

Lecture

Feedback: How the Hearing Aid Molded a Regime of Rhythm in the Postwar Period



Frank Mondelli
PhD Candidate,
Stanford University

Today, I'll be bringing us back to the 1940's and '50s in Japan to discuss how the history of hearing aids intersects with music, hearing-impaired communities, and the development of the commercial sound hardware that we all still use today.

Hearing-impaired People, Music, and Acoustics

In the wake of World War II, a number of opinions published in contemporary newspapers advocated proper intervention and the self-cultivation of deaf people. One such opinion reads as follows: “In order to live as human beings and cultivate themselves, deaf people must also study hard” (Takeda 1953).

In that case, what kinds of intervention could develop hearing-impaired people's quality of life? Newspaper authors argued that bringing music to the hearts of hearing-impaired people, especially children, could serve to ameliorate the debilitating dehumanizing effects of deafness. Music would improve, not only spoken communication (*kōwa*), but perhaps, more importantly, hearing-impaired people's abilities to live as proper humans. These authors' opinions were well reflected in events, as seen in Figure 1. You can see some musicians, some cabinet speakers, and a logo for a company called Rion, which I will discuss. This particular event was called “Gathering for Enjoying Good Music through Good Sounds” (*Yoi ongaku o yoi oto de tanoshimu tsudo*). Other events had titles like the “Meeting for



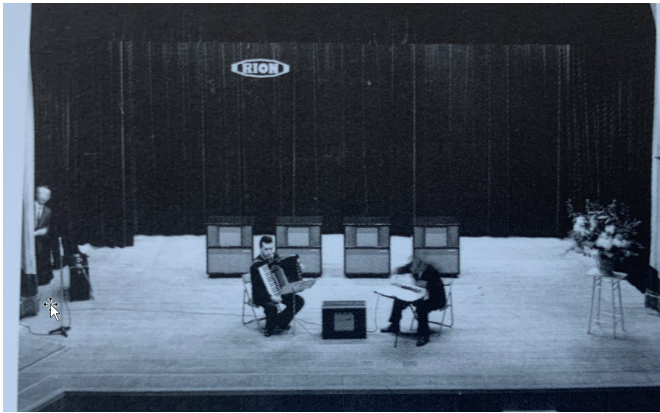


Figure 1: A Rion “stereo record concert” in Ginza, Tokyo (Rion 2019, 66)

Listening to Sounds,” (*Oto o kikukai*) and the “Gathering for Relishing Life through Beautiful Sounds” (*Utsukushī oto de seikatu o tanoshimu tsudo*).

However, events like these were not ordinary concerts. They brought together local politicians, hearing aid firms, material scientist researchers, doctors, and the general public for unique multi-act events. These events mixed together lectures on the personal benefits and possibilities of hearing aids. With record player concerts, they would often play folk music, and later on, included classical music. They would mix this with musicology lectures and lectures from audiologists, and so on. They were hosted by Japan’s largest hearing aid firm at the time, Rion, with the intention being to demonstrate the future soundscapes that hearing aids could bring, not only to deaf and hearing-impaired persons, but also Japanese culture, at large.

Three questions

I want to explore three questions related to this phenomenon. First, how did Japanese hearing aid makers come to host these kinds of musical events in the ruins of the postwar period after World War II? In this talk I’ll be defining the postwar period as the 1940’s through the end of the 1950’s. Second, I want to explore the question: How did hearing aid makers and their allies shape ideas of collective listening to deaf users and the general public? And third: How have the domestic and transnational repercussions of these ideals impacted on listening, today?

Through exploring these questions, I'm going to argue that the Japanese hearing aid was deeply intertwined in the politics of postwar rebuilding, deaf school pedagogical practices, and the commercial sound world, in which it structured human senses, sensoria, to promote ideals of individual self-actualization through collective musical listening. In addressing these questions, I aim to present a largely hidden array of historical materials that underline the importance of the hearing aid to political, social, and material cultures in Japan and beyond, up until the present. Finally, I would like to share with you how seemingly unrelated social actors, in the name of social good, used media and music to try to train deaf persons through physical and sensory means to improve their quality of life according to particular metrics.

Hearing Aids and Music

I'll begin with the first question: hearing aids and music. I describe how, for corporate entrepreneurs struggling after the war, hearing aids and related sound technologies promised a useful and potentially lucrative avenue of transitioning war time acoustics research into more democratically friendly technologies that had the added benefit of "saving deaf children."

