

Have you Heard? A Listening Project
Episode #22 – The Evolution of the Telephone
Hosts: Alle Rhames and Betsy Randle

(0:02) Alle: Hello and welcome to “Have you Heard? A Listening Project.” On this podcast we cover all things hearing related and today we’re going to discuss the evolution of the telephone. I’m Alle and I’m one of your hosts and today I’m also joined by Betsy.

(0:18) Betsy: Hi there Alle, great to be with you again!

(0:20) Alle: Hi Bets! Betsy and I work together at OEI as hearing health advocates and we thought it would be interesting to discuss the way telephone use has changed over the years because it really has. We’ll share some interesting history, some geek-friendly technical information as well as some fun stories about communicating over the telephone.

(0:40) Betsy: And be sure to stay until the end when we’ll share our favorite hearing loss solution for people who have a hard time hearing over the telephone.

(0:48) Alle: Oh yes! Okay, so let’s just dive right in. Most of you already know the story of Alexander Graham Bell and his assistant Mr. Watson. But to refresh your memory, Alexander Graham Bell created the first telephone and then named the Harmonic Telegraph in 1875.

(1:05) Betsy: We all know those historic first words: “Mr. Watson, come here – I want to see you” or something like that.

(1:14) Alle: It really sounded good, yes! What’s really interesting and what a lot of people may not know is that while Bell is generally considered the inventor of the telephone, some believe that honor should go to inventor Elisha Gray. The story goes that Alexander Graham Bell allegedly stole the idea of the liquid transmitter from him as Gray had actually been using liquid transmitters in his telephone experiments for more than two years previously. They both filed for a patent on the SAME day in February of 1876. Eventually, Bell’s telephone patent was upheld in numerous court decisions which is why he is known as the true inventor.

(1:53) Betsy: The same day? Awfully coincidental, wouldn't you say? I know Bell is also somewhat controversial for "some" in the hearing loss community, but that may be a story for another time.

(2:08) Alle: Absolutely. Anyway...fast forward almost 40 years and by 1918 it was estimated that 10 million Bell phone systems were in service throughout the US. So, as you can imagine, this was a huge game-changer in communicating.

(2:24) Betsy: Now early on in the 1920's, there were no phone numbers. All calls had to go through a switchboard operator who then connected you to the recipient. Even by the 30's and 40's it was still considered a luxury to own a telephone. Many households did not own one, isn't that amazing!

(2:44) Alle: Yeah, and that reminds me of a story that someone told me about using the telephone when he was growing up in the 40's. His family actually had a payphone in their apartment. It cost a nickel a call and there were other people on the line so you'd have to pick it up first and make sure it was available before dialing. About once a month, I know, about once a month a man from the telephone company would come out and take out all the nickels, roll them into coin roll wrappers and his mother would then buy them back with cash because they needed the nickels for future calls. That's how they paid their bill I guess it was a pretty common way to make calls back then.

(3:20) Betsy: That's actually pretty cool. I, I also think that it's very interesting how different telephone service looked depending on where you lived geographically. For instance, I know someone whose father lived in rural Mississippi. He grew up in the 1950's early 60's and there was only one man in his entire area who even had a phone. At the time because they lived in the country and the only people who had phones were people with important jobs whose bosses needed to be able to get a hold of them. The company that gentleman worked for would often pay and have the phone installed so that they could ensure that they were able to contact their employee. So, if anybody in the surrounding area needed to make a phone call, they either had to drive all the way into town or they had to go to this gentleman's house to use the phone. Hey "I'm here to use your phone" and if that wasn't strange enough, they were still using a party line! Which means that anytime you picked up the phone you would hear multiple people talking because it wasn't a direct line. Strange, huh?

(4:27) Alle: So strange. Talk about privacy concerns! Well, anyway, jumping ahead later into the 1960's sometime later in that decade the push button pad finally replaced the rotary dial. This became life changing for everyone. I even know that my parents mentioned to me how it used to take a long time to dial

numbers when using a rotary phone so having push buttons was a time saver for sure.

(4:51) Betsy: Yes, having a lot of eights, nines or zeros to dial could be very tedious. In fact, I understand that was the reason so many of the larger cities have area codes that start with lower numbers. I didn't realize that of course I was too young to figure that out.

(5:09) Alle: Right. Like Los Angeles is 213 or Chicago 312, New York 212. That makes sense.

(5:16) Betsy: I think the design of the phone started to change a lot in the 2nd half of the 20th Century. In old movies and TV shows you can see that phones are mostly black and on occasion you would see one that was like a pea green. In the 50's there were some fancier colors, like light blue and pink but not too many people had those, I had a pink one! I was quite taken with my Pink Princess phone in my own room. I had 3 older brothers to grapple with so I loved having my phone all to myself. Not the line mind you, just the phone.

