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Non-manual Markers in Sign Languages - an Interview with Roland Pfau

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Resumo

Nesta entrevista para o número especial da RevIncluso, Roland Pfau expõe suas reflexões sobre marcadores não manuais em língua de sinais presentes em sua aplicação em tecnologia, situando-a nas comunidades surdas e nos contextos acadêmico, linguístico e analítico. Considerando os estudos sobre os traços de negação, o estudioso destaca diferenças na ênfase dada ao conceito na língua de sinais da Holanda e outras que estudou. Segundo Pfau, a relação entre a língua de sinais e corpora linguísticos fortalece a análise das relações entre contextos não manuais e gramaticais, diálogo e ações, estruturas linguísticas e evolução cultural. Para o autor, devemos considerar a dialética das representações e dos grupos de interações de pesquisa como forma de construir um mundo de relações onde nos encontramos, rompendo assim com a ideia de que os itens de um determinado estudo de línguas de sinais atuam sobre o mundo como algo único ou que age de acordo com imperativos sociais e culturais sem possibilidade de transformação de outros estudos em outra língua de sinais.

Palavras-chave: Língua brasileira de sinais, Língua de sinais da Holanda, Negação, Expressões Faciais.

Abstract

In this interview for the special issue of RevIncluso, Roland Pfau exposes his reflections on non-manual markers in sign language present in its application in technology, placing it in deaf communities and academic, linguistic, and analytical contexts. Considering studies on negation traits, the scholar highlights differences in the emphasis given to the concept in Dutch sign language and others he studied. According to Pfau, the relationship between sign language and linguistic corpora strengthens the analysis of relationships between non-manual and grammatical

contexts, dialogue and actions, linguistic structures, and cultural evolution. For the author, we must consider the dialectic of representations and groups of research interactions as a way of building a world of relationships where we find ourselves, thus breaking with the idea that the items of a given study of sign languages act on the world as something unique or that acts according to social and cultural imperatives without the possibility of transforming other studies into another sign language.

Keywords: Brazilian Sign Language, Sign Language of the Netherlands, Non-manual Markers, Negation.

Resumen

En esta entrevista para el número especial de RevIncluso, Roland Pfau expone sus reflexiones sobre los marcadores no manuales en lengua de signos presentes en su aplicación en tecnología, ubicándolo en comunidades sordas y contextos académicos, lingüísticos y analíticos. Teniendo en cuenta los estudios sobre los rasgos de negación, el erudito destaca las diferencias en el énfasis que se le da al concepto en el lenguaje de señas holandés y otros que estudió. Según Pfau, la relación entre la lengua de signos y los corpus lingüísticos fortalece el análisis de las relaciones entre los contextos no manuales y gramaticales, el diálogo y las acciones, las estructuras lingüísticas y la evolución cultural. Para el autor, debemos considerar la dialéctica de las representaciones y grupos de interacciones investigativas como una forma de construir un mundo de relaciones donde nos encontramos, rompiendo así con la idea de que los ítems de un determinado estudio de las lenguas de signos actúan sobre el mundo como algo único o que actúa según imperativos sociales y culturales sin posibilidad de transformar otros estudios en otra lengua de signos.

Palabra clave: Lengua de Señas Brasileña, Lengua de Señas Holandesa, