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A socio-technical perspective on age-related hearing loss. An ethnographic study of hearing aid professionals and hearing aid wearers

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A socio-technical perspective on age-related hearing loss

An ethnographic study of hearing aid professionals and hearing aid
wearers



March 2018

Overview

General argument

Over the past ten years, “the number of hearing aids for which claims for reimbursement were submitted to the French public health insurance” increased more than 80%. The numbers vary depending on the source, but a consensus has been established around a significant increase in these devices among the French population, mainly explained by the ageing of the population. More than three million people could be eligible to wear one, with the current number of hearing aid wearers amounting to two million. Hearing aids are therefore an expanding sector, but which raises questions in view of its particular features. This sector is at the crossroads between public health and business aspects. While certain reports from public institutions focus on hearing impairment, no sociological study has focused on the hearing aid sector itself. This study aims at filling in this gap by focusing on the one hand on both the relationship between hearing aids as socio-technical devices and hearing aid wearers and on the other hand on the services provided by the hearing aid professional. The study starts with the following questions:

What forms of requirements and organisation make it possible to acquire a device, and to ensure a successful connection between the person and a technical device? And what can explain the difficulty or reluctance to engage in a process that can enable an improvement in a person’s health and everyday life?

The first part of this study proposes answers, with an emphasis on the social nature of hearing loss and the need to consider the hearing aid fitting process in a context that is broader than just its technical and business aspects. The second part situationally analyses this fitting process, that is, the places where it takes place: hearing centres. The report provides a sociological analysis of the hearing aid sector based on two questions: 1) What does it mean to acquire and to use a hearing aid? 2) What is the job of the hearing aid professional and which role does he or she specifically play in the hearing aid fitting? Our study has shown two main results.

Two research results

Hearing aids are not self-sufficient. **They belong to a socio-technical network.** Simply fitting people with them is not enough to treat hearing loss and simultaneously resolve the health and social risks involved in age-related hearing loss. On the contrary, our interviews and findings showed that the match between the individual and the device could only work

when the broader life context allowed them to fully embrace the fact of wearing a device. This life context is related to people's financial means, as well as more broadly to their familiarity with hearing aids. Having friends or family who wear hearing aids (and who therefore themselves have the financial means to acquire one) contributes to an involvement that is *a priori* favourable in the hearing aid fitting process. People's lifestyle and their degree of socialization also play a major role in the choice and acceptance of adopting a hearing aid. It is therefore essential to consider the social and economic environment of people suffering from age-related hearing loss.

The hearing aid professional practices a hybrid profession at the crossroads between health care, engineering, and sales. Hearing aid professionals are unquestionably hearing aid suppliers, but their professional and social function goes much further. Multiple requests from patients/clients concern the trivial aspects of daily life, and these are aspects that have an effect on the quality of life of hearing aid wearers. The sound of the television, the background noise in a restaurant, a blocked tube between the hearing aid and the earmould etc., are all concerns or reasons for dissatisfaction, which hearing aid professionals must be able to address. The profiles of hearing aid wearers vary widely, from people who are still working, socially involved, and in good health, to isolated elderly people who sometimes suffer from a heavy disease burden (e.g. cancer, Alzheimer's). Hearing aid professionals must come to terms with these disparities. More broadly, they have the task to convince their clients of the utility of using hearing aids and of the importance of wearing them as often as possible, and this is enabled by the establishment of a relationship that transcends a mere business transaction. Overall, according to hearing aid professionals, devices are of little value if they are used at whim, which is confirmed by studies on the subject. We also show that there is a co-construction of the effectiveness of devices and of the profession. The profession's legitimacy is justified by the need for observance. The intention here is in no way to deny the health utility of observance, but rather to observe the close relationship between observance and the work of hearing aid professionals, who spend much of their time persuading people to wear their device as often as possible, in ways that vary in their degree of subtlety. In other words, the choice of adopting a hearing aid or not is not exclusively related to a quantified objectification of hearing impairment, but also to a social, affective, and economic situation.

Note on the method

Combining a study on the "technical solidarity" between people and their devices and an analysis of the hearing aid professional's sector (situated

as it is between business and medicine), we used two types of material: semi-structured interviews with users and professionals, and ethnographic studies at three hearing centres: 19 interviews (15 with hearing aid wearers and 4 with hearing aid professionals) as well as 7 ethnographic observation days during which we attended 42 appointments, resulting in 45 hours of recordings.

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Prologue

In 2017, Alain Afflelou launched *Incognito*[®], his hearing aid brand. The CEO of the company appeared, as he often does, in an advertisement where he is in a theatre, patiently waiting for the curtain to rise¹. A man and a woman arrive behind him and sit down. They are not particularly old; it seems they have an active social life but one problem seems to come up during their everyday life: the man is starting to have more and more trouble hearing. *“Good evening, Mr Afflelou, my husband makes me repeat things all the time. I feel like he can’t hear very well anymore”*. To that, Alain Afflelou answers that the man should wear his hearing aid, a simple device that fixes the problem, avoiding stigmatization related to age (to which the man responds, *“It’s crazy how small it is”*).

This advertisement, far from being trivial, is filled with very useful evidence for understanding contemporary social issues related to hearing aids. (Almost) everything is there: two people who recently retired or are approaching the end of their career, social activity generally considered elitist, a complaint from the person who hears well, concern about aesthetics, an implicit form of ageism, a technical object embodying the solution to all of these problems (discretion, price) and... a businessman. Considering that the advertiser’s job participates in the social production of representations and identities², this advertisement offers an ideal starting point to analyse the hearing aid sector, for two reasons.

First, this is due to the content of the advertisement, because all the elements in its scenario echo broader health issues: What does it mean to “not hear so well anymore”? Why ask for advice from the owner of a company famous in the optical sector? How can the importance of discretion be explained? What is the impact of hearing impairment on social and emotional life? What role do friends and family play in the hearing aid fitting process? What is the public authorities’ view of this health problem? And ultimately, is this effectively a “health problem”? Second, this advertisement highlights the antagonistic and competitive aspects of the economic and health issues of the hearing aid sector. Another element of the advertisement is intriguing in that hearing aids are generally associated with the hearing aid profession, yet Alain Afflelou claims to be a “hearing aid professional”. It did not take long for this term to trigger reactions from certain organizations, including the National Union of Hearing Aid Professionals (*Syndicat National des Audioprothésistes*, UNSAF). In its press release of 27 September 2017, the union expressed its outrage over this diversification by the company Afflelou[®], stating that *“the UNSAF can only wonder about the attitude of these business and financial operators with respect to fragile and elderly patients, and is concerned about their actions exclusively*

¹ The advertisement can be viewed online: <https://www.youtube.com/watch?v=PEXoOuInb0w>

² Erving Goffman, “The Ritualization of Subordination”, in Goffman E., *Gender Advertisements*. Harper & Row, New York, 1976, pp.40-56.

*dictated by profit*³. Decrying the “commodification” threatening “patients”, the Union calls for a health-oriented and social approach to the sector, which should therefore be regulated.

Is a hearing aid a consumer good like any other? Who can and must provide this “health product”? Large retailers? Independent healthcare professionals? What is the daily job of “hearing aid professionals”? The reactions following the arrival of Afflelou® “onto the market” reflect the uncertainties surrounding the hearing aid sector and its professionals today, at a time when regulatory agencies (Health Ministry) and professional representatives are discussing reimbursement methods and the out-of-pocket amount payable by “hearing aid wearers”⁴.

³ UNSAF, “Afflelou : Quand les métiers deviennent flous, il y a un loup !”, Press release, 27 September 2017.

⁴ In the introduction to this report, we discuss the terminology used and explain why instead of referring to “patients”, we choose to refer to “device wearers”.

Introduction

Over the past ten years, “the number of hearing aids for which claims for reimbursement were submitted to the French public health insurance” increased more than 80%⁵. The numbers vary, depending on the source, but a consensus has been established around a significant increase in these devices among the French population – an increase that is mainly explained by the ageing of the population. Over three million people could be eligible for hearing aids, with the current number of hearing aid wearers amounting to two million⁶. The extent of the phenomenon is also explained by the expanding conditions for which hearing aids are prescribed. “Today, indications for hearing aids and cochlear implants are expanding, allowing them to no longer be limited to profound deafness with no intelligibility”⁷. Defining a population affected by hearing impairment depends on what is meant by this impairment. Depending on the categorization criteria, a varying number of people can benefit from such help. The quantification itself is a political act⁸, given that stating how many people could use a device and do not have one is related not only to how we define hearing loss, but also – to the extent that this allows a diagnosis to be made – to turning the absence of hearing aids among hundreds of thousands of people into a “problem”. This political operation goes hand-in-hand with a business operation, given that the problematization also leads to the consideration of the scope of a potential market involving private service providers, regulatory agencies (the Health Ministry), and private insurers⁹.

5 Nevoux J., Coez A., Truy E., “Les dispositifs médicaux correcteurs de la surdité : prothèses et implants auditifs”, *La Presse Médicale*, vol. 46, n° 11, 2017, pp. 1043-1057.

6 UNSAF, *Analyse sectorielle de l’audioprothèse en France*, 2015.

7 *Ibid.*, 2017.

8 Desrosières A., *La politique des grands nombres*, La Découverte, Paris, 1991; Didier E., *En quoi consiste l’Amérique ?*, La Découverte, Paris, 2009; Juven P-A., “Gouverner avec tact et mesure. L’ajustement des budgets hospitaliers à la marge”, *Sociologie du travail*, vol. 59, n°2, 2017.

9 Autorité de la concurrence, Notice 16-A-24 from 14 December 2016.

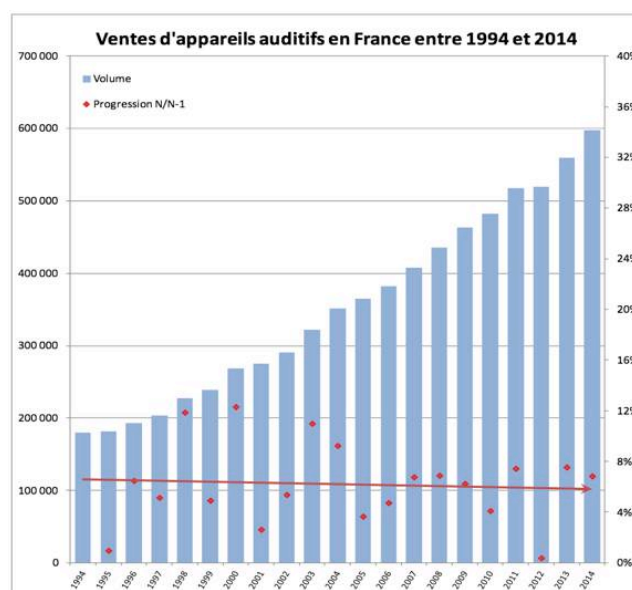


Figure 1 - Source: UNSAF, *Analyse sectorielle de l'audioprothèse en France*, 2015: 23.

Hearing aids are therefore an expanding sector, although one that raises questions, given its features. This sector is located at the crossroads between public health and business issues. The structure of the sector itself, based on several actors, is a good indication of this hybridity. Here, we identify six main ones. The first are not internal to the field, but often constitute the point of entry to it: otorhinolaryngologists (ENT), who prescribe hearing aids to their patients after conducting an audiogram¹⁰, that is, a test evaluating hearing loss. The second types of actors are hearing aid professionals, whose profession is regulated and defined by the Public Health Code¹¹. Article L 43-61-1 stipulates that:

“Any person who fits hearing-impaired individuals with devices is considered to exercise the profession of a hearing aid professional. This fitting includes the selection, adaptation and issuance of the device, the immediate and permanent verification of its effectiveness, and the education of the hearing-impaired individual regarding the fitted device. The delivery of each hearing aid is subject to prior and compulsory medical prescription to wear a hearing aid following a tonal and vocal otological and audiometry exam”.

The third type of actor consists of the different hearing aid manufacturers and companies. They are invisible and yet key players in our study, because all of the devices around which the hearing improvement process revolves are produced and sold by

¹⁰ We return to this study on conducting audiograms and to the device fitting process below (cf.: Section 1).

¹¹ Articles L. 4361-1 – L4661-11 of the Public Health Code. These can be consulted online: https://www.legifrance.gouv.fr/affichCode.do;jsessionid=EEC9DFF471C60ACEF31C77B4866E9C4A.tpdila12v_2?idSectionTA=LEGISCTA000006171563&cidTexte=LEGITEXT000006072665&dateTexte=20160118

international manufacturers: Siemens®, Phonak®, Starkey®, etc. The fourth type of actor is French public health insurance [*l'assurance maladie*] 12, called into question today around the very low level of financing for hearing aids. The fifth actor consists of all private health insurance companies [*organisations complémentaires*], and the sixth, which is even more difficult to comprehend, consists of the multitude of hearing aid wearers or people who are “potentially”¹³ so. In other words, **the hearing aid sector does not only encompass the practices of different professions, but also implies singular and even competitive forms of sectoral interests and logics**. Hearing aid wearers are caught between public health insurance, private insurers, their ENT, a hearing aid professional, device manufacturers, and friends and family. Their decision to adopt a device therefore depends on the interrelation between these actors and logics, which may or may not be a simple matter.

While a hearing aid is clearly an object that improves health, it is also a market object. This sector is therefore fully concerned by the contemporary issues surrounding the relationship between health concerns and economic regulation. A significant amount of research has already documented the *attractive* and profitable nature of certain sectors in the world of health, even reaching the conclusion of an extension of the market domain “to satisfy the greed of private operators (clinics, insurance companies, industries)”¹⁴. For example, in 2011, France’s total healthcare expenditures amounted to €180 billion¹⁵. Hearing aids accounted for only a small portion of this, with total expenses on them being estimated at around €1 billion per year in 2015¹⁶. However, the fact that the growth of socialized expenditures was estimated at 11% per year between 1997 and 2009,¹⁷ along with the growing out-of-pocket expense for individuals, made the idea of saving money on hearing aids particularly appealing. These devices thus became a target of major regulation for the upcoming decades.

A field of regulation in turmoil

It is for this particular reason that a group of actors has been entering the hearing aid market since the early 2010s. The entry of these actors is a subject of conflicting opinions in the field of health and public policies. Some actors congratulate them on their arrival, as is the case of the French competition authority (*Autorité de la concurrence*):

12 And implicitly, the Ministry of Health.

13 By this expression, we are referring to the fact that non-device wearers who could wear a device are included within categories of potential device wearers based on a precise measurement: in this case, that of the audiogram.

14 Batifoulier P., *Capital Santé. Quand le patient devient client*, La Découverte, Paris, 2014: 16.

15 Batifoulier P., *Ibid.*: 17.

16 Estimate provided by J. de Kervasdoué and L. Hartmann (p. 18). They note that the 2011 figures state €800 million in expenses.

17 J. de Kervasdoué and L. Hartmann, p. 19.

“Today, the hearing aid sector in France is undergoing a transformation. Upstream of the value chain, manufacturers are engaging in vertical integration that we should pay attention to, because it could eventually result in a phenomenon known as an entry barrier (“foreclosure”). Downstream, a new, more dynamic offering from certain hearing centres or optical chains is offering patients prices that are approximately 15% lower than the market average, without the quality of the related services appearing to be affected, given that the satisfaction surveys carried out by these actors remain largely positive. In a context in which new actors hold market shares that are still small, it is recommendable to not hinder their progress, in particular by removing potential structural roadblocks to their development”.

This position obviously triggered a reaction from “insiders” faced with the arrival of these new competitors. Convinced that the Competition Authority was denying that hearing aids were health products, and was prioritizing a competition-based approach, the UNSAF stated in one of its press releases that *“as it seems, the Authority does not wish to recognize hearing aids for what they are: namely, a medical device that provides an important medical service. It prefers to consider them an ordinary consumer product not much different from an electric razor”*¹⁸. In the world of hearing aids, as our study clearly shows, “independent actors” are now structuring an opposition between “healthcare” hearing aid professionals and “business-oriented” hearing aid professionals. This opposition, supported by quantitative data¹⁹, is intended to defend the interests of one portion of the profession by legitimizing its practices and occupation to the detriment of competitors who are deemed to be more commercial and less concerned about patients’ well-being. This desire for legitimization and acknowledgement is becoming even greater now that the out-of-pocket amount payable by individuals is being put on the political agenda²⁰.

Economic studies have emphasized the problem of the out-of-pocket amount payable by hearing aid wearers or people who wish to wear hearing aids²¹. In a study carried out for the UNSAF in 2015, Jean de Kervasdoué and Laurence Hartmann thus reveal that the average price of binaural hearing aids²² is 3,070 euros per person. Obligatory public health insurance covers 8% of the cost, and private health insurance 30%, which on average leaves 62% payable

¹⁸ UNSAF, press release, 14 December 2016.

