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Researching Communication in Context: Engaged Epistemology and Ethnographic Fieldwork Transforms Understanding of Interactions after Laryngectomy

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Abstract

This paper presents transdisciplinary research on laryngectomy and a methodological stance to broaden research paradigms for the cognitive sciences. Studying daily experiences of people communicating without biological larynx in an interactive context, we put special emphasis on methodology combining engaged epistemology with ethnographic fieldwork. Our results made evident i) the role of anatomical and physiological adaptations in shaping communication and social relations, ii) the existence of multimodal and context-dependent alternative strategies of conversation, iii) the crucial role of participants' agency. The dialogue between epistemologically engaged cognitive science and ethnographic fieldwork allowed us to remain open to novel interpretations of the communicative situations and led to unexpected observations. Results of this study point to the importance of integrating qualitative methodologies within research on cognition, and may prove useful for guiding therapeutic interventions and novel technological designs.

Keywords: participation, laryngectomy, mixed methods, communication, context, flow, qualitative research

Introduction

Context in the cognitive sciences is largely considered as a multitude of factors that impinge on cognitive mental structures and processes of an individual person (Mesquita et al., 2010). In the present paper our aim is to show even stronger contextual dependency. We claim that human-interactive context is constitutive for cognitive processes, crucial for defining the very object of study, choosing methods of investigation and addressing ethical concerns as an integral research component. Using a concrete case of research with people who lost their biological larynx due to cancer we demonstrate how methodological alliance with other domains that comprise cognitive sciences, such as cognitive ethnography and anthropology, helps in i) the process of identifying the very object of study, ii) assuring the immediate relevance of research in recognizing concrete problems to address, and iii) informing the design of possible technological solutions.

In recent years, cognitive scientists increasingly realize that selecting a relevant research subject, which would be pertinent to human experience and ethically justified, remains a challenge (Reddy, 2018; Reddy, 2023). Engaged epistemology proposes, as a first part of scientific inquiry, to remain open to encountered phenomena (De Jaegher, 2021a). This methodology draws inspiration from indigenous epistemologies and the concepts of critical ontology of being a researcher (Kincheloe, 2011) and its implications for our ways of acquiring knowledge. Such an approach has been successfully applied by cognitive scientists conducting research with specific communities, such as analyzing co-creation of meaning with people on a spectrum of autism (Williams, 2020; De Jaegher, 2021b), dementia or schizophrenia (Fuchs & Röhricht, 2017).

The present work shows such openness when facing problems of communication, living, adapting, and navigating in social situations after larynx amputation. We demonstrate the complexities and nuances crucial for improving everyday well-being of people directly involved, and a more engaged approach to researcher-participant relations, showing the clear advantage it gave both sides. Our process combines fieldwork, cognitive-scientific analyzes of people's movement and speech, as well as ethnographic methods of data gathering and relationship building. Such an integrative approach accompanied us from the stage of data collection to their analysis and interpretation. It also enabled us to put our results in a wider context, giving the frame of reference which would not emerge from tightly controlled experiments.

Background

Laryngectomy is a surgical removal of the larynx and one of the most effective treatments for laryngeal cancer (Ceachir, Hainarosie & Zainea, 2014). During the operation, a new opening (stoma) is created in the neck, allowing for breathing directly through the trachea (Fig 1). The vocal folds are removed, and a person loses the ability to naturally produce voiced speech. Affected individuals at first rely on

gestures, drawing and quiet whisper, and then learn substate methods of speaking: esophageal speech, tracheoesophageal speech, or electrolarynx-assisted speaking (van Sluis et al., 2018). Alternative approaches to voice restoration involve bionic technologies e.g. wearable devices with artificial intelligence (Fuchs Hagmüller & Kubin, 2016, Ahmadi, Kobayashi & Toda. 2019) or text-to-speech with voice copies (Repova et al., 2020). Adaptation to specific interface and computer program behavior is required to smoothly use these devices during conversation with another person, what makes it even more important to understand the interactive context of its use (Zieliński & Rączaszek-Leonardi, 2022).