These ambitions of the manufacturers, though, were not actualized without the help and cooperation of deaf schools. They had to coordinate with these deaf schools as their teachers generally sought to use hearing aids for their own pedagogical purposes of teaching oral language—spoken communication—often at the expense of Japanese Sign Language or JSL. This is, of course, a completely separate language from Japanese, with its own grammar.

I'll focus primarily on a firm called Rion. I'm using Rion because they were one of the largest and most prominent, but the story can be generalized to most of the other major players in hearing aid manufacturing at this time. I will describe how Rion ended up sending representatives to tour the ruins of postwar Japan. These "PR tours" sent representatives to many places, including deaf schools, hospitals, electronic shops, local government offices, black markets, and so on. They'd go to strengthen, what I call, "multilateral coalitions," and create organizations to strengthen the hearing aid's place in society and, of course, in the commercial

market. These are what I call “socio-technical coalitions,” which consisted of manufacturers, science researchers, medical researchers, deaf educators, etc. Understanding how these coalitions formed will set the stage for discussing the hearing aids’ use within deaf classrooms and its relation to commercial markets.

By October 1945, postwar Tokyo was more or less in ruins. The American occupation had just entered into full swing. American-supplied goods, like wheat and scrap metal, had found their ways into the tens of thousands of stalls in Tokyo’s black markets—into the hands of vendors, entrepreneurs, business people, and, of course, ordinary people. This ravaged environment presented difficult challenges and opportunities for the many researchers and business owners, who had previously contributed to Japanese militaristic efforts. These companies, which had preexisted during the war, found themselves in a totally different environment, needing to find cheap ways to transition existing resources from wartime applications to a peace time commercial market. This occurred within an environment of widespread poverty, a collapsed infrastructure, changing political and social norms, and constrained access to raw supplies. Perhaps, concerning the last point most importantly, Rion was one of these companies.

Rion had roots in material supplies and research since the Japanese occupation of Korea, going back closer to the beginning of the 20th century. The modern iteration of the corporation began when the founder inherited, from his father, a metal mining business in Korea. He subsequently established a research and production base in Tokyo with his acquaintance, Satō Koji, who was a professor at what was Tokyo Imperial University (now The University of Tokyo).

They built their research laboratory with logistical support from the Japanese military and began to serve as a manufacturing plant for the army. For a number of years, they supplied things like sensors (i.e., sonar equipment) to detect enemy submarines and other sonic warfare and defense resources. Their research encompassed theories of material structures, crystals, ultrasonic waves, underwater acoustics, and, perhaps, most importantly, for this discussion, the electric properties of a material called “Rochelle salt.” Satō Koji was especially interested in this salt, because he had learned from research conducted overseas

that it would be a better conductor of electricity than what was, at that time, the most common material for doing so, carbon. Satō Koji, as did many others, wanted to move on from carbon electric products. In order to pursue those goals while, of course, still acting for the Japanese military, they organized weekly symposia on various research topics in the material sciences. They were, apparently, so influential that Rion came to be regarded as being the center of research into material sciences during the war.

But the end of military business in 1945 presented a serious challenge to the firm's finances. They had enough to keep in business for a year or so, but after that they seriously needed something else to help stay afloat within the new peacetime environment. They turned to Rochelle salt and its piezo-electric properties of conduction by producing microphones, record player "pickups," and similar objects like that, while also producing raw materials for other electronics firms, like the Japan Victor Company (JVC). They sold to a lot of businesses, mainly in the district of Akihabara. While it is known, today, as a hub of Japanese electronics, pop culture, and so on, at this time, it was a burgeoning center for electronics. Rion developed their own reputation for creating especially high-quality materials for Japan's humid summers. While they were happy with selling to other companies, they needed a more consumer-oriented product line.

The hearing aid served this purpose. How did they stumble upon that? There are a number of competing or complementary stories of how they ended up in hearing aid research and manufacturing. One of them is that the above-mentioned Satō Koji happened to stumble upon a deaf school's classroom in session. Around 15 or 20 years later, he wrote, in a journal article, that the visit to the deaf school left a deep impression on him (Satō 1966). He mentioned how the teachers and the children's mothers, who were in the classroom together, were working under squalid and dilapidated conditions. Nevertheless, there was some humanity, which was very rousing and inspirational. Afterwards, he went to the Japan Academy in Ueno, Tokyo, and read some magazines that said that 70% of students in American deaf schools (in Japan) had some kind of residual hearing and that this residual hearing could very well be served by hearing aids.