¹⁹ For example, sales volumes and therefore the time spent on each person.

²⁰ In the sociology of public policies, the concept of “putting something on the agenda” refers to the moment that the public authorities decide to address a problem, considering that the “political agenda is the set of problems that are being addressed in some way by the public authorities, and are therefore liable to be the subject of one or multiple decisions” (Garraud Ph., “Politiques nationales : l’élaboration de l’agenda”, *L’année sociologique*, 1990: 27).

²¹ In its report, the competition authority states that “For a segment of patients, who are often elderly and have low incomes, the high price of a hearing aid (€1,500 on average per ear) combined with the low level of reimbursement by health insurance, is one of the factors causing them to choose to forgo care”.

²² In other words, for both ears.

by the individual²³. Economists add that one million people are eligible to become hearing aid wearers. While it is difficult for us to confirm or refute this figure, it is nonetheless possible to evaluate its political and medical implications²⁴. If one third of potential hearing aid wearers do not have devices and the amount payable by them is on average more than 60% for devices with a unit cost that is generally greater than €1,500, then the reimbursement and price of hearing aids constitute major public health issues.

Tableau 7 – Tableau de synthèse : dépense globale en audioprothèses en euros selon sources

Année	Source	Dépenses totale en audioprothèses en euros	AMO	AMC	RAC brut
2011	HCAAM (2013b)	800 millions	114 millions (14%)	246 millions (31%)	711 millions
2012	IGAS (2014)	824 millions	112 millions (13,6%)		
2012	Sniiram (Unsaf 2015)	822877925			
2015	IGF-IGAS (2015)	1 milliard			

Figure 2 - Source: J. de Kervasdoué and L. Hartmann, p. 20

Translation Table 7:

Summary table: total hearing aid expenses in euros, depending on the sources

Year	Total hearing aid expenses in euros	Social Security	Private Insurances	Patient Expenditure
2011	800 million	114 million (14%)	246 million (31%)	711 million
2012	824 million	112 million (13.6%)		
2015	1 billion			

For the majority of hearing aid wearers, health insurance covers a portion of the price of the device according to the list of reimbursable products and services (*Liste des produits et prestations remboursables*, LPPR). This coverage applies to a small portion of the total price, considering that in February 2016, health insurance reimbursed €119.83 per hearing aid, whereas the average price of a device in France was €1,582.5025. Private insurers play a major role in reimbursing hearing aid costs, but once again according to highly variable levels and mechanisms, as indicated by Marguerite Garnéro and Vincent Le Palud. Overall, these authors estimate that on average, mutual funds (*mutuelles*) reimburse €865 for two devices, mutual

²³ From Kervasdoué J., Hartmann L., *Impact économique du déficit auditif en France et dans les pays développés. Revue de la littérature scientifique 2005-2015*, March 2015.

²⁴ The authors themselves note that "these estimates vary widely in the surveys, and besides, the potential device-wearing population is not the same as the population with a detected hearing impairment" (p. 11).

²⁵ *Ibid.*, 2015, p. 26.

benefit insurance companies (*institutions de prévoyance*) €1,413, and private insurance companies €62626.

Hearing aid coverage is on the political agenda for the year 2018. French President Emmanuel Macron announced during the 2017 presidential campaign that he wanted to address the issue: “When it comes to glasses, dentures, and hearing aids, we are setting a goal of 100% coverage by 2022, because coverage remains too low today”²⁷. Negotiations are currently underway, and several health actors have confirmed that they want to “take a close look at this issue”, like Nicolas Revel, director of the *Caisse Nationale d’Assurance Maladie et des Travailleurs Salariés* (national health insurance for salaried employees).

However, these negotiations are a subject of strong antagonism, particularly concerning the role attributed to actors in the sector. Today, healthcare networks tend to prioritize the forms of regulation that independent hearing aid professionals are resisting. For example, this is the case of “differential pricing”, which consists in separating the sale price of the device from the price of follow-up services. While certain healthcare networks, such as Santé Clair, recommend this pricing method, in line with the opinion of the competition authority²⁸, hearing aid professional unions support the idea of a global price. Some actors even go so far as to challenge the effective contribution of so-called independent hearing aid professionals²⁹, believing their “added value” to be minimal and their income to be excessive given their qualifications and the service that they provide to society. For example, very recently, Marianne Binst, the director of Santé Clair, commented that “*studies show that the hearing-impaired are more satisfied going to an optical store than to a hearing aid professional’s office. It’s friendlier, frequented by people of different ages, and less ostracizing*”³⁰. Therefore, whereas on the one hand certain actors (the competition authority, healthcare networks, new entrants onto the market) are promoting the necessity of an overhaul of the system and a drastic decrease in prices, on the other hand incumbent professionals are defending the idea of a profession that involves care work in addition to selling the device.

The aim of our study is not to mediate between the two; that is not the purpose of sociological research. The authors of this report are highlighting here that they do not wish to get involved in these two issues. The first pertains to the legitimacy of the profession. It is not our place to say whether “independent” hearing aid professionals are beneficial to the health care system or whether the service that they provide is inadequate and too costly. Rather, our job is to describe, in as much detail as possible, the content of their work and their interactions with hearing aid wearers. The second issue concerns the price of hearing aids. Once again,

26 Garnéro M., Le Palud V., “Les contrats les plus souscrits auprès des organismes complémentaires santé en 2010”, *Document de travail – Série Statistiques, DREES*, n ° 191 2014.

27 <https://en-marche.fr/emmanuel-macron/le-programme/sante>

28 Competition authority, notice 16-A-24 from 14 December 2016.

29 Here, we are not making a judgement on the degree of independence of the professionals in question, but simply distancing ourselves from this name, which is the product of the actors, and contributes to structuring the opposition with new entrants into the market.

30 <https://www.edp-audio.fr/actualites/politique/5740-dissociation-suivi-forfaitise-levee-du-numerus-clausus-melange-optique-audio-les-reseaux-de-soins-emettent-leurs-propositions>

these prices are at the heart of disputes that we do not aim to resolve. We simply note that this is a political and economic dispute that involves reflection around the content of the work of hearing aid professionals, the price of devices, and so on.

Problematic yet enlightening terminology

As mentioned in the prologue to this report, words play a major role in the current debate around the regulation of the hearing aid sector. “Acousticians” versus hearing aid professionals, offices versus brands, patients versus clients, consumer good versus healthcare product, etc.: a multitude of binary oppositions complicate the analysis and contribute to structuring antagonism between a public health field on the one hand, and a market segment on the other. The economic sociology literature has shown for decades that these oppositions are generally ineffective and easy to challenge³¹. Without denying the importance of their strategic uses in structuring debates in the service of situated interests, **in our opinion, it is better to enable a more detailed and measured analysis of the hearing aid sector and to consider its hybrid nature**. Hybridization does not, however, mean confusion. The plural and heterogeneous nature of the sector leads to the acceptance of gradients of the commodification and industrialization of the service. The choice of words is therefore problematic in itself: equipping, fitting, using, wearing, selling, providing: there is no shortage of verbs. **We do not seek to take sides as to which words are correct and which are not. Depending on who is speaking and on the topic, the words will take on a specific meaning**. Therefore, we have chosen to use the terms with the most neutral connotation: we speak of hearing aids, hearing aid fitting, and hearing aid wearers. Likewise, what should we call the place where we carried out a portion of our study? Is it an “office”, a “laboratory”, a “shop”? Once again, the terminology reveals interests and representations. Specifically, the term “hearing aid professional” itself can even be discussed. While the French regulatory framework seems to clearly describe the profession, the large number of different types of organization that can issue devices as well as the difference in the economic models specific to these structures make the term problematic. Is it enough to have a diploma and sell hearing aids to be a hearing aid professional?

It is not our place to answer these questions. We do however note that they are at the heart of the debates stirring up the hearing aid field today. For example, the term “low-cost” chains, which we heard multiple times during our survey, should not be considered self-evident. It is a term used by the actors in our field of study, who are “independent” hearing aid professionals and derive many benefits from structuring an opposition between their conception and practice of the profession, and that of low-cost competitors. However, this opposition is not only constructed by “independent” hearing aid professionals; it is also the

³¹ See, for example, Étienne Noguez’s recent book on the structuring of a generic market in France: Noguez E., *Des médicaments à tout prix*, Presses de Sciences-Po, Paris, 2017. See also Juven P-A., *Une santé qui compte ? Les coûts et les tarifs controversés de l’hôpital public*, Paris, PUF, 2016 and Bergeron A., Castel P., *Sociologie politique de la santé*, Presses de Sciences-Po, Paris, 2014.

product of a multitude of actors that believe that these “independent” hearing aid professionals have extremely (excessively) high rates. The problematic terminology is also indicative of the sometimes ambiguous status of hearing aids. As highlighted by Jean de Kervasdoué and Laurence Hartman, based on a 2013 IGAS report, hearing aids are both “technical aids” and “medical devices”. Because of this, they can be associated with various issues: disease, disability, and ageing³². This multiplicity of situations is therefore marked by heterogeneous care methods used by multiple organizations.

A sociological perspective on innovations and health: studying “technical solidarity”

This is therefore not a study of “hearing aid professionals”, considering that the observations and interviews were conducted with only one category of the profession, and because it does not constitute a comparative research undertaking³³. We prefer to take the technical device itself as the main point of observation and analysis.. The study draws on two main currents in sociology. The first is related to the study of technological innovations and science and technology studies. As developed during the second half of the 20th century in the United States and later in Europe, science and technology studies³⁴ has progressively shone light on non-human entities and technical objects. In the early 2000s, this work led to research more specifically on forms of hybridization of technology and the human body. While this hybridization is nothing new, it is taking on hitherto unknown proportions. In classic anthropology, the non-human denotes the animal; in science and technology studies, technical innovations, or more mundanely, technical objects, are also considered entities that participate in and define social activities³⁵. Researchers working on the “boundaries of humanity” argue that the radical and ontological distinction between that which is human on the one hand, and that which is non-human on the other, has been disrupted³⁶ in multiple domains. “Effectively, technological and biomedical changes have cast fundamental doubt on this initial perception and the consecutive belonging of beings to one category, making it now

32 De Kervasdoué J., Hartmann L., *Ibid.*, 2015: 29; IGAS, *Evaluation de la prise en charge des aides techniques pour les personnes âgées dépendantes et les personnes handicapées*, 2013.

33 More detailed research on the sector must therefore compare the professional practices of “independent” hearing aid professionals, hearing aid professionals affiliated to chains such as Audika® or Amplifon®, and hearing aid professionals working for brands selling devices at prices much lower than those charged by the professionals whom we observed, such as Vivason® or Afflelou®.

34 It is worth noting that these terms are therefore a subject of discussions within the discipline, and that they are characteristic of specific periods of “the” discipline. Cf.: Pestre D., *Introduction aux Science Studies*, La Découverte, Paris, 2006.

35 Rémy C., Winance M., “Pour une sociologie des frontières d’humanité”, *Politix*, vol. 23, n° 90, 2010, pp. 9-19.

36 Thiery O., Houdart S., (eds), *Humains, non humains. Comment repeupler les sciences sociales*, La Découverte, Paris, 2011.

essential to consider inclusion or exclusion in a way that does not necessarily follow the traditional lines of the 'boundaries of humanity'"³⁷.

To study hearing aids, we had to find points of comparison. This is why research on disabilities, and in particular on wheelchairs, offered interesting analytical perspectives for our study.. The hearing aid sector nonetheless raises the problem of its theoretical ambiguity. Is it a disability, an impairment, an alteration? Depending on who is speaking, the importance of the phenomenon will be presented in different ways. The object constituted by a hearing aid (with the "*prothèse*" (prosthesis) in the French term "*audioprothèse*" conveying additional implications) pertains to what Nicolas Dodier calls *technical solidarity*. In order to study technical objects, he suggests "resolutely [leaving behind] the point of view of innovators to access the condition of the people who are responsible for operating technical networks on a daily basis", whom he calls "operators"³⁸. This is also what this study on hearing aids proposes to accomplish, providing a sociological perspective not on the process of manufacturing the devices but on their daily use, both by the "operators" responsible for inserting them into individuals' daily lives, and by those individuals who wear the objects on or in their body. Dodier argues that technical objects can create technical solidarity and therefore phenomena of dependence that constitute a spatially extended network. **In other words, hearing aids connect a multitude of actors to one another, and cannot be analysed in a static or isolated way.**

Methodology (and limits) of the study

This three-month study on the hearing aid profession and on the relationships between users and hearing devices drew on two types of material: semi-structured interviews with users and professionals, and ethnographic studies at three hearing centres³⁹. It was conducted by two sociologists. Pierre-André Juven, a postdoctoral researcher at the CERMES3, was responsible for the empirical portion of the study. He carried out the three ethnographic surveys conducted as a part of the study, as well as the interviews. The analysis of the material and the writing of the report were carried out jointly by P-A Juven and Frédéric Pierru, a sociologist and researcher at the CNRS and CERAP. The study was funded entirely by the UNSAF. It is very important to note that a party with a stake in the results was also the only funding body. The UNSAF necessarily had expectations regarding the results, which it intended to put to use in the context of its activities as an "interest group". Because of this, the conditions for conducting the study were discussed and established in advance. Through its president, the UNSAF set the following goal for the researchers: to conduct a study of the hearing aid profession and of the relationship between professionals and users. That being

³⁷ Rémy C., Winance M., art. cit., 2010: 12.

³⁸ Dodier N., *Les hommes et les machines. La conscience collective dans les sociétés technicisées*, Paris, Métailié, 1995: 4.

³⁹ For the terminological reasons mentioned in the previous section, we will use this term as much as possible.

said, no constraints were placed on the methodological or analytical framework. The choice to conduct ethnographic surveys and semi-structured interviews was that of the researchers, and problematic angles could also be addressed. For these reasons, they considered that it was completely acceptable to conduct this research, even though it was funded by a stakeholder in the study.

The survey, carried out between December 2017 and February 2018, consisted of 19 interviews and seven ethnographic observation days at three different sites. The approach was thus primarily ethnographic – one of sociology’s most effective methods to study action and actors. Because ethnographic inquiry avoids the narrative of an interview, and because it makes it hard to disregard the implicit components of a text, it constitutes raw material that allows insight into both the problems that a subject may pose and the subtler, less visible elements of action that are often disregarded in interviews. However, ethnographic studies also have their biases, and it is important for sociologists to show reflexivity with respect to this approach⁴⁰. In our case, the two offices studied in Paris were suggested by the sponsors of the study. This does not mean that it is not relevant to conduct observations there, as actors do not have the godly power of being able to control everything, including at their centre. However, it appears obvious that hearing aid professionals willing to welcome a sociologist are likely to be professionals who do not have a problem with their profession. Bored hearing aid professionals who have grown tired of the profession, and who are probably not very friendly with their “patients”, were not willing to be observed. This report therefore presents particularly valuable empirical elements based on the ethnographic studies, although their scope must not be overestimated.

How were the offices selected? The selection of study sites is not inconsequential in social science studies. A subtle balance must be found between accessing a field that “talks”, on the one hand (and which is therefore not too insensitive to the social science and humanities approach), and a field without collusion, on the other. The first site was an office in a “comfortable” Parisian neighbourhood directed by one of the hearing aid professionals sponsoring this survey. This choice was justified by the possibility of being able to conduct the survey at a place where the sociologist was not only welcome, but also where people would agree to take the time to answer his (very numerous) questions. The second site was an office in a “poorer” neighbourhood of Paris. The third site was outside of Paris, and we chose it through personal acquaintances. The possibility of conducting a study at this third site was crucial for the validity of the study. It does not allow us to generalize the results to all hearing centres⁴¹, but it does enable an analysis that is less dependent on the sponsors. These three offices had the following features:

1. between 2 and 3 hearing aid professionals worked there;
2. one of the hearing aid professionals was the owner of the centre;
3. they had between 3 and 7 employees;
4. they were located in downtown areas.

⁴⁰ Beaud S., Weber F., *Guide de l'enquête de terrain*, La Découverte, Paris, 2003.

⁴¹ Another bias is related to the type of centres studied, all three of which were "downtown". Studies should also be carried out in less urban areas.