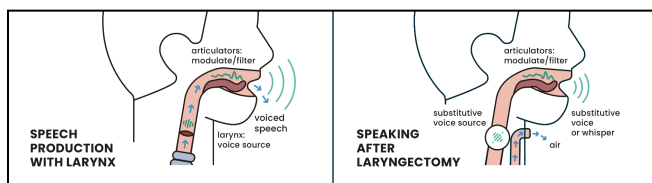


Figure 1: Speech organs anatomy before and after larynx resection (Zieliński and Rączaszek-Leonardi 2022)

Designers of novel communicative interfaces assess their success by measuring voice quality in audio listening tests conducted with naive listeners or by analyzing psychoacoustic sound features (Sharifzadeh et al., 2010). Medical professionals and therapists compare different speech restoration methods mainly using voice quality measurement and perceived quality of life questionnaires. The validated instruments include subjective self-assessment of the voice by the patient measured by Voice Handicap Index (VHI, Jacobson et al., 1997), Voice-Related Quality of Life (V-RQOL, Hogikyan & Sethuraman 1999), or perceptual assessment of the voice conducted by the trained speech and language pathologists. Such methods are isolated from the nuanced needs of the person who would use it and thus are disentangled from real situations in which they occur. This approach does not allow for the full examination of other communication functions like the emotive or phatic ones (Jakobson 1960, Malinowski 1923) or of the rapport built between interlocutors during communicative encounters. It seems to rely on the notion of communication as a process of encoding, transferring and decoding a message used in classic cognitive science of communication used in classic cognitivists' approaches where it is often seen as a process of encoding, transferring and decoding a message (Shannon 1948; Reddy, 1979).

However, speech is rarely produced by an individual in isolation. On the contrary, it serves as a structure to control and co-create an interaction in concert with our interlocutors (Schegloff et al., 1996, Rączaszek-Leonardi 2012, Di Paolo, Cuffari & De Jaegher, 2018, Goodwin 2018). Speaking with others serves various purposes, and different language functions coexist in the course of an interaction.

The fact that the first author of this article is a laryngectomee give us as a research group an additional insight into communication phenomena emerging in situations of speech challenges. We have personally

experienced how both important and difficult to grasp are contextual and dynamic aspects of verbal communication. For example, we witnessed personally the limits of communication with the 'flat' voice produced by the classic electrolarynx. Without dynamic pitch control, communication was less fluid, and irony, dynamic situational jokes or subtle politeness that build understanding and relationships were dramatically reduced. We knew that we were losing something important that we could not quantify. Thus, we propose to see communication as a lived experience of individuals nested in many social roles and contexts (see also Yang et al. 2021).

Methodology

Building on our own experiences, we searched for methods designed to observe and describe verbal interactions in their complexity and capture what is truly important in communication for the laryngectomees. We turned to cultural anthropology and the ethnographic method: observing the participants in their interactions with other people, in their natural settings, and in mundane, everyday situations allows researchers to immerse themselves in the world of the participants, following their guidance, and being open to novel phenomena (Hammersley & Atkinson 2019, Davies 2012). Undertaking this form of investigation, the researcher does not fully know what to expect and constructs their understanding of the object of the study, 'the thing', and co-creates it with the participants. Such qualitative studies foster building rapport with participants which enables researchers to learn whether their categories and assumptions are accurate and ethical. We have also taken into account the problem of power relations between researchers and participants possibly leading to epistemological overdetermination – researchers' categories and models could be enforced on the studied phenomena with no room for participants' objections nor alternative interpretations (De Jaegher 2021a). Our approach is not only a methodology, but also an ethical stance. As a result of conducting research in this way, the participants had a real impact on which situations were observed and which categories were used to describe them.