(5:53) Alle: Well, do you remember the Princess style phones? Is that what you're talking about? The first ones I think had push buttons for dialing but they were still in the shape of a circle like the old rotary phones. Push buttons on the actual handset was the new invention in the 1970's.

(6:07) Betsy: I guess that gave it a sleeker look but I sort of remember that sometimes you might press your cheek on the handset a little too hard and you'd get this loud tone in your ear.

(6:17) Alle: Well, speaking of tones, I think there's a whole generation of people now who have no idea what a dial tone actually is!

(6:25) Betsy: Or a busy signal, I remember those. Youngsters are now growing up without landlines and are more familiar with the word "send" or that little green handset icon you touch when you want to place a call. Funny to think how things have changed.

(6:41) Alle: And now a word from our sponsor.

*** Commercial.... So, mom finally decided to sell the house and move into that cute condo near her sister. I'm happy for her and there's so much to do. The problem is, she can't hear me when I call, even with her hearing aids trying to talk about details over the phone is impossible. I'm consistently repeating myself and half the time I don't really think she gets what I said. Fortunately, we learned

about the CapTel Captioned Telephone. It works just like captions on TV, if she can't hear what I say she can read the captions. Our local CapTel Outreach person took care of everything. She helped set the phone, explained about the free captioning service and made sure that mom was comfortable reading the captions. Now mom has the confidence to handle details over the phone by herself knowing she'll catch every word. If someone you care about has difficulty hearing over the phone find out how a CapTel Captioned Telephone can help, visit oeius.org for details.***

(7:42) Alle: Welcome back to "Have you Heard? A Listening Project." Anyway, getting back to that time line. In the 70's, the car phone became more accessible to the masses. We had a family friend who was one of the first people that we knew to have one. It was wired and attached to the car, there was an antenna attached to the roof, everyone thought it was so cool.

(8:01) Betsy: At the time, it was quite novel, I guess. I didn't much care about it myself.

(8:06) Alle: A relative of mine is a retired physician and he told me he had one of those brick phones which he carried around in a bag, do you remember those? This was supposed to be an improvement on the car phone because it didn't need to be actually attached to the car. He would use it when he was on-call and it weighed about 2.5 pounds and originally cost about \$4000, and the battery charge only lasted for 30 minutes of use.

(8:32) Betsy: Oh man, that sounds like such a hassle. But then things got better in the 80's when the cordless home phone made its debut (ta-da!) what a freeing feeling it was to walk around your home while chatting it up with all your friends.

(8:47) Alle: Definitely a game changer and phones have continued to evolve for better or for worse.

(8:52) Betsy: Remember for a while people were buying themed phones (Alle... yes) like Mickey Mouse phones or the weirdest ones, the ones that were shaped like food; a hot dog or a hamburger phone, I know.

(9:04) Alle: Or a banana! Funny, funny to see someone with a plastic banana stuck to their ear! And then we had flip phones, blackberry devices and eventually smartphones like most of us use today. And while that's been great for some people, it's not a good solution for everyone. Throughout the decades for people that have hearing loss being able to use the telephone has been a real challenge.

(9:29) Betsy: I know. Telephone communication really does play a very important part in society. Using the telephone keeps people connected and engaged. It's necessary for emergency situations so safety is a factor. However, and this is the exciting part, there are solutions for people who have trouble hearing and this is what you and I are so passionate about with the work we're doing for OEI.

(9:55) Alle: You're so right! So, let's talk about different ways people with hearing loss have been able to communicate over the telephone. Because things have really changed for folks when the TTY became available and that was back in the late 60's I believe.

(10:09) Betsy: For those of you unfamiliar with it, TTY stands for Tele-type-writer. It's also sometimes called the TDD or Telephone Communication Device for the Deaf, but TTY is the more commonly used term. It's a special device that lets people who are deaf, hard of hearing, or speech-impaired use the telephone to communicate, by allowing them to type messages back and forth to one another instead of talking and listening. Initially, a TTY was required at both ends of the conversation in order to communicate.

(10:46) Alle: And here's the background on that. It all started in 1964 when engineer and scientist Robert H Weitbrecht – who had been deaf since his youth – invented the technology that was able to send and receive typed messages through telephones. He initially wanted it for his own personal communication purposes with a colleague. And get this – he also had some famous first words: "Are you printing now? Let's quit for now and gloat over the success."

(11:13) Betsy: But instead of someone hearing those words over the telephone, they were reading them! And thus began the world of Relay Services which we now know it's so very important for so many people.

(11:26) Alle: Oh, yes and by the 1980s, there were over 150,000 TTYs in American homes. With so many TTYs in service, it became apparent that everyone with hearing loss should be able to use them. Federal and state governments took notice and our home state of California became the first state to establish a State Telecommunications Relay program in 1987. And then, there was a huge piece of legislation that passed which made all of the difference. In 1990, the Americans with Disabilities Act known as the ADA that was passed, which prohibits discrimination against individuals with disabilities in all areas of public life, including phone usage.