This was more than reason enough for Rion to try their hand at it. By 1948, they produced what became affectionately known as the “personal lunch box hearing aid” (*bentō bako*). They developed and released this with the assistance of a grant from the Japanese government. The actual name of this device is the H-501. It used the company’s pre-existing crystal earphones and some miniature vacuum tubes, a pinch of Rochelle salt, and so on. Although it was not a large device, it was, however, not portable, in the comparative sense of today’s hearing aids.

Nevertheless, compared to hearing aids that had come before, it was, indeed, very small. This was especially so when compared to domestically manufactured hearing aids such as the “tabletop hearing aid” (*takujō hochōki*), which, as the name suggests, was placed on a table and stayed there. The hearing aid user was expected to not move around with it. Compared to that, the “personal lunch box hearing aid” was a significant step forward. Rion branded this as Japan’s first domestically mass-produced hearing aid, although it was probably more influential within the material sciences communities than in the consumer market. Nonetheless, by the end of 1948, they began selling these hearing aids. Rion also sold another kind of larger hearing aid, called a “group hearing aid” (*shūdan hochōki*), that I’ll introduce later. They had hit upon a major product for them.

They also decided that while selling to individuals was good, selling to deaf schools was another avenue worth pursuing. Entering the deaf school market

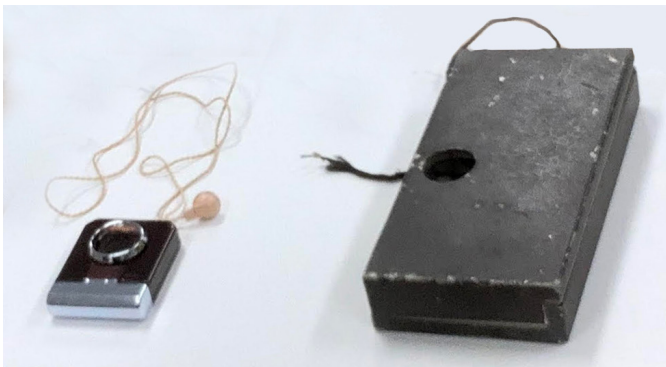


Figure 2: The original H-501 hearing aid (right) and a later model, from the 1950s.
(Photo by Frank Mondelli)

would put them in a good position, a few years later, that led to the formation of the coalition mentioned earlier. By 1950, the domestic market had dozens of hearing aids and electronics firms vying for the market territory of hearing aids in Japan, although it was largely limited to major urban centers, like Tokyo and Osaka. But a new legal development would spur domestic hearing aid companies into even greater competition with one another, this was the 1949 “Law for the Welfare of Physically Disabled Persons” (*Shintai shōgaisha fukushi hō*).

This law granted a new formalized system of categorizing, distributing, and sponsoring assistive technologies in Japan. This turned the already highly competitive market for securing hearing aid territory into a race for, not only which organization could develop and get those hearing aids out the fastest, but, also, who could secure the right for distribution to create regional monopolies throughout Japan’s prefectures. Now, in reality, this law received a miniscule amount of the estimated implementation budget in its first year. That meant that the market competition for these funds elevated. It’s not like this law totally changed the landscape, in the way that it was supposed to, but it was incentive enough for representatives from the different companies, who were then kind of on the move, to secure as much market territory, as fast as they could.

Managers at Rion responded to these new legal and political developments by realizing they were selling their hearing aids mostly in the Tokyo area. They decided it was necessary to send representatives across Japan, to try to secure as much territory as possible. They started with, what they termed, “PR Tours,” to the north of Japan. As I mentioned, earlier, this brought representatives to municipal offices, hospitals, clinics, deaf schools, and so on. They conducted the tours to both advertise their products and the passage of this new law.

These representatives had a lot of ground to clear. Municipal offices were often unaware that the law existed. And otolaryngologists (ear, nose and throat specialists) were unaware of the last ten or 15 years of electronics history and were still thinking of hearing aids in terms of carbon electronics. To top it off, the trip for these representatives was very physically arduous. They travelled through destroyed infrastructure and had only backpacks and, apparently, giant metal

boxes and crates with which to store the hearing aids, and a bunch of electronic replacement parts, because these electronics were also easily breakable, so they had to repair them all the time. But, despite all these difficulties, these representatives later recalled that, in some cases, more or less half a century later, these trips were worth it because of their visits to the deaf schools. There's really something very emotional that happened for them during their encounters that convinced them their jobs were more than just jobs. They were morally just in creating a kind of net increase of happiness in the world.