The ethnographic observations led to the collection of numerous discussions. Forty-two “appointments” were observed, resulting in more than forty-five hours of audio recording. People were systematically asked for their consent to record, subject to guaranteed anonymity. This material was combined with 19 interviews with the users whom we were able to meet during the ethnographic studies. Another portion of the interviews belong to the “ethnographic interviews” category, namely interviews that cannot be dissociated from the context of the study. This does not mean that they were held at the place of the ethnographic study, but that a portion of the questions relate strictly to observation. We sought to diversify the profiles of the people interviewed as much as possible in terms of age, activity (retired/working), personal situation (living alone/as a couple/retirement home), and socio-economic situation. Nonetheless, most of our interviewees were in the middle-class or upper-middle-class social categories. The cultural capital of the interviewees as well as that of their entourage are also elements to take into consideration. A quantitative survey based on a questionnaire would be a good complement to more broadly reveal the determinants of the choice to adopt a hearing aid.

Last of all, this study is on the hearing aid fitting process. Problems relating to giving up wearing a hearing aid or even being unaware of the possibility of having one are not included. This is due to the duration of the study (three months for the literature review, field study, data processing, and writing), which made it necessary to adopt the most efficient field study strategy possible: interviewing hearing aid wearers and conducting ethnographic studies at hearing centres. In other words, we met only with hearing aid wearers, that is, people who had already gone through the process of adopting and wearing a device. The results that we present here are therefore valid only for the population type that we have identified.

Part 1 - The shaping and fitting of everyday life

Introduction

The decision to be fitted by one's local hearing aid professional of choice raises multiple questions, both for the people eligible to purchase the devices and their friends, family and social environment, and for the hearing aid professional him- or herself. It is generally accepted that deafness and more broadly hearing impairment have an effect on people's health⁴². Qualitative studies have shown how this alteration in ability inevitably has effects on social life and one's relationships with others. As opposed to being exclusively technical problems and issues, hearing problems pertain to social issues that must be acknowledged⁴³. While some of the studies have focused on populations with severe hearing impairments comparable to deafness, our study is more focused on people suffering from age-related hearing loss – a loss that can be severe but which is not on the same level as deafness. This part of the study shows that hearing aids, as technical devices, belong to a “network”, and that putting excessive focus on the technical device can cause the key aspects of improving hearing to be neglected.

Section 1: Hearing Aid Fitting

In this section we focus on people involved in the process to obtain hearing aids. The choice of adopting a device can appear to be a rational decision-making process. In that case, the sequence would progress from the sensation of hearing loss to an ENT appointment, followed by the selection of hearing aids. However, when looking at it closely, the hearing aid fitting process proves to be less linear. Multiple questions and doubts emerge in people's minds. We explore these uncertainties here, and show how the decision (and hesitations relative to the decision) of being fitted with hearing aids is determined by a social context as well as issues that are simultaneously medical and financial, and at times, aesthetic.

⁴² Studies proving the impact of impairment on people's physical and psychological state are often referred to. Here, we are not diving into the scientific controversy, although it would be very valuable in the context of a larger study. This is because all of the studies generally used as references, and in particular those indicating the importance of adopting a device for a person's physical and psychological state, are intended to demonstrate this. It would therefore be necessary to study the institutional and structural conditions of these studies (which can of course apply to our own study), as well as potential disagreements between researchers. Nonetheless, and given the study framework that we have created, this section of the study is more focused on following device wearers.

⁴³ INPES, *Le rapport à la santé des personnes sourdes, malentendantes ou ayant des troubles de l'audition : résultats d'une étude qualitative*, 2012.

“I didn’t want to hear about it”

The hearing aid fitting process allows us to explore both the place occupied by hearing aids in the collective imaginary and the social and economic determinants of hearing aid fitting. While we often see that devices “disappear” over time due to people developing habits or simply rejecting them, this disappearance contrasts with the trial constituted by hearing aid fitting. This is the first paradox of hearing aid adoption: while some hearing aid wearers voluntarily speak of an object that is anchored in their everyday life, the moment of the hearing aid fitting process is often marked by a feeling of reluctance that we find in the majority of the interviews.

I didn’t want to hear anything about it, I didn’t want to hear anything about it. My daughter forced me to go to a hearing aid professional who is well known here. For a year, she set appointments. He wanted to fit me with a hearing aid, but I didn’t want one. I don’t know why, a crazy old man’s idea, I was doing perfectly well as I was, and I could still hear a bit.

Interview with Maurice V., 94 years of age.

Our reason for focusing on this interview excerpt is the relevance of the expression used by Maurice V.44: “I didn’t want to hear anything”. Here, the expression should be taken literally and figuratively. He did not want to improve his hearing abilities or talk about possibly adopting a device. Hearing aid professionals often insist on the need for people to believe that the choice is “their own”. However, the choice to wear a hearing aid is not an individual process in the literal sense of the term. For example, some people can experience this change as “giving in” to a demand, social pressure, or oneself (which must not be confused with a personal desire, as it is a form of resignation). This is what Jacques M., 81 years of age, explains when he uses the expression “I gave in”:

The ENT I had back then told me “you have to wear hearing aids, but it has to be your choice”, that was very important. I hadn’t made up my mind at the time, and then eventually I was really annoyed, I went back to see the ENT, and I said to him, “listen, I’ll do it”. It wasn’t that fast, but eventually I gave in. I could clearly see that I was making people repeat things.

Interview with Jacques M., 81 years of age.

Maurice V. or Jacques M.’s positions are not necessarily representative of all people who adopt devices. During the interviews held during this study, as well as during ethnographic observations, hearing aid wearers fitted into several different categories: those with no particular apprehensions when imagining adopting a device, and who scrupulously complied with instructions and recommendations; those without particular apprehensions but who nonetheless called into question the process and the intermediary of this hearing aid fitting process – in this case the hearing aid professional; and those who were clearly doubtful

44 The list of interviews and a summary on each person interviewed can be consulted in the Annex (Annexes 1 and 2).

about the ability of hearing aids to solve their problem, but who agreed to try out a hearing aid whether they liked it or not. However, the evaluation of the effectiveness of devices goes hand-in-hand with a more personal issue around the desire to resolve that which is presented as a problem, and which some people can effectively consider a solution. Not wanting to adopt a device does not necessarily mean that a person has doubts around its technical effectiveness, but can also express a clearer desire, that expressed by Maurice V. when he said that he “didn’t want to hear anything about it”. This raises a crucial question regarding hearing aids and more broadly the medical sector: that of the place of people’s own wishes in defining the care protocol (or absence of protocol). Other people, by contrast, more readily enter into the hearing aid fitting process. For example, for Noëlle Y. the idea of considering a hearing aid was not a problem. Ninety-one years old at the time of the interview, she explained how she had been fitted with a device in 2012 without feeling like the process was an effort.

Yes, as soon as my ENT told me that it was getting worse, I said, “may as well start right away”, because I was really starting to get annoyed, to make people repeat a lot.

Interview with Noëlle Y., 91 years of age.

Apprehensions around hearing aid fitting are governed by multiple factors. Among those that we have identified, familiarity with hearing aid technology via the intermediary of another person plays a crucial role. For example, if an individual has an acquaintance who wears hearing aids and is satisfied with them, the process generally takes place without any problems, as 58-year-old Séverine R. explained:

No, I didn’t have a problem with that, my mom already wore one. She’s dead now, but she wore one for five years, she had hearing aids in her ears with batteries.

Interview with Séverine R., 58 years old.

This component of hearing aid fitting is even more evident in the case of two people who arrived at the same time for two separate appointments. They were two brothers, one of whom had been wearing a hearing aid for several years, and the other who had just detected hearing loss⁴⁵. The first brother’s appointment started at 2:00 p.m. Like many other people, he was there to check that his hearing aids were still working properly, for a technical tune-up, which is the main daily task of hearing aid professionals (“to change the tubing”⁴⁶). His brother was present in the room, and the attention very quickly turned to him. He did not present any signs of mistrust, and even appeared to consider the examination (audiogram) and hearing aid fitting as a trivial operation.

While it is generally elderly people that are mentioned to illustrate familiarity with hearing aids, or in any event a lack of ignorance about them, in some cases a more relaxed attitude towards hearing-aid fitting can stem from the person knowing a child or children with a hearing aid. This is the case of Ségolène, who is very enthusiastic about her hearing aid. Even

⁴⁵ Day 7 of observation, Parisian hearing aid professional, 2018.

⁴⁶ We revert to this point in the second section of this report.

going so far as to challenge the possibility of complaining or stating her dissatisfaction, she describes her daily life as having been turned entirely upside down by hearing aids, affirming that *“as for me, I’m thrilled, the majority of people don’t like it, but that’s not my case at all”*. It is not that she has a different evaluation of the effectiveness of devices in her daily life, but she presents a more resilient facet of them, considering that the drawbacks tied to hearing loss can be offset by accepting these very shortcomings, with the goal being to not be a burden on one’s entourage and in one’s social environment. Therefore, above all, the importance of devices goes hand-in-hand with the relationship to friends and family who have used this type of device. However, while in Séverine’s case this was her mother, for Ségolène it was a child, which tends to make hearing-aid fitting for an adult or an elderly person relative in terms of its constraints:

No, but I spent time with a family with a child who couldn’t hear well, and thanks to hearing aids, from when she was a young girl, she could hear. I found that extraordinary, and she could go to school and all thanks to these devices. So for me, it was positive, and it wasn’t related to age. Of course, it is related to age, but I don’t see it like that. It’s a great help.

Interview with Ségolène F., 66 years old.

The importance of “friends and family”

While the process is perceived differently – a trial for Maurice V., a trivial act for Noëlle Y., good fortune for Ségolène –, it also appears that reflection around hearing-aid fitting pertains to a context that transcends the problem of hearing. In the case of Maurice V., the refusal to adopt a device is explained, according to him, by a difficult period. One year beforehand, he had lost his wife to Alzheimer’s; he described himself as being “bad-tempered”, “unpleasant to everybody”, and “depressive”. This, he said, explained his wish to “not hear anything about it”. In the case of Noëlle Y., the desire to adopt a device is not explained in itself by a decrease in hearing ability but rather by the social consequences of this decrease. “Mak[ing] people repeat a lot” becomes annoying, an element which is found in many other interviews:

I must have had a hearing aid for ten years now. It’s not very creative, but I was making people repeat more and more, and when you’re married, it goes quickly, you turn up the volume on the radio or the TV and your husband complains.

Interview with Ségolène F., 66 years old.

My daughters told me that I was repeating all the time.

Interview with Jeanne V., 92 years old.

I'm going to annoy my wife a bit less.

(Person at an appointment, Ethnographic Study Day 1)

Friends and family should be understood in a broad sense in this case. That would include daily acquaintances, in particular in the professional sphere. "Becoming aware" is sometimes attributed to one's environment, because the level of alteration is low. Specifically, hearing loss must not be taken as a homogeneous and invariable form. Depending on the people, situations, and especially the types of noise, the extent of the alteration can be greater or lesser. It is therefore frequently the case that certain types of situation highlight an impairment:

Because I'm an operations agent, I have to pass on messages, send teams, we have a radio, and when there's an incident, it's up to us to set up the teams. And I realized that I couldn't hear anything anymore, and when it spoke, I couldn't understand anything. The THF already wasn't very clear, but with the deafness, it was over.

Interview with Séverine R., 58 years old.

This needs to be qualified, specifically concerning the ability of the world of employment make people become aware that they are losing their hearing or not. Many of the people interviewed explained to us that, on the contrary, it was when they stopped working that the sensation of hearing loss paradoxically became clearer. The case of enclosed spaces is often mentioned as deceptive in terms of awareness of their hearing. Whenever discussions and interactions are codified and require noise control, the alteration becomes imperceptible. In other words, **just like body language or polite phrases, making noise and controlling one's speech are also regulated social occurrences, which can be implicit to varying extents. It is therefore when people leave this regulated and codified space constituted by the "office" that they may become aware of an alteration**, given that the environment external to the professional sphere will be less rigorously constrained.

It's the everyday environment that makes you realize. But not at work, because you work in an enclosed office, I didn't have any problems, at home was the problem.

Interview with Ségolène F., 66.

It became very clear, because I retired in 2005, and I started to take classes, and realized that I was having trouble hearing.

Interview with Brigitte B., 78 years of age.

This is another major aspect in "realizing" in relation to retirement. What people generally describe is a semi-conscious capacity to adapt and to correct hearing defects by considering that the problem is not related to themselves but rather to their environment, and that it is better to put more thought into their position in space (for example, in a classroom) than to consider wearing a hearing aid. Certain types of work also sometimes cause hearing-

aid fitting. In particular, this is the case of dentists, who constantly hear very sharp sounds, or a pottery teacher, who is in contact with the noise of the kiln. The professional environment therefore plays a dual role in people's relationship to hearing. As an early sign of alteration, it can also constitute a protective space that is familiar to the ear – a space that *alters the alteration*, dare we say.

However, the importance of friends and family is not only identifiable in the choice to adopt a device, but also in the routine acceptance of the device. Acceptance of hearing-aid fitting is also highly variable, and we will return to this aspect in the section on observance. We note however that friends and family, and in particular spouses, can play a decisive role in the wearing of hearing aids, especially when they are associated with ageing:

It made me suddenly feel old (laughs)! And my wife was great, she said "listen, people wear glasses. In the beginning it was difficult, she encouraged me a lot, it was over, and then around me, my friends were faced with the same thing, and then you feel reassured, you tell yourself you're not alone. But it makes you feel old all of a sudden, and people don't like to get old, an organ doesn't work very well anymore, it's a blow to you, but in the end, I see lots of people with hearing aids.

Interview with Jacques M., 81 years of age.

Hearing loss comes in different forms, depending on the person. It can be accepted to varying degrees, and has different meanings for different people. It involves relationships with others that are sometimes conflictual, sometimes resilient. That which highlights the importance of friends and family in the hearing-aid fitting process is therefore the importance of appropriating the technical object, and even more so the sensation of hearing loss, in a broader social context. In other words, the decision to use or not to use hearing aids does not pertain exclusively to the quantified objectification of hearing impairment, but also to a social, affective, and economic situation. Having an active social life, going to the theatre, to the cinema, or to talks has an effect on the desire to adopt a device, to maintain an active social life:

As for me, I want to hear, the radio, the theatre, I'm furious when I don't understand. I don't want to put myself in a situation where I progressively give these things up.

Interview with Brigitte B., 78 years of age.

The hearing-aid fitting process

The hearing aid sector has been analysed more by the humanities and other social sciences than by sociologists. It is therefore appropriate here to define the actual meaning of the "hearing-aid fitting" process. The process is routine and standardized, like the physical apparatus and technical devices used by professionals to evaluate hearing loss and monitor

people. Hearing-aid fitting follows regulations defined by decree. The individual must have a prescription from their ENT after getting an audiogram. The audiogram is used as evidence of the need for hearing aids, but also serves as key information for the hearing aid professional who systematically repeats the audiometry.

While it may appear to be the crystallizing moment of the hearing-aid fitting process, the audiogram, a technical measurement of hearing loss, is embedded within other operations that are important to consider. Although the application methods differ, depending on the place, an “anamnesis” (patient history) is systematically carried out. Anamnesis (French: “*anamnèse*”) is the term used by the hearing aid professionals whom we observed, and is etymologically defined as going back (*ana*) in memory (*mnesis*). In medicine, it corresponds to a list of a patient’s medical antecedents. The use of this term must be highlighted insofar as it clearly uses a medical register and thus shapes an “appointment” between a hearing aid professional and a client/patient according to a clinical scheme. This anamnesis is generally a questionnaire. In some places it is carried out orally by the hearing aid professional at the very beginning of the appointment, and serves to initiate rapport between the two parties. It also allows the professional to inform the person that the fitting of the device will consider the particularities of his or her daily life. At other centres, the questionnaire is distributed to people when they arrive at the waiting room. If they can, they fill it out, otherwise the hearing aid professional takes responsibility for doing so by orally interviewing the person. These questions are of a general nature: “Have you ever worn a hearing aid before?”; “Have you had operations on your ears?”; “Do you have diabetes?”; “Do you have tinnitus?”; “Do you have vertigo?”; etc. (cf.: Figure 2).

Figure 4 – Document collected by P.A. Juven during an ethnographic study

First/last name:

Appointment date:

Monitored by:

Address:

Telephone:

Date of birth:

Email address:

Name of your mutual health insurance fund:

How did you find out about us:

Do you already wear a hearing aid? YES NO

Do you already have a prescription for hearing aids?

Have you had operations on your ears?

Do you have or have you had diseases related to hearing?

Do you have diabetes?

Do you have a pacemaker?

Have you taken ototoxic drugs (anti-malaria, cancer)?

Do you have tinnitus (whistling or ringing in your ears)?

Do you have or have you had vertigo?

Have you had your ears plugged by wax?