The study design consisted of in-depth interviews with individuals or dyads (laryngectomee and their partner or family member), focused on the everyday interactions of laryngectomees with other people. Usually 2 researchers were present during the interview: a moderator and an observer taking the notes. Meetings lasted between 2,5 to 6 hours and were usually conducted in participants' homes. The interviews were video-recorded if participants consented. Research scenario consisted of structured interviews, and generative techniques (Sanders & Stappers 2012) such as drawing your own portrait, time axis with important events related to a laryngectomy, and card sorting of important speech features. Choosing various methods enabled us to discover not only the opinions of larynx amputees and their social environment, but also their emotions, fears, hopes, and other areas of tacit knowledge

(Visser et al. 2005). The videos were transcribed using methods inspired by conversational analysis (Goodwin 1995) to capture subtle gestures, interaction dynamics, the dance of gazes that constituted the meaning of our meetings with participants. We complemented insights from interviews (6 women, 3 men, aged 48-77) with participant observations made in speech therapy lessons and laryngectomees support groups meetings. Using this method we observed how doctors, speech therapists and leaders of laryngectomees communities influence individuals' decisions about using a given voice restoration method.

The data were mined first in workshops utilizing affinity mapping (Spool 2004) and experience mapping (Kalbach 2016), and then further analyzed using bottom-up coding and thematic analysis (Glaser & Strauss, 1967). This approach allowed us to select categories of analysis based on topics that were most impacting laryngectomee's lives.

Results

The initial focus of the study was communication, namely how participants interact verbally with others in typical, everyday situations. We were interested in the challenges they faced, as well as observing instances of successful communication. However, through the lenses of relational, interaction-centric stance, and with the influence of participants, other issues came to the fore. The three main insights from our study presented below exemplify how ethnographic, engaged research methodology motivated reframing of our initial assumptions, choosing different categories of theoretical analyses and proposing new directions for future studies grounded in field data.

Speaking flesh

Each interview made it increasingly clear that laryngectomy does not only influence how the person speaks, but dramatically changes their body and habits related to it. Patients who undergo the surgery wake up as a body that breathes, eats, coughs and speaks in a new way. For example, for years the person has formed neural pathways that allow them to raise the hand to mouth when the cough was coming. After the surgery these paths become irrelevant as they relate to the anatomy that is no longer present (e.g., the mucus comes out of an opening in the neck). Hence, participants of our study reported feelings of unfamiliarity and lacking control over their own bodies.

In addition to physical changes, there are also social implications of the new anatomy and physiology. The appearance of the stoma, a new organ created by the surgery, can make a person stand out and attract unwanted attention. Overnight the person's appearance starts to be perceived as non-normative. Laryngectomees struggle with incorporating stoma into their bodily image and with integrating themselves into a social environment that suddenly sees, interprets and treats them in a new, often inadequate and disturbing way e.g. staring at the neck stoma. Participants experienced situations when they were publicly critiqued for attending public spaces, because their

coughing or low esophageal voice were interpreted as signs of illness. Such moments (or just imagining that they could be possible) frequently came with a shame of a person's own body and sometimes lead to social isolation – a defensive strategy against being treated mainly through the prism of a disability.

New physiology has an impact on communication as well. For example, many laryngectomees experience difficulties when swallowing (Ward et al 2002, Coffey and Tolley 2015). Therefore, they find it even harder to speak during a meal as food may remain in their throat and upper esophagus. Eating together is an important cultural event: people bond while dining, meeting in cafes or organizing parties with snacks (Belasco 2008, Valsiner 1984, Montanari 2006). Hence, alaryngeal people are often excluded from social events not only because of their struggles with verbal communication, but also due to interdependencies between different physiological processes (eating and talking).

Furthermore, breathing through a tracheostomy makes a person more vulnerable to air pollution and dryness, leading to an overproduction of mucus that can cause coughing attacks. Loud, wet, and unpredictable clearing of the stoma makes laryngectomees embarrassed – some give up their favorite activities, such as going to the theater, for fear of drawing attention to themselves with a cough.