Through these PR tours, Rion and other manufacturers worked hard to maintain the local connections they made during this time, over the next five to ten years. Before long, they would end up playing prominent roles in the establishment of formal deaf education groups with Satō Koji, whom I mentioned earlier. Kōji headed up a deaf education research council, known as the Acoustical Society of Japan.

Hearing aid manufacturers and their original connections (made on the tours) frequently cooperated with one another to hold local events such as the “Listening to Sounds.” This was first held in 1951, in a hospital in the Tohoku region in Aomori Prefecture. It was a “record player” concert of folk and other popular music played (i.e., not by live musicians) through record players. They had a number of lectures on hearing aids and how great they are for, again, a kind of the happiness of the world and the potential to objectively, more or less, improve the lives of their hearing aid users.

They were always trying to do these kinds of events with a local touch. For example, at an event in Aomori Prefecture—which is, today, still known for the quality of the apples grown in the region—after concluding the “record player” concert, the politicians went on stage, along with various representatives from the hearing aid companies, like Rion and Nihon Kōden, to present an apple. This symbolized their wishes to foster these newly forged connections, going forward. Of all the meetings, it was the “Listening to Sounds” and other similar events, which catered explicitly to a mixed audience of hearing aid users and non-users. Subsequent events, like the gathering, “Enjoying Good Music Through Good

Sounds,” cultivated an explicitly more general audience appeal. One of them ended up becoming a series that stretched to 100 meetings, from the late ‘50s, almost to the early ‘70s, which featured all kinds of celebrities and talents, *tarento*.

People, like the famed University of Tokyo music critic, Arisaka Yoshihiko, and Ishi Shōko, who was a well-known singer and television talent at the time, would show up to these events, give lectures, sing, and increase or attempt to increase the general good will towards hearing aid companies. Sometimes, Coca-Cola would join in these events as a sponsor. According to contemporaneous Rion employees, these events really drew all kinds of people—*salarīman* (salarymen), office workers, older people, music critics, music fans, and the young. An internal company memo noted that they weren’t quite sure whether these events would translate into increased sales of hearing aids, necessarily, but that they found it was really important to kind of cement their idea of “beautiful sounds” (*utsukushī oto*), for example, and associate that with assistive technology and hearing aids. This really fitted with the brand image that Rion had been working to cultivate.

Of course, public demonstrations or concerts of playback technology and playback sound machines were nothing new to mid-century Japan. As historian Alexandra Hui (2014) described, during the early 20th century, the Edison Company held similar events with its own phonograph, in which they would hold elaborate “concerts” demonstrating the phonograph’s potential. Similar to Rion’s events, they included music critics and would often have singers next to the phonographs, in a sense, kind of tempting the audience to see if they could determine if there really were any differences between the fidelity (i.e. quality) of the singer’s voice versus that of the phonograph, which is what the Edison events were kind of all about.

Alexandra Hui (2014) argued that the Edison recitals forged an “alienation of music from music.” What Hui means is that it de-emphasized the musical expertise, experience, and knowledge of music theory in favor of listening for fidelity. By listening for an imagined flawless fidelity, like the Edison phonograph events, Hui reckoned that this new mode of listening inculcated “a selective deafness” to the observable noise of the machines. In contrast, Japanese demonstrations, like the

meeting of “Listening to Sounds,” did not focus on the fidelity of record players. Instead, as I mentioned, Rion had been making record player parts and pickups for some time. So, they were not about advertising or tempting the audience there. Instead, it was about showing the audience a kind of transformative vision, or a transformative kind of idea, of what the world could look like through enjoying sound, in and of itself. Again, not even necessarily music, but beautiful sound. As a result, they focused on the potential of music, especially to deaf ears.

Regime of Rhythm for the Deaf

This mode of listening makes up part of what I call a “regime of rhythm.” This mode of listening emphasized the perceived social good of record players and hearing aid devices by emphasizing the potential good of those devices to bring “humanity” to the deaf. And, furthermore, these concerts highlighted that the project of bringing music to the deaf was not just a Tokyo thing, instead, it was an affair linking Tokyo to the periphery, corporations to the government by their public-private partnerships, acoustics to healthcare, electronics to education, and so on.

