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New Media Technology for People With Hearing Loss: “Looping” Communities So All Might Hear



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Imagine a future where hearing aids could become wireless loudspeakers for TV, telephone, and public address systems. Psychologists are working to make it happen.

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New Media Technology for People With Hearing Loss

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My thanks to *Amplifier* Editor Mary Gregerson for welcoming this explanation of a simple but largely unknown (in the USA) media technology, one that has the potential to enhance communication and quality of life for some 31 million Americans. I refer to that large but largely invisible population of those who live with hearing loss.

Consider: If you have vision loss, you deal with it. You have glasses or contacts. If you have hearing loss, there's a one in four chance that you've elected hearing aids---glasses for the ears. But imagine a future in which hearing aids offered doubled functionality, by serving not only as sophisticated microphone amplifiers, but also as personalized, in-the-ear loudspeakers for the broadcast of sound from TVs, PA systems, and telephones.

Actually, this future already exists in Britain and increasingly in other European countries. As a hard of hearing person, I first experienced this wireless media technology when worshipping in the 900 year old abbey on Scotland's Isle of Iona. After bouncing off the high stone walls, the words were largely unintelligible by the time they reached my ears. Noticing a hearing assistance sign with a "T," my wife nudged me to activate the "telecoil" receivers that came with my new hearing aids. The result was the auditory equivalent of moving from a gravel road to fresh asphalt. With the loudspeakers not 30 feet away but inside my ears, I was hearing crystal clear sound. It was as if the person was speaking from the center of my head!

In recent years, hearing aid compatible assistive listening has spread to the UK. It's now in most churches, cathedrals, and auditoriums. It's at more and more designated ticket windows, bank teller stations, and tourist information counters. It's coming, by mandate, to all London Underground ticket windows and the back seats of all London taxis. Last September, as I sat with hundreds of others in Gatwick Airport's huge departure lounge, I was unable to hear announcements about my delayed flight. But then I chanced to activate my hearing aid telecoils, and voila!, the announcements broadcast from my own hearing aids. (The technology is simple: a magnetic signal flows through a wire loop surrounding an audience, and is detected by an inexpensive little telecoil receiver in the aids.)

As I sat there enjoying wireless communication on my laptop, thanks to wi-fi, and wireless communication through my hearing aids, thanks to the "loop" system, I pondered again how wonderful this would be for the United States. Alas, our FM and infrared assistive listening systems use a technology that requires us hard of hearing people to locate, check out, and wear receiver boxes with conspicuous headsets. But as you probably haven't noticed, we mostly choose not to elect the hassle and embarrassment, so the units mostly sit in closets unused. Sometimes, theatre personnel, when asked for the assistive listening units, will be unaware their facility has them. (Similar receiver/headset units also come with loop systems, for those not yet having suitably equipped hearing aids.)

So, I thought, why not introduce this technology to a pilot American

city---my own city of Holland, Michigan? Thanks to support from our community foundation, from local audiologists, and from the local media, Holland has become a model "looped" community, with installations of hearing aid compatible assistive listening in most of its major churches, auditoriums, and fine arts centers, and in various government and public library facilities---some 80 venues in all. Many people have reported being overjoyed (sometimes even in tears) at the ease and sudden clarity of their listening. "Never in my audiology career has something so simple helped so many people at so little cost," reports the owner of our largest audiology center.

But why stop here? Why not introduce user-friendly hearing aid compatible assistive listening to the nation? With that grandiose aim in mind, I created an informational website (hearingloop.org), have authored sixteen articles for various magazines and trade journals, and have spoken at or attended meetings with hearing industry and hearing consumer leaders. Here are some results of these and other efforts.

First, the initiative has spread to nearby Grand Rapids, Michigan, where many churches as well as government, educational, and convention center facilities are introducing the technology. The Michigan state chapter of the national organization that is "the nation's voice for people with hearing loss" has recommended that "Michigan's churches, auditoriums, theaters, courts, airports, and other venues where sound is broadcast install assistive listening systems that broadcast sound directly through hearing aids." Its counterpart California state organization is now urging much the same.

Second, visible new installations are appearing elsewhere, most notably in the main chamber of the U.S. House of Representatives. When future Presidents deliver their State of the Union addresses, attendees need only activate their telecoils to enjoy customized sound (suited to their own hearing needs) broadcast from inside their ears.

Third, home and office installations are easy, sometimes with a loop system that is as simple as a thin pad that slips under the cushion of one's favorite chair. Thus if you were to watch television with me, the TV would broadcast to you through its speakers and to me through my hearing aids. Moreover, unlike hearing aid incompatible assistive listening units, the hearing aids allow me to have both the telecoil and mic activated, so I can hear conversation or a doorbell. My office telephone broadcasts sound in both my ears, with greatly increased clarity over typical one-eared listening, even with an amplified phone. (When I take voice mail messages I can set the phone on the desk and listen through my hearing aids.)

My vision for the future is less for loop systems per se than for a revisioning of hearing technology. Perhaps alternative technologies will enable the wireless broadcast of sound to miniaturized, inexpensive receivers that can fit into in-the-ear hearing aids. Regardless, the vision, which today's loop systems can make a reality, is doubling the functionality of hearing technology, and by so doing doubling the use of hearing aids and diminishing the stigma of hearing loss and hearing aids. Achieving these ends would also reduce the unit cost of hearing aids and increase public support for Medicaid, Medicare, and insurance reimbursement for hearing aids.

So why are we still so far from making this a national reality? It's largely because vested interests favor the existing hearing aid incompatible technologies, which audio engineers know and love (without understanding the reluctance of hard of hearing people to use it). It's also because, until recently, only about one third of hearing aids came with telecoils. Thanks to new requirements for "hearing aid compatible" phones—telephones that will transmit a magnetic signal to hearing aids with telecoils—that number is rising, and is up to 48 percent in a recent survey of manufacturers. Moreover, telecoils are now in virtually all the behind the ear hearing aids usually worn by people who most need hearing assistance.

Still, social change requires energy. In Tucson, Arizona, a committed group of hard of hearing people is pushing hard for hearing aid compatible assistive listening, and facing resistance from audiologists and audio engineers who turn (excuse the pun) a deaf ear to the expressed wishes of people with hearing loss. The existing technology we have is the technology we know and prefer.

But supportive new leadership is coming from two kindred-spirited psychologists who happen to lead hearing-related organization: Terry Portis, the executive director of Self-Help for Hard of Hearing People (the national organization), and Sergei Kochkin, executive director of the education-oriented Better Hearing Institute. Conversations are underway about a possible national initiative promoting hearing aid compatible assistive listening. More and more people seem to be recognizing that broadcasting sound directly to hearing aids is the hearing media of the future. When that future becomes reality, our nation will have become a friendlier place for the 31 million Americans with hearing loss.

David Myers (davidmyers.org) is a Hope College psychology professor and author of A Quiet World: Living with Hearing Loss published by Yale University Press in 2000. For further information on hearing loops and how to bring them to your community or home, visit hearingloop.org.