Such observations shift understanding of communication from the abstract concept of signal transmission to understanding it as deeply embodied. As we have shown in this section, physiological activities (such as breathing, eating, coughing), while always present in human encounters, become an important factor if one body draws excessive attention. Adopting such an embodied approach is crucial in designing healthcare services and assistive technologies, which should be crafted not only for restoring intelligible voice, but also for allowing to speak in different social situations e.g., a dinner, party or in a public space. However, our research enables us to pose also a more serious question (which is in line with the social model of disability (UPIAS, 1976; Goodley, 2016)): is it really only an alaryngeal person's concern to be able to speak during a meeting at a restaurant? Or maybe we, people who meet with such a person, could make the environment more adapted to their needs, e.g. offering meals that are easy to swallow, asking staff to turn down the music, so that a laryngectomee is better heard. When we do not narrow down the social interaction to transmission of an abstract message, but see it as embodied and embedded in context, we can better assess the influence of various actors and see the laryngectomee as only one of them. This exemplifies that selecting the methodology is also an ethical concern.

Multimodal communication

Our initial assumption, based on the literature on larynx resection, was that we would encounter people who express themselves with one preferable method of alternative communication (voice prosthesis, esophageal speech or electrolarynx). This has been spectacularly falsified during

our conversations with research participants. Firstly, the main means of communication available for the majority of laryngectomees was whisper, very often performed with vivid articulation allowing for clearer understanding. Secondly, the preferred mode of communication depended on the context of use and interlocutors (e.g. whisper was often utilized at home with family, while esophageal speech was preferred when talking with other laryngectomees).

For spontaneous “speech” our interlocutors were using bodily sounds available to them: clicks, clapping, making sounds with lips and tongue or using additional items, such as hitting the table, or one's knee. We observed even various types of clicks depending on the intended meaning (e.g. affirmative and negative ones). The material dimension of communication was also visible in handwriting, or pointing to things in an environment that could narrow down the meaning (e.g. showing the wedding ring when speaking about one's husband).

During the interviews, we observed that, especially individuals who communicated using quiet whispers, supplemented their speech with a wide range of nonverbal communication. It can be clearly seen in the following interview excerpt (this and other examples are translated from Polish – mother tongue of participants – by authors):

Interviewee: *(writes: "and now I don't even know how to use the phone," and then leans back and smiles ironically)*

Moderator: *(laughs)* Well, you can do a little.

Observer: *(does not see the text)* What?

Interviewee: *(points the observer to the moderator)*

Moderator: *(reads)* "And now I don't even know how to use the phone."

Observer: *(laughs)*

Moderator: How did that happen!

Interviewee: *(whispers)* I don't know *(handwrites something new and whispers at the same time)*.

Moderator: *(reads)* "But I went and took..."

Interviewee: *(whispers)* I passed... *(shows the expression written on the paper)*

Moderator: Oh, passed.

Interviewee: *(writes further: "Int. Exam. Comp. Sci.")*

Moderator: *(reads)* International Exam in Computer Science.

Interviewee: *(draws a square in the air and whispers)* On pieces of paper! *(the utterance was not noticed by moderator nor observer)*

Observer: *(in awe)* In Computer Science?

Moderator: Amazing!

Interviewee: *(shows the place where she wrote "and now I don't even know how to use the phone")*

Moderator: Well, a lot has changed in computer science since then. *(moderator assumes that she passed the exam long time ago)*

Interviewee: *(starts writing: "I passed it")*

Moderator: *(reads)* "I passed it"...

Interviewee: *(shows three fingers and adds in a whisper:)* Three years ago.