Figure 5 – Document collected by P.A. Juven during an ethnographic study

Figure 5 - Document collected by P.A. Juven during an ethnographic study

DIAGNOSIS AND OBSERVATIONS OF THE PRESCRIBER

LIVING CONDITIONS: House Apartment Calm Noisy Number of people in the household

Animals

HEARING LOSS (beginning of annoyance, right ear and left ear annoyance, tolerance of loud noise)

EXPOSURE TO NOISE (professional, hunting, military service)

FAMILY HISTORY

DIFFICULTY UNDERSTANDING one to one in a group in noisy environments

radio/ television telephone (annoyance, side, equipment)

EAR INFECTIONS/PERFORATED EARDRUMS

ENT SURGICAL INTERVENTIONS

OTHER ENT ANTECEDENTS

TINNITUS/VERTIGO (side, type, frequency, feeling)

ALLERGIES/ITCHING/ECZEMA SWEATING LATERALITY

EARWAX SECRETION: Light Medium Significant

HEARING AID ANTECEDENTS Date Hearing aid professional

Side Brand/Model Usage Satisfaction

REASON

Then there is another audiogram, this time conducted by the hearing aid professional. In this exam, he or she makes the person listen to different types of sounds (which vary in frequency from low to high)⁴⁷ at different volumes (decibels).

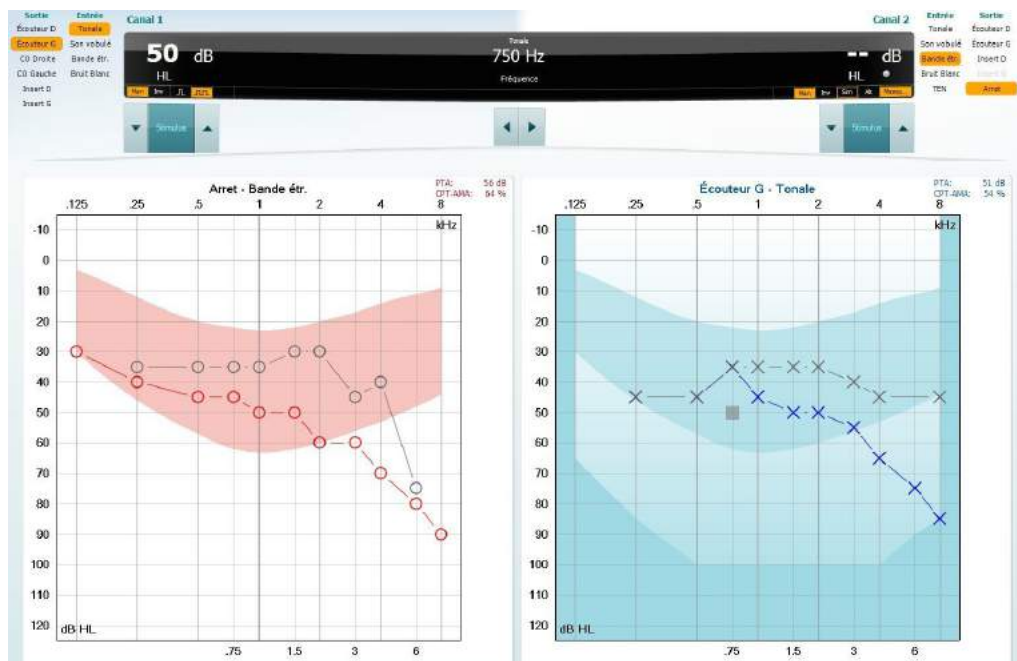


Figure 6 – Document collected during observations

Once this test has been carried out, the question of the choice of hearing aid comes up. We will not dwell on this aspect here because it will be addressed in detail in the second

⁴⁷ It must be noted that conducting an audiogram technically implies starting at a median sound and then moving towards low sounds, then returning to the median sound before moving towards high sounds.

part of this report. All we will mention now is people's ability – which in our opinion is quite limited – to play a role in the choice, or in any event, to be aware of the reasons behind it. Depending on the person, an ear mould can be taken. In the majority of the cases that we observed, people will be equipped with a hearing aid with a standard earmould in the form of a “dome”, in which case taking a mould is not necessary. Multiple criteria govern the choice of device: the more impaired the hearing, the more the ear has to be plugged, and customized earmoulds are clearly the most obvious solution⁴⁸. However, earmoulds imply referring to the anamnesis. In the event that the person has health problems (such as chronic ear infections), an earmould will not be appropriate.



Figures 7 and 8 – Photographs by P.A. Juven

This appointment is also an opportunity for the hearing aid professional to explain what wearing a hearing aid means, as well as the reasons for adopting one. This is explained during the first appointment:

Today, what you have is age-related hearing loss, that is, decreased perception of high pitched sounds, and for speech, consonants are very muffled, you're going to hesitate between S and F, or things like that. So, there are two general ideas to wearing a hearing aid. First of all, the idea is to give you back a pleasant social life, in other words, you will hesitate a lot less when someone says something, otherwise you have to think for a long time. That will improve your social life, and that helps prevent isolation, especially among elderly people, and that plays a role in better cognition. And above all, from the neurological point of view, we often say that the use creates the organ, in other words, the nerve fibres for high pitches are used less when you don't wear a hearing aid, so this way you maintain the right nerve impulses for high pitched sounds, and you will have memory of the

⁴⁸ It is interesting to note that these earmoulds can be adjusted, in particular by expanding the tubing.

*recognition, and by not hearing high pitched sounds, you forget their existence and the usefulness of these sounds*⁴⁹.

This first appointment is also the opportunity to introduce the person to the constraints of hearing aids. For example, one of the major concerns of hearing aid professionals is to convince people to wear their device all day, as according to them, irregular use leads to device failure. Therefore, starting as of the first appointment, hearing aid professionals seek to foster technical solidarity between the person and the device. **In the belief that they advocate and promote regarding hearing aid wearers or potential hearing aid wearers, the elements of this socio-technical chain support one another and create relationships of interdependency:** it is permanently wearing a hearing aid that creates satisfaction, a satisfaction which in return creates habituation and therefore use of the device. This use results in wear, which makes it necessary to regularly see a hearing aid professional, who during appointments ensures the comfort and effectiveness of the device, which once again reinforces the fit between the person and the device, and so on. In other words, **starting as of the first appointment, hearing aid professionals' work is to adapt the device to the person and to create a chain of causality particular to hearing and its correction.** The second appointment, on average 3-4 days later, according to our observations, is generally an opportunity to delve deeper, during which fine-tuning must be carried out. Sometimes another device is tested, but what remains is the prolongation of this construction of interdependency and the clarification of the meaning and consequences of age-related hearing loss:

You have to talk to become used to your own voice. Even without a hearing aid, you can hear your own voice, but you've inhibited it, you know it by heart, so you don't pay any more attention to it, so you're going to be forced to find a new norm for your voice. The second thing is that you're going to discover a new acoustic landscape. For example, I don't know if when I take off hearing aids, the room will seem smaller, whereas when I put them back on, the room will seem a lot bigger. This is spatialization, which is quite pleasant... In fact, with your hearing loss, you've lost sight of the concept of high pitches, high pitches are what allow us to have a relationship to distance. When blind people have age-related hearing loss, they're very unhappy, because they don't know if there is a wall, whereas when they can hear the high pitches again, they find the wall. The perception of small noises that had disappeared, which aren't necessarily unpleasant but which will return, running water, gravel crackling, the noise of clothing, all of these little noises, the birds, all of that will normalize as well. And then, you're going to have a lot more information in terms of phonetics, consonants, S and F sounds, words like "fur" or "sure" will be a lot more detached and a lot more audible. The problem with your hearing loss is a bit like if certain consonants are light grey while the rest of the text is written in black. You understand and you guess the rest, so sometimes guessing is easy, because there's only one unit,

⁴⁹ Ethnographic observation day 1, 12 December 2017.

and even if you didn't hear the whole word, you reconstruct it without doing so intentionally, and then other times you fall flat. So that's it, does that seem powerful to you?

We will return to the relationships between hearing aid professionals and hearing aid wearers in more detail in the second part of this study. In this section, the goal was primarily to present the hearing-aid fitting process in concrete terms. The questions that people ask themselves are also crucial elements that allow us to comprehend the role of these appointments in the cognitive and material understanding of the object and in the progressive establishment of technical solidarity. Once again, we will discuss this in the second part of this report.

A high entry "cost"

The last stage of these first two appointments concerns the quote. If the person decides to adopt a hearing aid, he or she prepares to enter into a device trial phase. This phase varies in duration. According to our observations, it takes 2 to 4 weeks. Payment only takes place following the completion of this period, even though a deposit (such as €1000) is sometimes requested. **Providing a quote before the trial period appears to be intended to ensure that people are not "trapped" after four weeks of testing devices when they suddenly discover the price of their hearing aid. However, this practice only partially has this effect, because the phenomenon of people becoming trapped faced with the price exists independent of this precautionary quote.** During our observations and each time that the hearing-aid fitting process was taking place, we never observed a situation in which the hearing aid professional presented the different ranges of products as well as their prices. By product range, we are not referring to the "type" of product, as discussions very often took place, in particular regarding the selection of devices with rechargeable or conventional batteries. By product range, we are referring to the different sophistication levels of devices⁵⁰ with highly variable prices ranging from 700 to 2,000 euros. Many people interviewed stated that they had not been asked many questions around their price preferences, or even preferences at all:

I didn't have a choice in anything, I'd say. With the instructions from the doctor plus the type of situation, I think that it's a problem of a decline related to age. He offered me a hearing aid, and it wasn't entirely the one that I wanted, I wanted a more discrete one, but whatever, I didn't really have

⁵⁰ It is important to note that materially speaking, the differences in price do not correspond to physically different devices; they are the same from one product range to another. What changes, and what contributes to the wide variations from one product to another is the software that the device contains. One hearing aid professional noted with amusement that a device-wearing hacker could surely be fitted with the least expensive device and then pirate it at home to turn it into "a higher-end product" (Interview with hearing aid professional 3).

a choice. And I still don't have a choice. When we talk about new hearing aids, he says that they're not good for me.

Interview with Brigitte B., 78 years of age.

They never display the prices! There's no way of knowing.

(Person at an appointment, Ethnographic Study, Day 3).

Asymmetry, long a topic of observation of the sociology of health care, can be seen in the relationship between the hearing aid professional and the person capable of adopting a device. This relationship contrasts with the work to clarify the wearing of the device that we presented above. This does not necessarily mean that hearing aid professionals are looking to sell the most expensive hearing aid, but asymmetry is one of the elements found during our observations. It is difficult to generalize its scope, and it would be interesting to delve deeper into this observation through a questionnaire-based survey. The price of hearing aids plays a variable role in the decision of whether or not to adopt one. In the interviews conducted, the interviewees swore that they had not been deterred by the price. However, this by no means indicates that price is not a barrier for many people. We were unable to document this element for one simple reason: we conducted interviews with hearing aid wearers, and because of this very fact, they had not refused a device due to the price. However, these people mention the case of friends, family, or acquaintances who had decided not to adopt a device. Sometimes they even brought up this issue, not so much to explain a renunciation but rather a hesitation.

So obviously, because it's a lot of money that you have to put down, I hesitated a bit.

Interview with Noëlle Y., 91 years of age.

Well, in any event, at the beginning, the price is outrageous, already, it's obvious, I have to specify that because whenever you pay an amount like that, there has to be a requirement behind it.

Interview with Frédérique D., 58 years of age.

That's quite the price, 3,500 Euros... It's a luxury product.

Interview with Gérard V., 63 years of age.

I know people who need hearing aids then don't do it for financial reasons.

Interview with Brigitte B., 78 years of age.

As “luxury products”, hearing aids involve a high entry price. People’s health care insurance and income level therefore play a major role in the hearing-aid fitting process⁵¹:

We have a really good mutual fund, so I went straight for the best one.

Interview with Jean-Paul R., 75 years of age.

Personally no, because you can’t put a price on hearing. I used to joke “we’ll skip going to the restaurant a few times”, but I’m fortunate to have a good pension, I was an executive, a manager, and my pension pays for the devices.

Interview with Jacques M., 81 years of age.

One final element must be discussed before moving on to address the question of another type of obstacle or source of hesitation, aesthetics. This final element concerns, still on the level of asymmetry, the relationship to the device brand. In general, the interviewees seem not to pay very much attention to the type of device that they wear. The brand was mentioned only once during the 15 interviews with hearing aid wearers:

I’ve had two different hearing aids, first Phonaks®, and now I have Siemens. With the Phonaks®, I never had problems, except when I’d lose them, but that was my fault. With the Siemens, I often have problems, contacts, false contacts. The hearing aid professional said that they cost the same, so...

Interview with Michel T., 82 years of age.

The other element constituting a source of hesitation that is commonly mentioned with regard to hearing aids is aesthetics. Contrary to what could be expected, this criterion is on the mind of certain people, but does not play a central role in hesitation. Our findings and the interviews conducted showed that aesthetic issues ultimately play a minor role in people’s concerns.

No, not because the aesthetic aspect stopped me. No, it’s more because people told me that it’s hard to get used to, and a lot of people end up putting them in dresser drawers.

Interview with Noëlle Y., 91 years of age.

⁵¹ When questioned around pricing mechanisms, and namely the bundling of hearing aids and services, the vast majority of interviewees (13 out of 15) responded that they paid little attention to this issue. Two stated that they would be interested in it because they very seldom went to see their hearing aid professional. On the other hand, when asked "would you go less if you had to pay for the appointment?", several of the interviewees (7) responded yes, while the others believed that these appointments were nonetheless necessary and that they could not go without them.

Admittedly, in certain cases a desire for discretion is stated, especially for working people who don't wish to be perceived as being "out of the game", although this desire never appears to thwart the hearing-aid fitting process. Some people are worried about judgement around their ability to successfully carry out their work at a time when they appear to be declining, with aesthetic issues therefore finding their justification not in a complicated or sensitive relationship to age but rather in a desire to be considered a normal employee. We met two people in this case. The first is a medical representative, who explains that she "let her hair grow so that people wouldn't see the hearing aids"⁵². The second is an operations agent at a transportation company. While she did not find the aesthetic aspect particularly embarrassing ("no, it doesn't bug me because I have hair"), her professional position caused her to want to be as discreet as possible. Therefore, she explained to us that when trying devices in a work situation, she would "take a discrete walk around the centre to see if it worked"⁵³. While the aesthetic aspect is a concrete preoccupation, it does not constitute a sufficiently powerful deterrent to halt the hearing-aid fitting process.

Section 2: Living and hearing with hearing aids

To explore the technical solidarity between a person and a device requires us to focus on the person's relationships with the environment. In her research on wheelchairs, M. Wynance shows that people in wheelchairs feel their presence in a different way, depending on the place where they are and on the suitability of the place for wheelchair use. As such, wheelchairs can never be isolated from the physical and spatial environment. The same goes for hearing aids. While they are different from wheelchairs in many ways, the similarities between the two objects raise similar questions. Hearing aids can likewise not be isolated from their context. And even if it is not the place that they *take* (but rather that which they *occupy*) that appears to constitute their main feature, it is the social, symbolic, and intangible environment that stands out when we try to focus on hearing aid wearers.

A new perception of daily life

The first hours with a hearing aid are decisive for hearing aid wearers. Their reactions vary considerably: from some people who explain that they are very happy to finally hear again, to others who are critical. The moment of leaving the hearing aid professional's office is one of these critical moments, among others. **The people questioned very often indicated an alteration in hearing, no longer in the sense that they could not hear as well, which was (partially) why they adopted a device, but in the sense that they could hear differently.** The word "metallic" was very often mentioned.

⁵² Ethnographic observation, 12 December 2017.

⁵³ Interview with Séverine R., 58 years of age.

It's really metallic. When you're on the street and a car goes by, you feel like it's a big truck. It amplifies things. And that's why you can no longer hear what the people beside you are saying at restaurants, because there are all the little noises from the plates, the cutlery, people talking. You get used to it, but in the beginning, when you go out with your hearing aid onto the street, I would ask myself, "where am I?" It changes completely.

Interview with Noëlle Y., 91 years of age.

The first time that I heard myself speak... Everyone was telling me "but you didn't change", whereas I felt like I had a hoarse, metallic voice, not a natural one.

Jeanne V., 92 years of age.

Hearing aids [...] modify sounds. They don't give us sound back, but a digital reconstruction of sound. You hear something, a sound that is different from your voice. What I hear is a reconstructed voice, a digital voice. I use the expression "digital" because it's the expression that the hearing aid professional used, but I can feel the difference. It's a metallic sound that isn't what you have naturally. You have a nicer voice than that, I'm sure.