This ties into what I was talking about earlier with “multilateral coalitions.” Everybody had a kind of stake in this project. In this sense, music is indeed alienated from itself, but unlike Edison’s focus on the experience of flawless fidelity, or anything like that, instead the new purpose focused on improving the imagined quality of the life for deaf persons. This is, I would argue, a central tenant of the “regime of rhythm.” Even though the public-facing concerts were meant for general consumption, it was about advancing a particular kind of ideology or mode of listening. But even though these events inculcated appreciation for music and the social possibilities in their audiences, they really only represent, so far, one side of the story.

In order to explore the other side of this promoted mode of listening, we have to flip the script, so to speak, to see what was being promoted to deaf people and hearing impaired people, at the time. It is necessary to investigate how hearing aids and record players instituted sensory demands of deaf person’s ears, as well as hearing person’s ears. Let’s go to deaf schools, then, to explore that.

In this section of the talk I'm going to examine how the technical demands of hearing aids on different users' bodies and spaces were paired with political, social, and cultural demands to develop oral/aural "skills of citizenship" and social participation through musical and, especially, rhythmic forms of listening.

The use of hearing aids and related medical technologies, as a tool to promote oral/aural language skills, to deaf students invited wide ranging effects on deaf communities, not the least of which included the suppression of Japanese Sign Language and the kind of institutionalization of mothers, in particular, performing hearing training with their children.

The goal of much of this pedagogy was to inculcate a rhythmic mode of thinking. Although, for deaf students, again, the focus on music was not a focus on music appreciation for its own sake. It's not through listening musically, so to speak, that we might conceptualize in terms of being an instrumentalist or working with music theory, or anything like that; it was, rather, the "regime of rhythm" that was about inculcating an understanding of the supposed musicality of spoken language and the supposed musicality and rhythmic (audible) nature of being a human being, quite literally.

Group hearing aids

Let's start by talking about what are called "group hearing aids" (*shūdan hochōki*). Now, group hearing aids were large boxes which amplified a single sound source to multiple students' headphones. They were very convenient for standardizing pedagogical exercises and simultaneously transmitting such as group listening sessions to an entire class under the supervision of teachers. They were used in other environments, like churches and other such places, allowing entire groups of people, especially children, to hook up to the same sound source. Whether bought from a domestic hearing aid manufacturer, donated by American occupiers, or donated by charitable organizations such as the Helen Keller Committee, group hearing aids were conceived of as an efficient method of getting children to engage in sound-related activities, especially listening to music. Some children were noted to have been scared by these devices, but, at least, according to the recollections of some teachers, the students gradually grew accustomed to them over time.

By 1950, these novel group hearing aids were starting to become increasingly wireless, which was considered great for getting children up and moving. You can imagine dancing; you can imagine other kinds of rhythmic exercises, like that, funneled through the hearing aid.

But they weren't just going to let group hearing aids proliferate without standards. Eventually, several manufacturers and organizations formed research councils and committees steering how hearing aids should be used. They ended up doing a lot of research that is still very influential in Japan and elsewhere today, such as the ideas of, well, you have to get kids hooked, more or less, on hearing aids, as early as possible, to improve success rates. Such experimentation included different kinds of hearing aid fittings to increase comfort and performance.

Function of Sounds

As I mentioned, before, while there were acoustic's researchers present on these councils, many other members were business people, CEOs, and public policymakers who gathered together to explore more efficient delivery of hearing to children. If it wasn't clear, from the previous image, group hearing aids boasted another crucial feature for those research groups. This was the ability to play records and, with them, facilitate the children's appreciation of music.



Figure 3. Students listening to a group audiometer as a teacher watches on (Rion 1994, 60)

This ability was hailed in 1951 by one writer of the famous *Asahi Shinbun* column, “Tensei Jingō,” who described, in very positive terms, the kind of what we now call a “switch-on effect.” This can be seen in videos where children seemingly hear sound for the first time. The journalist explained how the children’s faces would light up, filled with delight, and that it was emotive experience for all concerned. Writers, like the *Asahi Shinbun* journalist, and others, at the time, observed that the group hearing aid was a useful tool to inculcate this idea of rhythm. Building upon the preconceived concept of rhythm exercises, children were placed in a “rhythm band” (*rizumu bando*), which facilitated feeling the acoustic vibrations of a piano while looking at spectrographs (i.e., visualizations of sound waves). These ideas were used to get rhythm inculcated in the body, itself. The great thing about group hearing aids was that it enabled the educator to ensure all their students heard the lesson in concert. For time, it was a fantastic method of bringing standardization and efficiency into the classroom.