Moderator: Three years ago. (woman, 62)

In this example, the interviewee tries to express a paradox: she has trouble using her smartphone, although recently she has passed a prestigious exam in Computer Science. This message is not expected by her interlocutors

and would not be understood in whisper. Hence, to convey this complex meaning (not only facts, but also their paradoxicality), the interviewee composed her utterances using parts of the environment (such as a sheet of paper), mimics, gestures, and references to previously produced messages. Actors try to coordinate with each other (which is visible in frequent paraphrases), they construct the meaning of the interaction together. The interviewee simultaneously uses many modalities, choosing the most suitable option in a given moment, and when coordination with others is not successful, she switches to a different one.

This made us think of communication as a flow, similar to breathing or nutrition, that, unable to find an outlet through audible speech, begins to seek out other routes. This is a completely different concept of communication than presented in classic cognitivist approaches. Through the lenses of ethnographic research we could reconceptualize communication not as a signal production and sending, but as a flow co-composed by all engaged actors, including individuals, interaction's dynamics itself and the environment.

Choosing engaged, qualitative methods gave us openness to capture novel phenomena, such as the fact that larynx amputees do not use only one, preferred method of voice restoration, but change them depending on environment and even mix during one conversation. The observations point out to the fact that different modes of communication can be used to realize different values (Hodges & Rączaszek-Leoanrdi, 2022). For example gestures are suited to express affective states, whisper is discrete and allows to hide disability, electrolarynx allows to produce understandable words. The inventory of values that laryngectomees aim to realize in various social encounters can be a potent tool for designers of future speech aids and healthcare services, such as speech therapy. For example, we observed during voice restoration lessons that laryngectomees are taught how to speak by reading dialogues from printed materials. We argue that this approach focuses on production of an understandable message only. Basing speech therapy on real-life examples, discussing hobbies, quarrels, explaining one's medical case to a doctor could be more motivating as it allows laryngectomees to involve their personal goals in learning. With such situations, alaryngeal people could not only learn how to express themselves, but also experience how various communication methods work in different social contexts and hence, better orchestrate them in their daily life.

Utilizing and blocking the flow of interaction

We looked for theoretical frameworks that would allow us to capture more accurately the liquid, hydraulic qualities of communication that we observed. The most inspiring model was proposed in *Linguistic bodies: The continuity between life and language* (Di Paolo et al. 2018). They apply enactivist, autopoietic thinking to human interactions. Authors propose to see communication as an act of balancing between two forces, namely self-production and

self-distinction. We constantly engage in social encounters by reformulating the utterances of others and at the same time trying to distinguish ourselves from interlocutors to keep our boundaries as autonomous subjects. Thanks to those insights we started to notice examples of both reuse of utterances produced by others and trials to oppose interlocutor's statements. The first phenomenon can be observed in the tendency of laryngectomees to talk sparingly during social gatherings, such as parties or larger group meetings. This behavior is described in the following interview sample:

Interviewee: (*speaks calmly using esophageal speech*) No, no, it's normal [communication]... in life, in the family, there are no problems among the household members. At some party - it's not that great, you can't stick out too much, just calmly. Rather, you should behave moderately.

Moderator: And what does "behaving moderately" mean?

Interviewee: Not... to draw too much attention to oneself. Normally, like... (*adjusts his jacket*)

Moderator: Oh... why?

Interviewee: (*shrugs*) That calmness is basically... when in company, most people know what kind of surgery I had there... No, one doesn't feel (*leans and turns his face and torso towards the moderator, gestures become more lively*) comfortable to conduct big discussions there, (*leans towards the moderator with a smile, then leans back*) because we are not capable of that ("*we*" refers to the interviewer and the moderator who was also laryngectomee, or generally to the community of laryngectomees). (man, 75)