Interview with Maurice V., 94 years of age.

The transformation in hearing is not equivalent to a return to previous perceptions. All of the people interviewed clearly expressed this nuance. **Wearing hearing aids does not allow one to "regain hearing" but rather to regain "a type of" hearing.** This hearing thus transforms the relationship that people have with themselves. Their voice changes and their perception of themselves is shaken, at least in the beginning:

Especially when you have hearing aids like that with your ears completely plugged, you hear yourself talk and your voice has changed completely. You don't recognize yourself anymore; you have to get used to it. It's a drawback. It's hard to get used to listening to yourself speak. It took time to get used to it and sometimes, even now, I think, "what a funny voice I have". You feel like you're losing your voice, that it's not the same anymore. In the beginning, I thought "I'll never get used to this".

Interview with Christine O., 89 years of age.

The object must be considered as structuring living conditions. Hearing aids are not only a corrective device, an artefact that mitigates the difficulty. They shape the daily life and interactions that people allow themselves to have. Let us consider the case of Maurice L. As indicated previously, he is a ninety-four-year-old man who has been wearing two hearing aids ("*prothèses auditives*" or "auditory prostheses" according to the French term he uses) for

the last four years. It is impossible to understand the place occupied by his hearing aids (which he fully considers as palliative devices “that aren’t the same as the original” – this is why we wish to keep the terms that he uses here) without being familiar with the context in which he lives, namely a retirement home for the past six years. How do the hearing aids shape his everyday life? While this may appear obvious to people who wear hearing aids or who work in the sector, the heterogeneity of the effects of a hearing aid is nonetheless not self-evident. Someone educated on the subject will believe that a hearing aid lets you hear better. At the most, this person can understand that they have their limits, and that they do not entirely correct hearing. Conceiving of different effects, on the other hand, is less obvious. Nonetheless, hearing aids are not uniform in their correction. The major difference that we found lies in the distinction between interactions involving two people and several people. While hearing aids are useful in the first situation, they find their limits in the second.

When I talk to someone like you, and you’re in front of me, the lips help. And I understand you well, but as soon as there are three or four people, I can hear people talking well enough, but I don’t understand any more. At the table, for example, there are six of us at the table, and I never talk, whereas my colleagues have developed the habit, they say “him, he doesn’t talk”. I don’t talk because I don’t understand, I can’t participate in the conversation. (...) If I could understand better at the table, I would like to participate in the conversation, even though the conversations aren’t very sophisticated, so I’m not missing out on much.

Interview with Maurice V., 94 years of age.

The end of the interview excerpt, while it is clearly meant to elicit a smile, is by no means inconsequential. It presents the impact of hearing aids on the actions and interactions of people as being tied to other determinants. For example, if Maurice L. does not speak, this is partially due to his hearing impairment, but also for interpersonal reasons that are not related only to physical ability. Other people fully accept giving things up despite the device:

When I’m in a restaurant, I can’t hear well, but I deal with it, I adapt, I tell myself, I sit beside the person, or I choose not to participate in a conversation, and I don’t complain, I accept it, I have a hearing aid and in the end, it’s a handicap, like plenty of others, but I accept the drawbacks, but when you accept it, it changes things.

Interview with Ségolène F., 66 years of age

Other spaces are turned upside down by wearing hearing aids. The most frequently mentioned cases are places where shows are held.

Everything takes a different shape. That's why concerts, the movies... I can't go to the movies anymore. They're loud, the movies are loud. Yesterday, there was a concert in the room downstairs, and lots of people told me "I'm not going, it's too loud".

Interview with Noëlle Y., 91 years of age.

I go to the movies and the theatre less, it's relatively recent, but I'm making an effort to have a normal life, to do activities, I'm making an effort, I don't want to withdraw from normal life, from active life, and that is a huge effort. Because the easy thing to do would be to give it up. About fifteen days ago, I went to see a movie. When you see a foreign movie, there are subtitles so it's okay, but a French movie...

Interview with Jacques M., 81 years of age.

The case of shows is particularly interesting because it reveals another aspect of life with a hearing aid. It is possible to consider two poles of responsibility. The first is people themselves. Their difficulty in understanding originates entirely in themselves and their impairment (which is moreover materialized by the audiogram and an impairment percentage). The second pole of responsibility would be the environment and "others". In this case, difficulties understanding are not due to age and impairment but rather to the inability of others to correctly express themselves out loud. In reality, the culpability for difficult interactions comes into play between these two poles. In particular, this can be observed in the reproach commonly made to "young actors", except for those from Comédie française:

But I want to hear, because I do plenty of things, even outside of my classes, I continue to see that I have trouble hearing, that when I go to the theatre, the theatre is terrible. So, I feel like saying that young actors aren't trained like the old ones were, but I don't know if that's true. Because there are actors that you can understand really well. If I go to Comédie française [the national theatre], I can perfectly understand Denis Podalydes or Guillaume Galiène, and that's it, and after that there are a bunch of young people, it sounds like they're mumbling, and then there's that trend among stage directors to make people talk with their back to the audience, in the back, with the music on top of that, or lying on the ground, mumbling to someone, which is sometimes logical, depending on the situation.

Interview with Brigitte B., 78 years of age.

The issue of observance

The issue of observance must be seen in light of public health concerns. However, it also allows one to consider socio-economic inequalities in the use of hearing aids. Hearing aids are not a self-sufficient object. **Fitting people with hearing aids is not enough to treat the hearing problems, and for the health and social risks pertaining to age-related hearing loss to be resolved at the same time.** On the contrary, the interviews and observations that we conducted showed that the match between object and person can only have an effect when the broader living context allows the individual to accept wearing a device. While hearing aid professionals enthusiastically recommend prolonged device wearing and recommend against intermittent usage, we found that people have a different opinion of this veiled order.

Yeah, it's not a problem. Lots of people put it on the morning and take it off at night. That's what I did too. I have trouble keeping them on in the evening. When I'm all alone and I know that I'm not listening to anybody, I take them off, and in the morning, I don't jump out of bed to put them on.

Interview with Noëlle Y., 91 years of age.

Many people report that they take their hearing aids off when they are alone. This contradicts what the hearing aid professionals told us in the interviews, and namely that it is necessary, even at home, and even when alone, to keep wearing your device. **For hearing aid professionals, small daily noises constitute elements that the ear must relearn to manage, just like the noises of the neighbourhood. However, it is precisely for this reason that people take their hearing aids off.** In this way, we see that among these people, there is an adjusted relationship to the device and hearing. Alteration and impairment are in this case no longer a problem but a solution. Thus, contrary to what could be assumed upon starting a survey of hearing aid wearers, certain situations reverse our perception of hearing loss.

Sometimes it's good to have a bit of trouble hearing. For example, when I'm on the patio with a book, I take them off, it's a damn advantage.

Interview with Ségolène F., 66 years of age.

Removing one's hearing aids is an operation that is not necessarily a form of refusal but rather a rational choice appropriate to the situation. This removal can sometimes even be described as a means, precisely, to hear better. As such, it is closely related to manipulation of the device, which sometimes allows manual configurations to adapt it.

Yeah, some people say “I don’t put them on” or “I don’t put them on to go out to eat because I can’t hear anything”. Because that’s another thing, at a restaurant you can’t hear anything. I take them off to go out for meals. Practically speaking, I hear better at a restaurant without hearing aids.

Interview with Noëlle Y., 91 years of age.

This adjusted manipulation of hearing aids often results in more subtle forms of adaptation. For example, hearing aids often allow individuals (in the case of the most expensive products) to have programs that are adapted to different daily situations. Switching from one mode to another thus allows people to manage their relationship to the environment:

Yes. My device has two configurations, a minimum configuration and a maximum configuration. Right now, it’s on minimum, when there’s two people talking, it’s enough. When there are more people, I put it in the other position.

Interview with Jean-Paul R., 75 years of age.

However, this manipulation is not self-evident. It first requires one to have hearing aids that offer this possibility. Next, it implies mastering one’s body and demonstrating dexterity, even if this can appear elementary. Specifically, some of the people observed during their appointments with the hearing aid professional have significant tremors due to age, which is called a “prehension” disorder. These tremors make it impossible to push on the buttons to change programme. They sometimes have more sustained consequences, and in particular regarding taking off and putting on hearing aids. During one interview, we had to put a hearing aid back on a person who wanted to show it to us. Once again, hearing aids cannot be dissociated from conditions that are broader than just the problem of hearing, as physical and financial capabilities can allow more refined adjustments to the device. Furthermore, these physical capabilities are combined with a memory requirement, as hearing aids can sometimes have up to 5 different programs, and people with cognitive disorders are not capable of using them properly. While we cannot categorically state that the impossibility of adjusting their hearing aids to the situation causes people to remove them, our interviews clearly show that the possibility of doing so allows them to keep them on. In other words, observance depends on criteria other than individuals’ mood and personality.

Imperfection and forgetfulness

Everybody interviewed except for one person stated that they were not satisfied with their hearing aid. While this assertion seems provocative, that does not make it less accurate.

Yet a surprising paradox emerges from the interviews. While the “aids” do not satisfy anybody entirely, they do manage to bother the wearer little enough to “disappear”. This can be interpreted in a physical sense, with the discretion of the object (“look at me, when I’m in front of you, you can’t see my hearing aids”⁵⁴), making it invisible or even imperceptible for the wearer who sometimes forgets to remove the device when going to bed. This “disappearance” must also be interpreted in a cognitive sense. The paradox of imperfection and forgetfulness leads us to consider one of the major aspects in the human-hearing aid relationship: the progressive hybridization of the two entities. Science and technology studies have documented this aspect in much detail⁵⁵.

Lots of us wear them at the home, but nobody’s totally satisfied. Hearing aids are good, but they’re not the same as the real thing. I also have hip prostheses, knee prostheses, and they’re good, they’ve done me a service. I’ve been using them for thirty years and that has spared me thirty years of wheelchair use, but now the wheelchair has caught up with me, it doesn’t go fast but it has caught up with me nonetheless. So now, having one of these in your ear indefinitely, you forget about it. You don’t notice it. I made a mistake at the age of 88 when I didn’t get fitted with one, that’s for sure, but that’s something of the past now.

Interview with Maurice V., 94 years of age.

But everybody around me doesn’t hear very well and isn’t very satisfied, it’s not the Holy Grail.

Interview with Brigitte B., 78 years of age.

It’s not 100% satisfying, it never was, it’s still an electronic device, there are syllables or sounds that confuse you, Ts and Ps, Fs and Ss, there are sounds that you have trouble distinguishing. If the name “Fophie” existed, that’s what we’d hear!

Interview with Gérard V., 63 years of age.

Technical imperfection is presented very clearly by people who have very generally internalized the finite nature of the device. For our interviewees, the issue of satisfaction even appears somewhat irrelevant, or alternatively, comes into play on another level that implies comparison with a previous state. Satisfaction is therefore dependent on this previous state:

⁵⁴ Interview with Jean-Paul, 76 years of age.

⁵⁵ Regarding this aspect, see the overview of the current situation in the introduction to this report.

Am I satisfied with my device?... The answer is simple, if I take my implant out, I can't hear anything anymore. So, there's the answer. It's not perfect, but it's better than nothing, at least I can hear.

Interview with Jacques M., 81 years of age.

This relative imperfection must thus be understood from the angle of another imperfection, that which precedes hearing-aid fitting. Given that it relates to a comparison (a state that would be “perfect” to the person), the imperfection is therefore fully compatible with forgetting about one’s device, and with getting used to its effects despite the dissonance. In other words, **the shaping of everyday life eventually becomes so routine that it becomes possible for people to forget about an unsatisfactory tool.**

You don't think about it anymore. It even happens, not often, that I go to bed, and once I'm lying down in bed, I tell myself “oh yes, my hearing aids”, so I ring for someone to come take them off.

Interview with Maurice V., 94 years of age.

Conclusion to Part 1

The first concluding point is that people do not go to hearing aid professionals because they experience reduced hearing. This statement is intentionally provocative, because an alteration in hearing is obviously one of the reasons for hearing-aid fitting, but it is far from being the only reason. This study clearly shows that people go to hearing aid professionals due to changing relationships with their environment. Friends and family, the professional environment, the desire to preserve their social life, as well as financial capabilities are elements weigh far more heavily in the decision than hearing loss itself. The second concluding point concerns the sociotechnical network involved in the process of hearing-aid fitting. At first, hearing aid wearers experience a transformation in their relationship with their environment – the same transformation that was the cause of their hearing-aid fitting. This transformation necessarily implies considering the way the device is used.

Part 2 – Providing Maintenance, Caring, and Selling

Introduction

The majority of the daily work of the hearing aid professionals that we observed during our ethnographic studies mainly took place in the enclosed space of an “office” and in the comings and goings between the desk and the workshop. In this part, we go over hearing aid professionals’ different activities, to analyse their work routine as closely as possible. To do so, we will make much more use of the ethnographic studies that we conducted at three hearing centres.

What status should be given to hearing aid professionals? Are they caregivers, healthcare professionals, paramedical professionals, salespeople? It is clear that the choice of words here has social and political implications⁵⁶. **Refusing to make a judgement regarding the legitimacy of these qualifications, we are more focused here on understanding the interrelation between them**⁵⁷.

The hearing aid professional’s job is at a crossroads between three types of action, which are sometimes indissoluble. The first is technical and maintenance work, understood in the sense that it is necessary to repair, and in the sense that all hearing aid professionals are an interface, in a sense, between the object and the person fitted with it. The second is care. While relatively “independent” people come to appointments, many “consultations” cannot be reduced to a technical tune-up. On the contrary, in many cases, we observed social and psychological work articulated around hearing aids, without being physically attached to them. The third type of action pertains to competition. As private professionals who are financially dependent on their sales, hearing aid professionals maintain a business that needs to be profitable.

Section 1 – Providing Maintenance

As shown in the first part of this study, hearing aids are elements of technical solidarity networks. In the scope of this report we are unable to present all the operations related to maintaining devices, so we have chosen to give a few emblematic examples of this activity.

⁵⁶ Cf.: Introduction to this report.

⁵⁷ This approach is based on the pragmatic sociology of action as developed in particular by Luc Boltanski and Laurent Thévenot in the 1980s and 1990s in France. Believing that it was becoming difficult for sociologists to define things on behalf of the people that they observed, these authors suggested considering the difficulty of “qualifying” things to be essential, given that categorization created resistance among the categorized people. Hence, in our work, rather than characterizing them, we felt it wise to look at hearing aid professionals through the lens of their action(s). Laurent Thévenot continued his analysis, writing a few years later that “the requirements of life and society do not adequately allow us to understand things in terms of individual or collective identities, or even multiple identities. They do not only convey representations of human beings and their identity, but also concern their ability to act, and their ways of experiencing the world in relation to their actions”. Thévenot L., *L’action au pluriel. Sociologie des régimes d’engagement*, Paris, La Découverte, 2006, p. 23.

Regular device maintenance

Out of the 41 appointments that we sat in on, with the exception of hearing-aid fitting appointments, the hearing aid professional systematically took time at the beginning to maintain the device. The almost ritual nature of the beginning of appointments is evident. After exchanging a few words with the person and asking about the reason for the appointment, hearing aid professionals ask the equipped person to hand over their device, and then announce that they “will be right back”. The hearing aids are temporarily removed from the ears of the hearing aid user and leave the enclosed office to be taken to what is generally called “the workshop”.



Figure 9 – Photo by P.A. Juven

At the three sites where we conducted our observations, the workshop is a space shared by the several hearing aid professionals. They clean the earmoulds with ultrasound machines (the earmould needs to be submerged for a few dozen seconds) and, more importantly, change the tubing connecting the device to the earmould (generally either a dome – cf.: illustration below – or a customized mould). Tweezers, a magnifying glass, a microscope, and a cutter are thus essential tools for the hearing aid professional’s routine work.



Figure 10, 11, 12, 13 – Photos by P.A. Juven

Hearing aid professional's work generally starts with this task. Fitted people are supposed to clean their own hearing aids frequently, and to do so, they have several tools, wipes, air canisters to unplug certain tubes, cases protecting them from humidity at night, and so on. Cleaning habits vary widely, and it is therefore normal for all hearing aid professionals to take time to clean their clients' hearing aids. Changing the tubing is an essential operation in terms both of comfort for the person (the tubing tends to become rigid over time) and of device effectiveness (so that less sound passes through), and it sometimes even happens that this is the solution to a problem that takes on unexpected proportions (cf.: following sub-

section on the “8”). This activity is very often accompanied by a change of the earmould (cf.: illustration). Hearing aid professionals are therefore partially *maintenance* actors. This term should not be understood in a derogatory sense; it explicitly refers to an activity that aims at maintaining hearing aids in a certain state and at ensuring the power of technical solidarity⁵⁸.

