving-

Bill Austin: Better vaccines, better medicines.

Dave Fabry: Better vaccines, all that.

Bill Austin: Everything, it's going to do huge things.

Dave Fabry: The bridge that it hasn't crossed yet, and imagine, it's the ultimate challenge is it's currently not capable of displaying empathy the way the human can. As you mentioned, that caring element of trying to understand, focus and be present with every patient that you're with, your focus is on that patient.

And I think as long as clinicians remember that their role more than anything else is you don't know your patient until you know your patient and you have to invest yourself in them in order to give them that opportunity, so far, AI hasn't shown a propensity to be able to do that, that will commoditize or eliminate our role for those who are willing to care enough.

Karl Strom: You've told me before that there aren't any Supermen. There are certain people who are really good at one or two things, but then you build a team around them and they become Supermen.

Bill Austin: Well...

Dave Fabry: And women.

Bill Austin: ... they're Supermen and women because we prop each other up. We all have our flat spots. But that's kind of hidden. And if you bring that together, it's like bringing together a lot of facets on a diamond. The light they reflect as you have more facets is even more brilliant. So, we bring these facets, different people together with different talents. And the flaws are hidden inside. All that you see outside is the light.

Dave Fabry: That's a good metaphor. I like it. You've provided a lot of great quotes over the years that I've heard you say, but one of my favorite is when now, which is almost customary when you speak to our customers or our employees, people inevitably stand up and applaud you. And when you come up to the front of the room said, "I'm not a big deal."

Bill Austin: Yeah, I usually say, "I don't amount to much, but don't feel bad for me because you don't either. But together-"

Karl Strom: Together we can change the world.

Bill Austin: Together we can change the world.

Dave Fabry: And I think that's a good way to end this because I think that's your legacy, Bill, is it really is that none of us alone, we can't do much, but together, we can and we are changing the world.

Bill Austin: That was the big vision in late February 1961 when I saw the limitations of myself and faced them for the first time. I never thought I had any limitations. I was going to be a great healer. And then I saw I could only do this much. But if I can get other people that agree with me, then we can impact the world.

Dave Fabry: That's it. That's your legacy to me.

Bill Austin: That's it.

Dave Fabry: So, thank you for that and for this discussion. And Karl, thanks for leading this discussion.

Karl Strom: Well, thank you so much, Bill, and thanks for sharing your-

Bill Austin: Yeah, you're welcome. Thanks, Karl. Thanks, Dave.

Karl Strom: Your philosophy and knowledge.

Dave Fabry: Thank you very much. Appreciate it.

Bill Austin: What can I say? What I've said before, I just like to go to work.