We observed this type of strategy to some extent in the behavior of almost all of our interlocutors. Interviewees explained that their motivation was to avoid situations when they are asked to repeat themselves several times. Such events could lead to the laryngectomee drawing unwanted attention. They also observed that their interlocutors often only pretend to understand their statements and the topic of conversation is discreetly changed. All of these scenarios are very often frustrating, because they redirect the typical flow of interactions. Conversations are characterized by a dialogical structure based on turn-taking (Sacks, Schegloff & Jefferson, 1974). When a structure cannot be maintained, the interaction is perceived as ineffective and frustrating, as in a video call with unstable connection. During group meetings, the effectiveness of the interaction itself is achieved by striving to maintain fluency and continuous exchange of utterances. Therefore, laryngectomees' behavior should not be treated as communicative failure, but can be interpreted as an agentic way to keep the interaction flowing, which is perceived as valuable. Their disengagement is not total. They often listen carefully to the utterances of others, or nod, or add a word or two. Although they do not participate in such events at the same level as others, they find their way to engage by reusing the utterances of their companions (see also Goodwin 2018). Furthermore, such behavior of laryngectomees can be understood as a way to preserve "normalcy" that was contested by the surgery. Our research participants have often mentioned that they want to act "normally", meaning

"like previously", "like others", or not disturbing the typical flow of social gatherings (see also Plage 2022). Therefore, even a seemingly passive attitude during social gatherings can be seen as agentic and value-realizing when situated in a broader context.

The above-presented example of engaging minimally in social meetings, shows that laryngectomees find ways to utilize the flow of interaction and self-produce using utterances of others. However, self-distinction is tougher to realize, like in this interview sample:

Interviewee: (*holds up a note that says "argument with the husband" and says using esophageal speech with theatrical emphasis*) This is the worst! (*shows the note to the moderator*)

Moderator: The worst?

Interviewee: The worst. Because it doesn't work for me. I want to yell, but I can't. (...)

Moderator: You want to yell, right?

Interviewee: You know, when I'm angry, I start talking quickly (*shows a gesture of a snapping jaw*). And then he doesn't understand, so that makes me even more angry, but I can't express myself.

Moderator: And... how do you feel then?

Interviewee: It's sad.

Moderator: It's sad... well, I get it.

Interviewee: Yeah.

Moderator: And also speaking goes worse when you speak quickly?

Interviewee: Worse. You have to do it slowly, because if you speak quickly, it doesn't work out. (woman, 59)

In the situation presented above the person wants to distinct herself from her husband, oppose his utterances. However, she is not understood when she whispers, as her voice lacks strength and expression that would convey her involvement in the discussion and the emotions she feels. Again, what makes the situation challenging is the entanglement of social and bodily flows: whisper is more legible when one exaggerates mimics and articulation, and slows down accordingly. Yet this is not possible in the affective state caused by the quarrel (which induces tempo increase). As some may notice (and this is a direct quote from a conversation with a fellow laryngectomee) "It's very hard to have an argument when you're writing notes".

These two examples show that the aim of communication can be very different depending on the interactive context. Sometimes laryngectomees can overcome communicative difficulties and build their agency up by composing their turns in dialogue from utterances of others (e.g. by adding a short phrase to the sentence produced by another person). And sometimes the interactive context does not allow doing so (e.g. in a quarrel, when producing a message that is unexpected or unwanted by others). Seeing agency as a crucial aspect of the experience of people with disabilities can be fruitful in assessment of speech devices. They could be analyzed not only in relation to qualities of voice that can be produced, but also in terms of degrees of agency they enable to the user. Both situations where people want to utilize the flow of interaction and oppose it should be taken into account during research on a particular device.

Remarks: methodology & ethics

We faced a lot of challenges that Guillemin & Gillam (2004) calls ‘ethics in practice’. Most issues came down to four categories (compare with Vines et al. 2017): raising participants’ expectations, inducing difficult memories and reflections, interfering with the participants’ relationship with the environment and combining the perspective of the researcher with the perspective of the laryngectomee.

We invited laryngectomees to participate in a study that involves entering their privacy and at the same time shows them new perspectives. We were aware of the expectations our participants may have of us as researchers, of our research project, and of the technical solutions discussed. We explained the goals and procedure of the study, and tried to ensure that participants know what the limitations are (e.g. that we are researchers, not therapists or developers). This posed serious challenges, especially when we were not entirely understood, because the concepts we used to describe the process of designing technology (including research) were novel and too abstract for some participants.