Two cases of small operations: interference and the “8”

Set within a solidarity network, hearing aids are themselves potentially connected to other types of devices. This is particularly the case of devices that are especially designed for “watching” television. They may be similar to any wireless headset, except that they are connected by radio waves to hearing aids. Among other things, this allows hearing aid wearers to adjust the sound volume of the television without it having an impact on the volume that will be heard in the room. The device may also be a terminal connecting the hearing aid to the television, with the sound therefore directly arriving in the hearing aid. During an appointment, a particularly interesting episode took place with man of about sixty years old who had specifically come for a problem related to this topic:

The problem is that it gets started, it turns off, all of a sudden I’m watching the TV, and it’s working, but if I move 10 cm, it screwed. So, I take off my left hearing aid, but it’s unbalanced.

Person at an appointment, Ethnographic Study, Day 1.

It took half an hour to understand the cause of the problem. Tests were carried out with the computer in the office, after which the hearing aid professional decided to do the test to scale. Accompanied by the fitted person, he went to the hall of his hearing centre where there was a television for testing headsets and other devices. The problem persisted. One ear stopped working. “Can you hear me on both sides?” The answer was still no.

⁵⁸ This is what David Pontille and Jérôme Denis describe in *Petite sociologie de la signalétique*. In this book, they study maintenance work on the Parisian subway system and not only the importance of this work for the viability of the network, but also its effects on transportation, situation logics, and therefore individuals themselves. They describe maintenance as “a series of very concrete operations that consist in ensuring, on a day-to-day basis, the stability and permanence of graphic objects by establishing the conditions of the recognition of their incessant transformations” (Cf. Denis J., Pontille D., *Petite sociologie de la signalétique*, Paris, Presses des Mines, 2011: 172).



Figure 14: Photo by P.A. Juven59

The hearing aid professional eventually concluded that there was interference with another Bluetooth device present in the hall, and therefore decided to turn off this device. The solution seemed to have been found. Even though *a posteriori* the nature of the problem as well as how to deal with it appear to be relatively insignificant, it is nevertheless necessary to truly understand the importance of the issue for the person. He watches television often, and it is highly likely that going without it would be a disturbance in his daily life. In general, television has an important place in the lives of people with age-related hearing loss. It is therefore highly likely that a “breakdown” will be experienced not only as a technical incident but also as a discomfort in everyday life. **It is at this precise moment that rather strange political questions arise: is access to television or any other activity generally considered to be a pastime, a luxury?** Or rather, is it a public health issue? Here we are faced with the questions mentioned in the prologue. Once again, it is not our role to answer them, but we would have a hard time challenging either of these positions.

Another very enlightening episode with respect to this relationship between fitted people’s experience and technical problems caught our attention during the observations. It was a problem that most hearing aid professionals would probably consider insignificant. However, before discovering the content of the problem, it was the defeated state of a 70-year-old woman that caught our attention when she was received at the hearing aid professional’s office. The written transcription is unfortunately unable to reconstruct the sad and trembling voice of this person, yet her voice was so telling of her distress, which may appear disproportionate in view of the ultimate problem.

59 The purpose of the blurring effect is to make the hearing aid professional and the device wearer unidentifiable.

PA: I don't know if I'm putting it on right, it always comes out of this ear, but maybe I'm putting it on wrong...

A: What's troubling you is that the left one isn't staying in, right?

PA: Yes, I put it in, and it hurts.

A: Wait a second, because the tubing is backwards.

PA: Ah, okay...

A: Yes, it got tied in a knot, as you can see, it shouldn't be like that. It should be straight. I'm going to change it for you.

The hearing aid professional goes to the workshop.

A: Here you go.

PA: But how did that happen?

A: One day, without trying to, you did what we call an 8, you grabbed the device and twisted the tubing.

PA: Is that free?

A: It's free, don't worry, when you have a problem, just come and see me. And in any event, you have to come every 5-6 months. So, that's everything.

PA: Thank you Sir... I'll put my coat on ... Oh, I mustn't forget my cane... Thank you.

Ethnographic Study, Day 6.



Figure 15 - Photo by P.A. Juven: The tubing "did an 8"

This episode of the “8” brings us to the aspect of the care provided to the fitted person, in addition to the care for the hearing aid. It allows us to observe the twofold task of hearing aid professionals in relation to the second section of this part. While the work in this case is admittedly a technical operation – changing the tubing – it comes hand-in-hand with a discussion with a patient who has been destabilized by pain and hearing loss. **Once again, the severity of the situation may appear to be relativized. However, it cannot be dissociated from the person’s particular socio-economic conditions.** In this case, it is clear that this is a person without significant financial means and who was worried about the price of this operation. It is also possible to hypothesize relative isolation, because if she had been able to talk to friends and family about the pain in her left ear, these people would most probably have observed the “8” and would have brought her to see the hearing aid professional. While it is admittedly impossible to confirm these hypotheses, it seems clear, considering their likelihood, that the solution to the problem was not only technical but also psychological and human.

Redoing audiograms and monitoring the person

The interviews clearly reflect with that which almost all of the appointments observed constitute, namely a routine “check-up” and an action to finetune the hearing aids⁶⁰. Once the interview is complete, hearing aid professionals generally do an audiogram to compare it with the one conducted a few months prior. This allows them to detect whether there is a deterioration in the person’s hearing. Audiograms, which are discussed in the first section of this report, are effectively an operation that is indeed technical, but which nonetheless implies more interpretation and attention than it seems.

Audiograms don’t measure everything, an audiogram is a measurement based on frequencies, but sometimes you can have people... Different degrees of hearing loss, from 0 to 20 you don’t have any loss, from 20 to 40 you have mild loss, from 40 to 80, severe loss. We have people come to us with medium loss, so they are already very annoyed. They say, “I’m coming because people want me to, but I don’t feel it”. When it comes to fitting people with devices, that’s really complicated, because so long as people don’t accept the loss, the device won’t work, because they will consider that they will be the same with or without it. However, their audiogram is telling me, “no, he can’t hear well”. Inversely, I have people of 20 or 30, and there I really think it’s not essential, but they insist: “I absolutely need a hearing

⁶⁰ Each hearing aid brand has its own software. Hearing aid professionals therefore need to be capable of mastering multiple computerized tools. In this software, they are able to configure the power of devices, but above all carry out adjustments to programs, according to the situations that the person describes.

aid”, so you fit them with one, and they tell you “it’s great, it’s changed my life”.

Interview with hearing aid professional 3.

The work of hearing aid professionals is therefore not limited to mechanically taking a measurement that itself indicates the actions to take. It also implies a need for dialogue, for listening, so that the results can be placed in a broader context. At this time, an important statistic becomes involved, that of the number of hours that the hearing aid is turned on. Quite surprisingly and unexpectedly, the software contained in hearing aids allows hearing aid professionals to know how many times a fitted person turns on his or her hearing aid per day. Once again, the statistics can be deceiving, because people can forget to turn off their hearing aids. However, this case (excessive usage) will not alarm the hearing aid professional⁶¹. The problematic cases are obviously those in which a person rarely turns on their hearing aid. Depending on the person and how well he or she knows the hearing aid professional, the latter’s reactions will vary. If the fitted person recently adopted the device, the idea is not to be pushy:

She says that she wears her hearing aids all the time, but with the login data, I can see that she wears them for an hour a day. So, I don’t want to get into a conflict quite yet to find out why she doesn’t wear them. But it’s really complicated, why does she even have one? She sees all sorts of healthcare professionals, and maybe that reassures her. You definitely don’t want to take a stab at them, and then on top of that, there’s the business side of things: if I do that, she’s going to go elsewhere, and I’m going to regret it.

Interview with hearing aid professional 3.

Once again, **the medical and psychological conception that the hearing aid professional will develop with respect to the fitted person is closely related to the context in which the person is living. In this case, it is a woman who is visibly concerned about her health and who suffers from anxiety** (“she sees all sorts of healthcare professionals”). One point should be noted regarding “datalogging”. The people interviewed were asked whether they would be bothered knowing that they were being monitored in this way. None of them answered yes. In the interviews carried out with the hearing aid professionals, only one told us that he had received a request from a person to deactivate datalogging in the hearing aids. This raises an issue that we will return to in Chapter 3, namely “the business side of things”.

⁶¹ With a subtle touch, as they tell people that leaving their hearing aids on consumes batteries or charge.

Section 2 – Caring

Like many healthcare devices, hearing aids must deal with the individuality of the person. Moreover, the healthcare problems that this person may have must not be disregarded, and at times may even determine the selection and use of the devices. In this respect, the work of hearing aid professionals is indissoluble from healthcare work, understood in the broad sense. While we refuse to categorize hearing aid professionals, it is important to note that on a daily basis they work with people who are often vulnerable and afflicted by healthcare problems, including hearing impairment and sometimes the pain caused by hearing aids. **Therefore, we believe that it is essential to consider this profession as participating in social and medical “care” work as defined by Carol Gilligan, that is, as a relationship to the other, marked by awareness of the vulnerability and dependency within which the person may be trapped**⁶².

Comforting and reassuring

Like any person in contact with individuals who may be in a situation of isolation, or the very elderly, hearing aid professionals play a social role in the everyday life of patients. They need to comfort people. Here, we use the term “comfort” in two senses: to bring comfort to the person in the normal sense, but also making his or her new hearing aid comfortable. Once again, **the work of hearing aid professionals often consists of a multitude of tiny tasks, which can sometimes appear inconsequential, but when seen from the viewpoint of hearing aid wearers, prove to be essential**. Consider the following case of an interaction between a hearing aid professional and a patient experiencing pain. This appointment lasted twenty-five minutes. The woman, who we will call Colette G., had been wearing a hearing aid for approximately one month. Observing a decrease in her hearing, she went directly to the hearing aid professional. For a few days, and following an appointment with her ENT, she said that she had pain in her left ear. According to her, the ENT insisted in showing her that she had a cerumen block, and that she had supposedly scratched the inside of her ear to the point of it starting to hurt. After that, putting on as well as taking off her hearing aid became painful, which she expresses in the “scene” reconstructed over the following three pages⁶³.

⁶² C. Gilligan, *In a different voice. Psychological theory and women’s development*. Cambridge, MA, US: Harvard University Press.

⁶³ In this insert, we are choosing to reconstruct an appointment almost in its entirety. It is not essential to read it to understand the report, and readers in a hurry can skip this insert. The reconstruction of “scenes” has two advantages. First, it allows one to understand the hearing aid profession in its “rawest” form, because it is a literal transcription. People interested in learning about the profession will find valuable material in the insert. The second advantage is related to the importance of the format of the discussion and the appointment: in it, we perceive the multiform and multitasking nature of the hearing

Scene

A (introducing the researcher to his patient): He studies the relationships between hearing aid professionals and their patients.

C: Oh, they're very important!

A: Yes, just as important as finetuning. People need to be on board with us and we need to monitor you continuously, and that can't be replaced by a computer.

C: The human contact is irreplaceable. We don't even have that much otherwise.

A: The only thing left is us and the doctor, the general practitioner, that's the only human contact you can have, because with your baker it's quick, and soon, they are going to take away the cashiers at the supermarkets. The majority of people do their shopping online without talking to anybody except the computer. So, what's troubling you? That device is perfect, and that one too, it's not because of that. So, where and how does it hurt?

C: It hurts since I went to the ENT. She absolutely wanted to prove to me that I had ear wax, she scratched as much as she could.

A: I'm going to take a look to see if there's a bit of an infection.

C: Because I wash my ears, I don't use a Q-Tip, I've always washed my ears with soap.

A: Soap is good, you have to avoid detergents, but soap is good.

C: So, they say "check the batteries", but I'm not capable of checking anything physical. I specifically thought that I didn't have to do that.

A: Normally no, because you have rechargeable batteries. For you, we'll change the batteries once a year and that's all.

C: Well that's what you told me.

A: Where did you hear that you need to change the batteries? Oh, in the instructions! But the problem with the instructions is that they aren't personalized, you have a particularity which is that you have rechargeable hearing aids, so that section doesn't apply to you.

A answers the telephone.

Researcher: Madam, I'd like to take the opportunity while he's on the phone, do you have time over the following days to talk to me about what wearing a hearing aid means to you?

aid professional, and the importance of these moments for hearing aid wearers. In this scene, the participants are Colette C., a hearing aid wearer, the hearing aid professional (A), and the researcher (R).

C: Yes... But I'll tell you right away that I don't like wearing a hearing aid. When you reach a certain age, you need to be fitted with devices everywhere. It's part of being very old.

A: That's one of the reasons why hearing aid professionals are there to accompany people, we're not robots. We're here to make it possible for people to wear hearing aids.

C: Do you think that you'll be able to?

A: Of course! Because I fitted you with a hearing aid. May I remind you that you weren't exactly keen to wear hearing aids, do you remember?

C: Yes, and now I hear better...

A: You feel like you hear better without a hearing aid than before, is that it?

C: Yes.

A: It's logical, the cognitive function has developed.

C: Yes, it helps.

A: A hearing aid really does help, it compensates for a part of the deficit. But without that help, you have this Catch-22 where after the cochlea, the retrocochlear system will go to sleep bit by bit, and will become paralyzed, so wearing a hearing aid wakes up the system.

C: But am I talking loudly? Because I'm still hoarse.

A: No, you're not speaking loudly, but since you've been wearing the device, you feel like you're talking a lot louder.

C: Yes, I tell myself, "you're making a hell of a racket!"

A: That's normal, when you don't wear hearing aids and you lose your hearing, bit by bit, you hear your own voice less and less loudly, but you get used to it. When you start wearing a hearing aid, all of a sudden you sound like you're yelling. But for us, nothing changes.

C: Yes... But I was okay with my silence.

A: That's why starting to wear a hearing aid earlier is simpler for us, and simpler for you because you have months of difference and it's more effective. Because when you get used to your deafness...

C: But I don't have so many things as interesting as that to listen to...

A: Performers are happy to listen to themselves speak! But there's something nice about hearing oneself. But that will become normal very quickly, this effect of feeling like you're speaking loudly, it's just an impression. Have you already reached the forgetting stage? Do you feel like you're forgetting about your hearing aid?

C: Yes! Once I forgot to take off my hearing aids when I went to bed.

A: That's good. The need phase comes next, that's when you tell me, "without my hearing aids, I'm unhappy, I feel like I can't perceive things, I feel like my ears are plugged".

C: Not yet.

A: It will come. So, it's your left ear. Has it been hurting since the beginning?

C: Not at all! It's been that way for a bit more than two days, but I have to say that the ENT, Mrs what's-her-name, wanted to persuade me, to convince me that my ears were plugged!

A: I'm going to take a look to see if you don't have a bit of an infection. All right (he checks her ear). There's no infection, good news. (He presses softly with a stick and a wipe at the end). Does it hurt when I press here?

C: Yes.

A: This time, it isn't the ENT's fault (laughs). Your ear is fine, it's healthy, that's for sure. Which is quite reassuring. But I saw what it was, I get it, I'm going to do what's necessary. So, actually, it's the little ball here (he points to part of the hearing aid), I'm going to soften it up a bit. And there's a little bit of ulceration. It's pinching the skin, and when you pinch the skin, the vessels under the skin don't get blood anymore, and that causes a rash, nothing serious, but it makes it painful in the area, and it will go away when the blood can come back. It will take a few days, so if it hurts a bit, you can stop wearing the hearing aid for a few days.

C: But can I wear the other one?

A: Yes, of course. But don't put anything in there.

C: Creams?

A: No, it will heal. (He steps out of the room and repairs the hearing aid). Here you go, either it will still hurt and you can take it off for a couple days, or you can keep it on. It's just a minor irritation.

C: Perfect!

Appointments are spaces where multiple elements arise. For certain people, they are an opportunity to complain or state their feelings about their hearing aid ("I don't like wearing a hearing aid"). They are an opportunity for the hearing aid professional to explain the effects of the hearing aid ("the cognitive function has developed"). They are also an opportunity to solve problems, even the most minor ones (changing the batteries or not, is it good to wash your ears with soap, "am I talking loudly?", etc.). Therefore, half of the appointment does not concern the main reason for which the person is there (pain in her left ear). Colette's case clearly shows this dual aspect of *comforting* work. While providing a moment for discussion and dialogue with a woman who has been wearing a hearing aid for one month, the hearing aid professionals works to make the hearing aid as painless as possible.