(12:08) Betsy: That was super important. Title IV of the ADA created a nationwide system of telecommunication relay services to make telephone networks

accessible to people with hearing loss and speech disabilities. This important legislation ensures equal opportunities to anyone with a disability by making communication available 24/7 all across the country! And so today there are many, many types or forms of TRS – Telecommunications Relay Services – that an individual can use. They include the TTY we just talked about, plus Speech-to-Speech Relay Services, where both parties don't need to have the actual TTY device, and of course, our favorite.....

(12:58) Alle: Can I do the honor?

(13:00) Betsy: Go ahead, Alle.

(13:01) Alle: Captioned Telephone Services! OK, I love talking about captioned telephones, and especially about the CapTel Captioned Telephone, because it truly is the most wonderful form of telecommunication for people with hearing loss. So, without geeking out too much and getting super technical, let's just briefly explain what a CapTel captioned telephone is.

(13:23) Betsy: A CapTel is an amplified telephone that has a screen attached to it so people can read captions of everything the caller says, if they can't hear it. So, it's just like using captions to watch TV, except you can communicate back to the caller by speaking into the handset. This is very cool!

(13:41) Alle: Oh yes and like any traditional telephone! So, Betsy, tell us how the CapTel came about.

(13:48) Betsy: Well, the owner of a company called Ultratec, himself an engineer, wanted to make the TTY that Robert Weitbrecht had invented more accessible for the masses.

(13:59) Alle: Yeah, because when those early versions first became available, some of them cost up to \$1000.

(14:06) Betsy: So, the Ultratec team worked to become the world's largest developers of TTYs serving people worldwide who are deaf, and making the TTY far more accessible. Their versions cost under \$200.

(14:21) Alle: Yeah, that was great. Yet Ultratec recognized it isn't only the *deaf* community that needed equal access to the phone. People who have hearing loss needed a way to communicate over the telephone as well.

(14:34) Betsy: So then the CapTel was born! Thank you, Ultratec - they're the actual inventor and manufacturer of CapTel.

(14:44) Alle: And by 2003, the FCC approved CapTel for use nationwide through Telecommunications Relay Services. And over the years, CapTel has continued to improve the captioning experience by utilizing cutting edge technology at every turn.

(15:01) Betsy: What's amazing is that because of the Americans with Disabilities Act, TRS is now available at no cost for people with hearing loss. So, we've come a long way from when people had to spend close to \$1000 to be able to communicate over the phone, to today, when the captioned telephones and the captioning service is available at absolutely no cost.

(15:23) Alle: Right and what a difference having the right technology can make. I just have to tell you one of my favorite stories because I have so many from my career helping people with hearing loss. I'll never forget Tommy so he was wheelchair bound, and really wanted nothing to do with the CapTel phone. And when I say nothing, I mean nothing. But his wife was desperate because she wanted to have a way of communicating with him when she wasn't home, obviously. And apparently there had been several, yes, several occasions where she thought there was an emergency because he wouldn't answer the phone when she would call. And so, she would have to race home from wherever she was just to find he was okay. Anyhow, he paid me no attention when I came to set up the phone. Actually, until the phone was fully set up, and we wheeled him over to make a call to his son, who lives on the east coast. He looked up at me I remember and said to me there is no way this is going to work for me. But I had him call anyways, long story short, tears were rolling down his face when he understood that even if he couldn't hear his son's words, he could hear his voice, which he hadn't in so long, and he could understand by reading his words on the screen of the CapTel phone. I mean this was just such an honor to witness. And I have sooooo many stories like that, I mean, how cool is that I was able to help this family and this man in particular, but also be able to enjoy the actual effects of what the CapTel phone does for people in person.

(16:48) Betsy: That is so moving, Alle. I have experienced similar reactions when people first give our phone a try and it is remarkable what a wakeup call it is. I mean, they didn't know what they had been missing all this time, not being able to communicate over the phone to loved ones or friends. When you look back on the history of the telephone, it truly is amazing. It will be interesting to see what new things come out in the future. I know Ultratec already has a version of the CapTel for deaf-blind people that uses braille for captions, I mean, how amazing is that? (Alle...so cool) And with the way technology goes, I think it's inevitable that there will always be something new that will blow our minds and improve communication across the world.

(17:36) Alle: I totally agree. It does make me wonder how my grandchildren far in the future will be living their lives. The telephone has given us all such a gift to stay connected, and though many people may take it for granted, it really is such an important piece of technology.

(17:53) Betsy: I think that's a good note to end on today, don't you, Alle?

(17:56) Alle: I do, absolutely. For more information on the CapTel Captioned Telephone or any of the other resources that we mentioned on today's podcast, please feel free to contact us through our website oeius.org, that's oeius.org. It's been a pleasure, as always, oh Betsy, thanks for doing this with me!

(18:22) Betsy: Oh, thank you and thank you to all of our listeners! Remember to stay safe and stay connected!

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