Learning through rhythm was intended to inculcate deaf people of all ages to aspire towards a better life. Rhythm and musicality, therefore, extended into the realm of Japanese Sign Language. An example of this relates to a popular film from the 1960s, which is a melodrama about a deaf couple. However, the actors are, themselves, not deaf. This becomes obvious, if one looks over the public commentary, when we see public critics writing things like, “While this actress was hearing, her signing had a certain musical and rhythmic quality to it that deaf viewers might do well to observe.” “Musicality” is the word they used, which refers to the rhythmic way she signed. The sentiment appears to suggest that deaf people could learn a thing or two from the “musicality” of non-deaf signing.

Educators and scientists were interested in music and hearing impairment, not just in Japan, but, also, in the West. Various inventors, like Hugo Gernsback and William Alsy Thomas, attempted to determine the relationship between sound and music and the transmission between different sensory modalities like sight and touch. Western manufacturers of hearing aids emphasized music in their advertisements, suggesting that a previously deaf person might not have appreciated music, because they couldn’t hear it, but the simple lifestyle

adjustment of purchasing a hearing aid could lead to moral transformation beyond an audible level.

As well, the British doctor and researcher, Phyllis Margaret Tookey Kerridge, who standardized testing for measuring deafness, argued that music was invaluable for diagnostic and therapeutic uses (Viridi and McGuire 2018).

The hearing aid's relationship with music in postwar Japan demonstrates important distinctions in the ways that the "regime of rhythm" mobilized music on the (imagined) behalf of the deaf. While hearing aid manufacturers were content with repurposing their research to broader consumer markets, such as electronic devices, especially in music related hardware like transistor radios, speakers, and amplifiers, music was not considered useful in technical design and standardization in terms of hearing aids themselves, despite all the focus on music as a tool of improvement for the deaf. The point is that the technical design of Japanese hearing aids were, by and large, not necessarily meant to accommodate musical listening.

Group hearing aids served as only one part of a larger complex of apparatuses for teaching and theorizing about rhythm, but their ability to transmit sound from record players and the voices of teachers was, for many children, most of whom would not have had hearing aids at home, allowed them to propagate a regimented rhythmical mode of listening that supplemented the public-facing events mentioned earlier, like Rion's "Listening to Sounds" events. These public concerts trained audiences to imagine how such music might touch the hearts of the deaf, while group listening sessions for deaf pupils put those theories to work.

Hearing aids for listening to music

It took several decades before hearing aids, explicitly for musical consumption, would be sold for hearing-impaired persons. It was not until 1993 that an essay appeared in the *Japan Medical Journal*, in which a self-described "music-loving, hearing-impaired person" chronicled his failure to create a hearing aid specifically geared toward appreciating music. As a result, he reached out to hearing aid companies urging them to produce a hearing aid capable of enabling the appreciation of music.

He invited these companies to use his idea free of charge because his motivating was not driven by personal financial profit. It took the rest of the decade, however, as, by the end of the 1990s, hearing aids explicitly marketed for music consumption began to emerge.

If music were to be a tool for living a beautiful life and acquiring oral language, where does music go to simply be music? In this final section, I discuss how manufacturers, having gained experience building assistive technology devices for the deaf, turned to researching other forms of commercial sound hardware meant for the general public. In some cases the idea that music may save the deaf was used as a selling point, but by the end of the 1950s, music, for hearing impairment and deafness, was no longer pursued by companies like Sony, Panasonic, Toshiba, etc. Many of these companies that embarked on this hearing aid product line would, nowadays, not be commonly remembered for that.

In this section, I want to talk about this concept of what I call, “assistive erasure.” This relates to how advertisements for assistive technology, for whatever reason, declined. The role of hearing aids in shaping electronic research and discourse was marginalized to the point of obscurity. Therefore, I will focus on Sony, as a case study, keeping in mind that these examples are similar to other corporations.