Cancer, Alzheimer's, etc.: many of the people that come to appointments suffer from a heavy disease burden. While it is clear that hearing aid professionals cannot exceed their skills and prerogatives, they must nonetheless come to terms with these situations. This implies agreeing to spend more time with people, and even sometimes understanding that the appointment will not be a technical tune-up but rather in an interview around the hearing aid and above all a dialogue. **Many of the appointments observed thus ended in simply changing tubing and an ultrasound bath, materially speaking. However, they lasted over half an hour. The majority of the time was spent discussing situations in everyday life.** People are very often faced with situations in which "something isn't quite right", **the noise doesn't go with the place, and so it is more than dissonant, it becomes worrying. Given that the hearing aid professional cannot act on the hearing aid, his role is therefore to focus on this lack of peace of mind and to analyse and improve the situation for the person.** Rain falling on a patio can disturb a hearing aid wearer. Often, a minor technical problem, such as a clogged filter, can cause serious upset. We attended an appointment of this nature with a person with Alzheimer's disease. The patient arrived at the centre without an appointment and asked to speak to his hearing aid professional "and someone else". The reception secretary asked him to wait, but told him that they would find "a little timeslot" in the coming minutes. The problem proved to be minimal, as his left hearing aid was no longer working due to a "blocked filter". However, this problem took on terrifying proportions for the person, who said, "*I'm scared stiff because I couldn't hear anything anymore, and when my wife calls me, I don't know it*". In this case, the hearing aid professional not only cleaned the filter, but also asked the person questions to precisely figure out the situations in which his wife was calling him, and talked to him about existing devices that allow one to see when the telephone is ringing.

Another case involves a woman who was overcome with panic on the platform of a railway station. Once again, the hearing aid professional's answer was not technical:

When I was taking the train to go to Sables d'Olonnes, there was an announcement on the platform, and I was looking for my track to find my car, and I didn't hear the announcement, because there was a hubbub, coaches that were going by to be cleaned, and I missed my train, because they put the wrong number on the screen. I went to the far end and I couldn't find my coach, and I couldn't understand anything. I had been early, and I missed my train by two minutes, and I wondered, I didn't think that the sound needed to be turned up, but was this a lack of attention or was there a mixture of external noise and the announcement that I couldn't make out? It made me feel strange, I almost felt like I was returning to how I was originally...

Person at an appointment, Ethnographic Study, Day 2.

The hearing aid professional told her that she would check her hearing aids. Tests were carried out, and she told her that it was difficult to change a hearing aid based on a single situation, specifying that "*if your hearing aids were louder, that wouldn't necessarily have helped*". In the end, no reconfiguration was done. The hearing aid professional simply

explained that this type of situation was possible, but could also happen to people with good hearing. The idea is thus not necessarily to correct a problem that cannot be corrected, but rather to make it acceptable and therefore to eliminate a feeling of anxiety.

Thinking about the ear without a hearing aid

The network of technical solidarity that hearing aids create is thus composed of: software of different brands; hearing aid professionals; the hearing aids themselves; friends, family, and the fitted person's entourage; and, more broadly, the environment. It is also composed of – and even though this seems obvious, it has rarely been considered up until now – people's ears and bodies. General practitioners or ENTs are relevant intermediaries for treating problems related to the human body. However, because these are problems that would not have particular negative effects if the person did not wear hearing aids, they turn to hearing aid professionals. Several of the people interviewed stated that they had removed their hearing aids due to irritation caused by rashes often associated with eczema. Hearing aid professionals also care for ears by offering advice that is often rudimentary but nonetheless specifically concerns ear hygiene. Technical tune-ups and care work once again become indissoluble, because it is sometimes enough to smooth out the person's imprint to prevent irritation within the outer ear, which we were clearly able to observe when the hearing aid professional told the person *"it's the little ball here, I'm going to soften it up a bit. And there's a little bit of ulceration"*. A simple act by the hearing aid professional can sometimes be enough to remedy the problem, but this is not always the case:

PA: My ear is full of eczema...

A: So, you're not taking anti-inflammatories anymore?

PA: No.

A: You can use a bit of sweet almond oil.

PA: Yes!

A: Some people are talking about essential oils with a dermatological usage, the problem is that we don't really know much about what's in them, sometimes it works really well, I've had patients using oils with lavender, rosemary, and other things...

PA: How do I apply it?

A: With a Q-Tip. But you need to find a herbalist who knows about these things.

PA: Yes, some people have been cured that way.

Ethnographic Study, Day 3.

In situations in which the hearing aid professional is not capable of technically acting on the device, a discussion around the most common treatment methods emerges. These discussions afforded the researcher the opportunity to observe hearing aid professionals talk with people about issues such as the use of essential oils, or even dependency on cortisone (for eczema, a cortisone-based cream is often prescribed).

Convincing and training

One of the missions guiding the actions of hearing aid professionals is the desire to convince people that they have to wear their hearing aids. This has to be done tactfully, as seen above. Hearing aid professionals think of observance as pertaining to a “problem”. They seek to convince people – with varying degrees of subtlety – to wear their hearing aids more diligently. The survey shows that while the majority of people follow this recommendation, actual usage can sometimes defy this intention. Once again, following the logic of the actors, this implies not interpreting the removal of a hearing aid as a problematic act, but rather understanding it in the broader social context in which the person lives and has to wear the device. Hearing aids are not very valuable if they are used at whim; or at least according to hearing aid professionals. There is a co-construction between the effectiveness of hearing-aid fitting and the role of the profession. The legitimacy of the profession is justified by the need for observance. The idea is not to deny the utility of observance in health terms, but to observe the close relationship between observance and the work of the hearing aid professionals, who spend a large majority of their time trying to convince people – in terms that vary in their degree of subtlety – to wear their device more often.

That’s why we tell people that it’s not like a pair of glasses, which you can wear only when you need to; it’s different with hearing, there is an adaptation, a habituation that is important. Some people only wear their hearing aids when they have an important conversation, and it’s true that these people are rarely satisfied with their device, because they receive a ton of sound data that they are no longer used to hearing, and which disturbs them more than anything, and they say “I hear noise”, and we tell them “you have to wear your hearing aids regularly to learn to decipher that noise”.

Hearing aid professional 1 to a person at an appointment, Ethnographic Study, Day 3.

This work to convince people is a part of a broader approach consisting in making people accept and wear their hearing aid. Hearing aid professionals are therefore not willing to fit hearing aids in situations they consider unsuitable, such as a person who decided to wear

the hearing aids of her brother, who no longer uses them: “We know that it’s not a good idea, but she doesn’t accept that and so we don’t insist” (Ethnographic Study, Day 4).

Caring also means making the person “capable”. While for many hearing aid wearers, putting on and taking off their device is effortless, we found that for a substantial portion of “patients”, this is not the case. Removing one’s hearing aid in itself is not the major problem; the problem is putting it on. This difficulty is often explained by physical deficiencies, but can also simply be related to a lack of experience. In that case, the hearing aid professional’s role consists in training the person. Talking about education here would be particularly infantilizing. On the contrary, our ethnographic observation showed us that **the interaction between the hearing aid professional and the person was more like training**, akin to a technical movement that an athlete tirelessly repeats in order to internalize it. In the majority of situations that we observed, learning this “gesture” was crucial.

I hear really well, but I have to guess more and more, I have to play around a bit before I’m able to put it on.

There, it’s good. The idea of putting it on...

I have trouble understanding it. I don’t just have a bad ear; I have bad eyes as well!

To put it on, you have to put it slightly backwards, slip it in and then straighten it, and there, you turn it.

Oh, but it’s simple!

Yes, you can see the little white dot is there.

Like that?

Yes, perfect, and then you straighten it. It’s like a plane propeller.

Okay!

Ethnographic Study, Day 6.

Section 3 – “Running a shop”

In its memorandum of 14 December 2016, the Competition Authority uses different semantic registers. They are a good indicator of a source of tension: that between the practice of sales and that of care. The fact that the *competition* authority is taking up this subject is an indicator in itself. The recommendations that it makes and the goal that it pursues, which is to enable a decrease in prices, are also indicators. However, while addressing a subject that it defines as business-related, it uses the term “patients” and “healthcare professionals”. This

ambivalence raises questions. While hearing aid professionals work to maintain hearing aids and to care for people, they are also financially dependent on the devices that they sell.

Rather than seeking to argue in favour of the essential nature of the profession and to randomly and normatively categorize it, we choose to leave it up to the people interviewed to shine light on the qualities (in the sense of *that which qualifies*) of the profession. This antagonism sets the figure of the salesperson against that of the caregiver. Depending on who is speaking, hearing aid professionals can be associated with one or the other. It would be illusory to think it possible to resolve the debate over this categorization with a single sociological survey. In fact, resolving it is impossible because this categorization is determined by situated interests and participates in the construction of a reality as much as it aims at describing it⁶⁴.

An office or a shop?

“Battery”: it was with this word that we started our ethnographic studies. The office where we were carrying out the study had barely opened (9:00 a.m.) when a person arrived at the reception to ask for batteries. While we thought that this request was inconsequential and almost irrelevant for our study, our subsequent observations led us to relativize the place of these *a priori* unimportant objects. This is because batteries are a topic that incessantly comes up, and not only with regard to replacement issues. For patients, choosing a hearing aid is partially guided by this concern. In particular, a person who comes to the hearing centre for batteries tends to represent the space as a shop (with the only difference being that these batteries are reimbursed by Social Security). This episode invites us to analyse the hybrid nature of hearing centres as constituting an essential component of their function. This hybridization is observed in the structure of the space itself. The configuration varies depending on the centre, with some centres clearly giving the initial impression that you are in a store that sells different types of products, obviously hearing aids, but also headsets, batteries, alarm clocks, cases to protect hearing aids, and so on. Brochures praising different products are placed on the tables in the waiting room.

64 Desrosières A., Thévenot L., *Les catégories socioprofessionnelles*, La Découverte, Paris, 2002.



Figure 16, 17 - Photo by P.A. Juven

By contrast, once you have passed this reception and waiting space, the “offices” are much similar to a doctor’s consulting rooms: the space and technical equipment is indicative of a place of clinical and technical work as opposed to business work.



Figure 18 – Photo by P.A. Juven

However, upon close examination, even the “medicalized” spaces are marked by physical elements indicating the close relationship between the hearing aid professionals’ work and a manufactured product. The walls very often display diagrams presenting the anatomy of the ear. These “posters” are generally communication tools for the main brands, such as Starkey®.

Formal qualification certificates are also often displayed, such as the “Intra Master Training Diploma”, also issued by Starkey®.

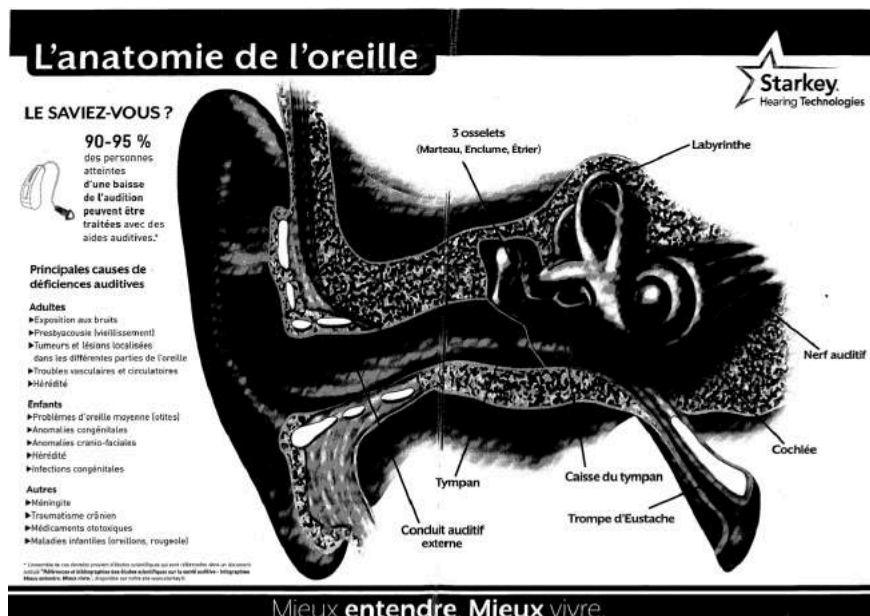


Figure 19 – Photo by P.A. Juven

This dive into the heart of the premises and the space of the hearing aid profession is not however enough to lead to the conclusion that a business logic is pervasive here. After all, medical offices are also filled with objects from health product manufacturers, from notepads to stethoscopes. However, this is a good indicator of the hybrid nature of the place, as a space for consultation, diagnosis, and discussion as well as sales. To understand this feature, we will now consider different actions in which the economic value of hearing aids is apparent.

“It’s his job”

To more fully understand the financial nature of hearing centres, we held ethnographic interviews with the hearing aid professionals in whose offices we carried out our ethnographic observations. On several occasions we also chose to leave the space of the “office” to spend time in the reception area. This is because hearing aids are also marked by intense bureaucratic activity, for which receptionist-secretaries are usually responsible. It is also interesting to focus on their work, given that economic issues become apparent in their daily tasks. The work of secretaries consists not only in setting appointments and organizing the schedule, but also in collecting payments, advising people regarding reimbursement procedures, and so on. At certain centres, they⁶⁵ also play a record-keeping role with a commercial aim, and must thus make a note if people talk about changing hearing aids in order to follow up with them:

When patients come to us and are thinking about changing hearing aids, in this case we’re a company, we adapt, but we can’t lose sight of the fact that we are a business, even if the primary goal isn’t selling at any cost. If we didn’t get money, we’d shut down. So, we follow up with our patients. If someone is thinking about changing hearing aids, I note that in the computer, and then I do a little reminder, for everybody. And they come back!

Centre Secretary, Ethnographic Study, Day 5.

The terms used are extremely clear: hearing centres are also “businesses” which can “shut down” if they are not productive enough. While these words are clearly verbal indicators, this facet of centres is materialized in the recording of a potential sale in the software, and subsequently an action to try to incentivize people to buy. Another element that is indicative of this business aspect is payment for performance. Once again, this is not specific to the hearing aid sector, but as opposed to other types of healthcare structures (in which the organization is compensated in accordance with the “services provided”⁶⁶), **in this case, the**

⁶⁵ As is the case in many other professions, the secretaries that we encountered in the places of our observations were women.

⁶⁶ Juven P.A., *Ibid.*, 2016.

hearing aid professionals themselves are financially compensated based on their sales figures. A portion of their salary is thus a reflection of their business performance, which is why some of them comment that their colleagues (sometimes within a single office) “start with the most expensive product” (hearing aid professional 4).

Hearing aid wearers themselves have understood this business aspect, and many of them consequently shop comparatively. A. Dedieu-Gilles has demonstrated this⁶⁷, primarily by highlighting the combined importance for people of the price, the hearing aid professional, and the quality of the product. This is evident in some of the terms used by people:

Initially he didn't want to fit me with the hearing aid, but in the end he did, because there was money to make, it's his job, but he told me and repeated, to my daughter and to me, that it was a bit late, that I was coming a bit late, "you shouldn't wait till the last minute to get a hearing aid", he told me. "If you had come three or four years ago, I would have had more possibilities", so he offered me that device there, saying that it was the most suitable for my situation.

Interview with Maurice V., 94 years of age.

The use of words here is particularly striking. The ambiguity suggested by the position of the phrase “it's his job” is very enlightening. Is fitting hearing aids or selling them to make money the core of the profession? Other people use even more direct terms:

I'd never seen him before, but now I know him well. He's not one of my friends. He knows me well now, but it's a client-supplier relationship, not unpleasant at all.

Interview with Gérard V., 63 years of age.

Moreover, given that the relationship between hearing aid wearers and hearing aid professionals is partially a business relationship, some people negotiate:

PA: So, in total? Because hearing aids are expensive!

⁶⁷ The work of A. Dedieu-Gilles is an internship report for the faculty of medicine. While it is therefore not a sociological study and even though its field of study is limited to a questionnaire of 35 people, it nonetheless has a certain utility for the sociological study of hearing aids. Dedieu-Gilles A., *Évolution des opinions et des comportements en audioprothèse*, Mémoire de l'Université de Lorraine, 2012.

A: Oh, that... Well, hearing aids are expensive in the beginning, but I gave you a little discount so that we would both end up with the same amount, so that will be 3500, the same as last time.

PA: You can't take it a little lower?

A: So, out of the 3500, you will have... oh no, I already rounded down quite a bit (laughs)! Out of the 3500, 340 euros will be paid by social security, and in theory 700 will be paid by your mutual insurance fund. In the end, that should cost you around 2560 euros when you've deducted everything.

PA (looking at me): You can add that to your study! That's the major difficulty. Does that include the batteries as well?