Moreover, our study focused on people with a history of severe illness and invasive surgery. People who struggle with functional limitations in various life activities, whose communication and social life has hindered what could impact on their well-being and mental health. We also took into account that laryngectomy affects not only patients but also their partners and relatives (Offerman et al., 2015), creating new challenges and limitations in relationships and leading to development of sometimes suboptimal but stable strategies of coping within the whole system (e.g. a spouse constantly speaking for an alaryngeal person). We regularly asked ourselves: how our presence, attention and perspective interferes with the process of adapting and dealing with the trauma and with ways in which patients and their environments adapted to the situation.

Furthermore, we have seen the cost involved in researching a phenomenon that is a lived experience for one of us. Taking care of one’s own boundaries and sensitivity in a situation where the same person is a researcher and a representative of the researched group introduces the emotional burden and methodological challenges. It was sometimes evoking emotionally loaded reactions of the participants. For example, we noticed that some of them treated the interview as an occasion to provide advice or assure them of the quality of life after the surgery.

We believe that the inclusion of laryngectomees in the whole study process is important methodologically and ethically. Difficulties with communication experienced by laryngectomees are often outside the edge of the field of vision of scientists, or even far beyond it. Instead of leaving them unexplored, unspoken, even unconscious, we focus on "giving a voice" to the subjects not only in the sense of finding ways to deal with the technical difficulties associated with the lack of a larynx, but also in the sense of taking into account their unique perspective and experience, enabling them to say about their actual struggles and needs.

Conclusions

Our main conceptual result is the redefinition of consequences of lived experience of laryngectomy as various flows that people accept or reject to retain agency and autonomy. Due to the changed anatomy of laryngectomees, multimodal communication is realized via various channels depending on the context, relationship with interlocutors and subtle characteristics of interaction. This poses a challenge to novel designs, which should support the users’ agency and correspond to particular needs and values important in each situation.

A dialogue between qualitative and quantitative research that we propose, provides an answer to such challenges. In the domain of interaction analysis, here the analysis of communication involving a person without larynx, the qualitative research proved to be suitable for identifying the contexts of functioning, values realized and concerns raised by the participants themselves (e.g., choosing speaking mode adequate to the situation, expressing affect). Some of the relevant phenomena (those which are transferable outside context) could be further examined experimentally. A dialogue on the methodological level and within our research team allowed us to identify and examine several phenomena relevant to the laryngectomees and technology designers which were previously unaddressed. We propose to take the whole interaction, and associated complex social coordination as a unit of analysis (see also Dingemans et al. 2023). The context of the verbal interaction is not something incidental, to be bracketed in research, but is constitutive to the phenomena, which comprise research fields in the domain of perturbed communication, also in its aspect of novel speech enriching technologies.

We propose to situate the presented research method as a first step of scientific inquiry especially in the topics directly related to people experiencing social exclusion. First- and second-person observations of authors directed us towards engaged methods suited for capturing novel phenomena in the field. Then we acquired experiences of people dealing with the problem on an everyday basis. Our next steps include observing the frequency of problematic situations, and finally translating some of them to lab experiments.

The heart of cognitive science is signal transfer, and this is vividly seen in assessment methods of communication after laryngectomy. That focus on understandability of produced messages was the source of many successful technologies and speech therapy practices. However, our findings are well described by the metaphor of communication as flows enabling fluent value-realization and social coordination. We propose to treat these two perspectives (signal transfer, and cooperation toward value-accomplishment) as complementary lines of interpretation. We would probably never be able to prove all the results presented in this article accepting the “onlooker” stance only, without drawing from our experience and engagement. A contextualized perspective on communication is crucial in technology and service design allows to focus on everyday experiences that matter for laryngectomees and improve their well-being.

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