Forgotten Hearing Aids

While Rion and other manufacturers worked hard to expand their domestic reach, Tokyo Tsūshin Kōgyō (TTK; Tokyo Telecommunications Research Institute) expanded its outlook internationally, reaching out to the United States. Formed in 1946, by Ibuka Masaru and Morita Akio, TTK inherited some of the military equipment, as Rion did, due to having been contracted to supply military parts for the war effort. From this platform, they set about establishing themselves in the communications industry.

Around the end of the 1940s, they embarked on a research trip to the United States, meeting with employees from Bell Labs. At the time, Bell was developing the “transistor,” however, employees at Bell Labs considered that transistors could only be used for used for hearing aids. And so, the story goes that they boldly rejected Bell Labs’ offer to use the transistor for hearing aids. Instead, “Let’s make

radios,” Ibuka said. “As long as we are going to produce transistors, let’s make them for a product anyone can afford to buy, or otherwise we’ll be wasting our time” (Sony). The accepted narrative is that everybody in the company became enthused by Ibuka’s fiery passion, to make a transistor radio. Ultimately, the global company, Sony, emerged, resulting in much media attention. Here’s a quote from the *Japan Times* saying TTK, “is a shining rebuttal to the common argument that Japan can’t do anything but copy” (Oganessoff 1956). This account makes it seem as if Sony never directly manufactured hearing aids and bravely went off in a new direction in a gamble that ultimately paid off. That latter point might be the case. However, it was equally true that Sony was very much involved in hearing aid production during this time. One of the early transistor hearing aids Sony produced was called the Transiar. They advertised in deaf newspapers looking for deaf men to work for them. They did charity drives. The list goes on and on. They were a hearing aid “player” (in the market).

Ultimately, hearing aids were part of Sony’s emergence. This, however, relates to what I refer to as “assistive erasure.” What I mean by this is that Sony’s production of transistors, particularly the TR-55, resulted from gaining a production license from Bell Labs. This, ultimately, helped other hearing aid manufacturers like Rion, Panasonic, and Cortitone. However, over time, the corporate interest in producing hearing aids decreased. This is what is meant by the term “assistive erasure.”

The transistor had far reaching consequences in Japan and the world. In addition to Sony, other soon-to-be-large-corporations involved in this industry were Matsushita Electric, Electric Industrial Company, Panasonic, Toshiba, and others. All of these companies branched out into an ever-growing list of industries and sub-industries, with some especially moving into music.

In the 1940’s and ‘50s, Japanese hearing aids served, at least, in part, as an “assistive pretext” for sound and music electronics. By “assistive pretext,” I refer to the idea that one might begin with noble intentions of, say, producing assistive technology such as hearing aids for the impaired, but the company pivoted toward the pursuit of profit, instead.

I am not arguing that modern music and sound technologies are a necessary consequence of the history of assistive technologies, but rather simply that these histories are interlinked, and that such histories deserve further study. Nonetheless, these ideas, this “regime of rhythm,” and these modes of listening served to connect sound hardware with the social mission of curing deafness, or, at least, advocating for an appreciation of the social benefits of music.

What are the takeaways from all this? Well, first, I argue that the Japanese hearing aid was inextricably intertwined in the politics of postwar rebuilding and public spectacle, such as the record player concerts and similar events. They were intertwined in deaf school pedagogical practices and in commercial sound cultures of Japan and subsequently, the world. Furthermore, today, I’ve introduced an idea describing a mode of trained listening from the time called the “regime of rhythm.”

Finally, I want to emphasize the “hidden histories” of assistive technologies that might be lurking around the corner in corporate and material and media histories, where one might not expect to find it. I consider this to be an important take-home-point from today’s talk, which only scratches the surface of the social, cultural, and technological dimensions of hearing aids and related technologies. Also, it is worth reflecting on what’s changed and what really hasn’t. In Tokyo, today, the venue known as Rion Hall continues to host music and dance cultural events

Many of these firms were connected with university research institutes and came from a multilateral collection of backgrounds, different parties, each with their different. Another thing, different from today, was that deaf communities were more explicitly engaged in engaging with music in their own terms, but, even so, the dream of transmitting musical happiness continued to proliferate in one form or another.

Editor's Note

An article by Frank Mondelli reflecting further development of this research has been accepted for publication in the journal *Technology and Culture* under the title “Beautiful Sounds, Beautiful Life: Hearing Aids and Music in 1950s Japan.”