A: You know that you have the right to 70 euros in batteries per year. Did you do that? What I'm going to do, your last battery reimbursement was in January 2016, so we should do that now. I'm going to sell you 72 euros in batteries, and you're going to get reimbursed for 72 euros, because it's once a year and you should do it.

Ethnographic Study, Day 3.

Establishing a contrast between “hearing aid professionals” and “low-cost” suppliers

While the hearing aid professionals with whom we met and a part of the sector insist on the importance of care work and psychological support, it is also necessary to understand how these arguments are used. Independent hearing aid professionals argue for this point. Large brands such as Vivason® are presented as being obsessed with business and profits, neglecting monitoring and individual support. Once again, it is not our place to take sides in this dispute, especially since the time devoted to the study did not allow us to conduct a comparison with other types of structures⁶⁸. However, it is worthwhile to highlight the fact that hearing aid professionals sometimes use this argument in conversation with the people consulting them. The argument is therefore set in a competition context, placing value on their conception of their profession and their way of practising it, as well as their prices:

A: It's that the cost is high, the cost of everything together is high, and we can't reduce it, because if we reduce it, we're going to run into problems on the adaptation, on the material, on the efficiency side of things.

⁶⁸ Ideally, it would have been necessary to be able to identically reproduce the ethnographic observations conducted in Paris and Grenoble at the premises of brands such as Afflelou® in order to compare practices and work methods. Without this comparison, presenting the quality of the work of these brands is not an option for us.

PA: But what about the new entrants, are they not doing that? Afflelou?

A: No, really, it's not... It's a business approach, they necessarily run into roadblocks on... they don't run into roadblocks around the product itself, but around the service. The majority of the time, there isn't a hearing aid professional, it's illegal, but the majority of the time they aren't certified, and most importantly, they're starting to make more and more products that they call their products. They're telling manufacturers to make them products that are less expensive, that will be called Incognito®, for example. They have a totally business-based perspective of the problem, in other words, they say here's the price, they tell themselves that people can pay so much, so I'm going to adapt to achieve a good margin. That's all they're interested in, it's a business approach to a problem that's much more medical, much more human than simply the price. And that's too bad, but today, new entrants have a totally business-based approach, you'll never see them running an ad that says "for us, the most important thing is monitoring, adjustment, etc." They'll tell you, "we're 40% cheaper".

Hearing aid professional to a person at an appointment, Ethnographic Study, Day 1.

What about patients? Their position with respect to new entrants is ambivalent. While some people believe that it may be useful to "look elsewhere", others, on the contrary, overtly question such a price difference.

I didn't have ideas about what a good hearing aid professional was, I didn't ask myself that question too much. It's just that now I see products that are a much better deal, in the end... Some are even incredibly good deals, whereas I paid a very high price, and it continues to be very high, if I want to change...

Interview with Brigitte B., 78 years of age.

No, because I imagine that it's not great, that it's useless. Or at least I hope so! I don't think... I hope that there are reasons for this price, and so if my hearing aid professional has that price, it's because they are more sophisticated devices.

Interview with Ségolène F., 66 years of age.

Conclusion to Part 2:

Providing Maintenance, Caring, Selling: certain actors clearly derive benefits from putting emphasis on one of these dimensions while disregarding the others. While the hearing aid professionals at whose offices we conducted our observations may seek to overvalue care work, new entrants onto the market and healthcare networks enthusiastically emphasize the business aspect. Specifically, it is our opinion that while new hearing aid manufacturers are denounced as commodifying hearing aids, this cannot be entirely in opposition to an incumbent profession that is supposedly purely disinterested. However, our study offers a closer analysis that looks further than this simple state of affairs. It clearly shows that so-called independent hearing aid professionals spend time listening to people, fixing problems that may appear inconsequential but which imply sometimes significant destabilization for people. Care and attention work is empirically observable among the hearing aid professionals that we have observed, and is expected by some of the hearing aid wearers with whom we met. Therefore, the hearing aid professionals' role is not solely to sell hearing aids but rather to fit people, monitor them, and provide care for them.

General conclusion

The technical object constituted by a “hearing aid” is much more than a technical solution to a problem quantifying a deficiency. Understood in its broadest sense, hearing aids relate a person “capable” of being fitted with a device to a multitude of actors and issues that determine the possibility of improving this person’s hearing, and which can moreover be causes for the person to stop using or not adopt a hearing aid. A good mutual insurance fund, insistent friends and family, an active social life, registration in art history classes, knowing hearing aid users, and so on are all elements leading people to be fitted with hearing aids. While for some people, going to the ENT and then the hearing aid professional is self-evident, for others many barriers rapidly arise, as demonstrated in the first part of this report.

The second result of our study concerns hearing aid professionals like those whom we observed, namely at so-called independent hearing centres (even if these centres are sometimes affiliated with a brand, but not with a large chain) located in urban areas and consisting of two to three hearing aid professionals and around six employees. Whereas current political issues are driving actors to reify the positions of these hearing aid professionals, either as disinterested caregivers or as evil salespeople with outrageous prices, it was clear to us that the sociological analysis and acceptance of the hybrid nature of the profession can serve to accurately present the daily activities of hearing aid professionals. What first struck us was the importance of maintenance work, the to-and-fro between the appointment office and the workshop, the importance of tweezers, microscopes, ultrasound baths, and so on. The hearing aid profession is therefore partially and primarily a maintenance activity. In the second part, we explained that this qualifier is by no means derogatory; instead it literally refers to the fact of maintaining a technical device in working order. Moreover, we also insisted on the importance of technical configuration work through the software contained in hearing aids.

The business nature of the profession is not overlooked and is clearly observable; it constitutes a tension specific to the hearing aid profession. This tension is not insurmountable for the hearing aid professionals who we observed, and who juggle between the heterogeneous requirements of their job. By doing so, to use the terminology adopted by Florent Champy, it is possible to speak of hearing aid professionals’ work as a “profession with prudential practice”⁶⁹. This type of profession is marked by the existence of activities with values and goals that are heterogeneous or even antagonistic. These actors must therefore reconcile variable demands in order to reconcile the different necessities of the profession. This is not exclusive to the job of the hearing aid professional, as doctors with partially out-of-pocket rates or pharmacists operate according to these principles. Therefore, what this report shows is that selling constitutes one of these necessities, but are also very closely related to this “care” logic. It is possible to consider new entrants as strengthening the business focus, to

⁶⁹ Which implies "putting the content of professional work at the heart of theory, and in particular the particularities of the cognitive and practical operations that enable this". Cf.: Champy F., *Nouvelle théorie sociologique des professions*, PUF, Paris, 2011.

the detriment of the care focus and the attention paid to people – whom we saw could be in a fragile state. These people, as the sociology of health has demonstrated over the past several decades, are not in control of the problem that afflicts them.

We are therefore allowing ourselves a somewhat more prospective conclusion. Given the findings of our observations and interviews, it appears risky to entrust the regulation of the hearing aid sector exclusively to market mechanisms and the often unrealistic rules of competition. Without seeking to defend current price levels or “insider” hearing aid professionals, we conclude with a major risk to the public authorities: namely, that of thinking that new entrants could enable a decrease in prices and therefore the cost of hearing aids to health insurance. This is because over the long term, the public health concern is primarily to provide devices to people who will keep their device and for whom it will be of use. Without taking into account the environment of hearing aid users and the political and social nature (and not only the technical and business nature) of hearing, any regulation attempt is doomed to be reconsidered in ten or fifteen years, when we come to realize that savings will have been made over the short term, in exchange for highly unsatisfactory health effects (and therefore economic effects). We think that it is important to protect this “care” aspect among hearing aid professionals, and therefore the prudential dimension of their activity. Because of that, public regulation via social security and therefore public financing appears to be less risky than competition and market-based regulation by private insurers, considering that the market will give preference to a cost reduction and therefore industrialization logic, which is detrimental to the prudential aspect.

Annexes

Annex 1 – Anonymous list of the people interviewed

1	Maurice V.	94 years of age	06/12/2017
2	Noëlle Y.	91 years of age	08/12/2017
3	Séverine R.	58 years of age	14/12/2017
4	Ségolène F.	66 years of age	14/12/2017
5	Jacques M.	81 years of age	16/01/2018
6	Frédérique D.	58 years of age	18/01/2018
7	Brigitte B.	78 years of age	24/01/2018
8	Jeanne V.	92 years of age	26/01/2018
9	Yann T.	22 years of age	27/01/2018
10	Michel T.	82 years of age	27/01/2018
11	François L.	30 years of age	29/01/2018
12	Christine O.	89 years of age	29/01/2018
13	Jean-Paul R.	75 years of age	30/01/2018
14	Gérard V.	63 years of age	30/01/2018
15	Audrey V.	29 years of age	31/01/2018

These interviews were conducted in addition to four interviews with hearing aid professionals (three of whom work at the centres observed as a part of the ethnographic study).

Annex 2 – Overview of the nine people interviewed (non-exhaustive)

Maurice V. is 94 years old and has had two hearing aids for the past four years. He has been living at a retirement home for six years. It was his daughter who encouraged him to get a hearing aid, whereas he refused in the beginning. He feels like he does not pay attention to his hearing aids anymore, even though he thinks that they are “imperfect”. He notes that the sound is a reconstruction. He was fitted with hearing aids at an “independent” centre. He wears his hearing aids all day, in particular because he cannot put them back on, due to a disease. His daughter is an orthodontist, and he is a former mathematics teacher.

Noëlle Y. is 91 years old, and has had two hearing aids for the past five years. She has been living at a retirement home for one year. Handicapped by vestibular neuritis, she regularly sees an ENT. In 2012, she indicated hearing loss, and was fitted with a device immediately afterwards. She raises an interesting point concerning her own voice, which hearing-aid fitting forces her to “abandon”. She worked as a radiotherapy assistant at a cancer centre. She takes her hearing aids off at certain times during the day, and to watch television she uses a special headset. She was fitted at an independent centre, but would like to be fitted at Amplifon® when her device is changed, for geographic reasons, as the store is beside the retirement home. She does not have any financial problems purchasing hearing aids. She chose a high-end model, but does not see a significant difference.

Séverine R. is 58 years old. She is active and has been working as an operations agent for the subway network of a large French city since 1995. Following an operation in 2017, when she went back to work she very clearly identified hearing loss. This deficiency took on a very specific form. While she understood people quite well, she could no longer understand what was being said on the company’s communications device, in particular between drivers and the central station. An important aspect was the desire for the hearing aid to be discreet, not for aesthetic reasons but to be able to try to go back to work without being allocated to a position different than the one she held before. She cannot tolerate hearing aids that go inside the ear (“intra” models), and wanted a conduction device.

Ségolène V. has been wearing a hearing aid for the past 10 years. She was not afraid of the process, because she knew people with a child with a hearing aid. She was fitted at Audika® due to the reputation of the hearing aid professional there, and not due to the popularity of the chain. She readily agrees to give up participating in conversations, even when she is wearing her hearing aids. This former management secretary lives in south-western France. She is 66 years old and reports that she is very happy with her hearing aids. The important point that emerges from the interview is that for her, “you get a hearing aid for other people”, out of courtesy, “to not ruin the life of the people surrounding you”.

Jacques M. is 81 years old, and has a cochlear implant in his left ear and a hearing aid in his right ear. He is the president of a non-profit organization, organizes lectures, and sometimes participates. He lives between south-eastern France and Paris. He likes music, the cinema (he watches films in the original subtitled version), and the theatre. He always goes to see ballets and operas, but is experiencing more difficulties hearing at the theatre and the cinema. He

gets chronic ear infections, and insists on the importance of remaining socially active. The interesting point that emerges from his interview is the importance of social relations. He is a former business manager, and his wife is a retired senior government official.

Frédérique D. is 58 years old. She was a physics professor, and lives in the Parisian region. She has been testing out hearing aids for the past two weeks. She is very enthusiastic. She has had auditory pain since childhood, and became interested in the subject by attending meetings of associations such as France Acouphène. She dreads the isolation and depression that hearing loss could cause. She notes that the feeling of being cut off from the world is sometimes also pleasant, and that is why she occasionally removes her hearing aids. All the while believing that the hearing aids transform her everyday life, she notes that they are “luxury products”.

Brigitte B. is 78 years old and lives in Paris’ 2nd arrondissement. A former sociologist, she has been wearing a hearing aid for the past eight years. She has not yet had to change the device, and wears it as when and if she feels like it. She goes to Audika®. At home she takes her hearing aids off, and only puts them on when she has to have a conversation of some sort. As a very active person who retired ten years ago, she often goes to the theatre, the opera, the cinema, and lectures, and attends art history classes. She thus has a large cultural capital. She was fitted with hearing aids but finds the lack of dialogue with her hearing aid professional unfortunate: “They don’t give us a choice in anything”. She insists on the difficulty of understanding product range issues, and on the relative nature of the price, considering that it touches on an important aspect of social life.

Jeanne V. is 92 years old, has been wearing hearing aids for three years, and lives in western France. A former high school teacher, her daughters pushed her to wear hearing aids. All the while acknowledging their imperfections, she highlights the importance of her hearing aids. She gets a preferential rate due to a visual handicap: “they gave me a special price”. She believes that hearing aids only fix a small portion of hearing problems, but that they are nonetheless essential.

Jean-Paul is 76 years of age and a retired teacher. He has been wearing a hearing aid since 1992, and got a second one in 2007. “When I was in group situations, I couldn’t do it”. He had no fear around adopting a hearing aid. He thinks however that the price is much too high, but that this reflects a necessity. He notes that his hearing aid professional did not sell him the most expensive device, considering that he did not necessarily need one. The possibility of paying in three instalments was important for him, as well as the good level of reimbursement by his mutual health insurance fund (MGEN). He highlights the importance of his hearing aids in the social context, in particular at the cinema, even though he states that he takes off his hearing aids during certain films because the sound is too loud.

Annex 3 – Interview template

This template was established following two exploratory interviews not mentioned in the previous list. The exploratory interviews were less formal and specific than the interviews carried out during the study. They allowed the researchers to freely and openly discuss subjects of interest to people. These first discussions thus provided the foundations for structured reflection resulting in the creation of the study.

Preliminary questions about the person:

How old are you?

What is or was your occupation?

Where do you live?

The process and the choice to adopt a hearing aid

How long ago did you get your hearing aid? Do you have one or two hearing aids?

How did you identify the need to get a hearing aid? Was it you who felt this need, or your friends and family/colleagues?

How long did it take before you started the hearing-aid fitting process? How did you go about it (ENT, hearing aid professional)?

How long do you think you went without a hearing aid when it could have been useful? What do you the fact of wearing a hearing aid to?

What fears and expectations did you have, or did you not have any? Did aesthetic issues, financial issues, the changing relationship to hearing, or the practical or impractical aspect of hearing aids have an effect on your reasoning?

How did your fitting with the hearing aid professional go? Did you feel like he or she was listening to your needs? What type of product did you choose? Why? Did you have a discussion with the hearing aid professional regarding the brands or product ranges?

Daily life with hearing aids

General open question: what is it like to live/hear with a hearing aid?

What impact does the change in sound and the metallic nature of the reconstruction have on you? Does that lead you to change some of your habits (group meals, the movies, concerts)? How do you experience the fact of not hearing your voice like you did before?

How do you use your hearing aids? Do you wear them all the time? Do you take them off at certain times during the day? When? What have people told you about this practice? What do you think about this advice (not taking them off too often)?

Do you sometimes stop wearing them? Or have you given up wearing them? If yes, why and for how long? Did you talk to your hearing aid professional about this?

Do you feel like you are forgetting that you have hearing aids? How is this apparent?

Open question: are you satisfied with your hearing aid? What problems do you have with it (example: batteries and recharging)?

The financial issue of getting a hearing aid

Did financial criteria play a role in the hearing aid adoption process?

How much did you pay for your hearing aid(s)?

How much were you reimbursed for it/them? Did that play a role in your choice of hearing aids?

What do you think about your hearing aid? Is it an essential "health product" or a comfort device (intentionally extreme terms)?

Did the initial price of the hearing-aid fitting covers devices and monitoring for several years? Do you think that that is an appropriate way of paying for a hearing aid, or would you simply prefer to pay for hearing aids and later for each appointment? Moreover, does this question concern you?

The relationship to the professional

Do you see your hearing aid professional often? Would you like to see him or her more often?

For what types of issues or problems do you see him or her?

What type of relationship do you have with him or her, and do you think that he or she is listening to you?

Have you already changed hearing aid professionals, and if so, why?

Do you think that he or she takes the time to listen to you during appointments, or do you have the opposite impression?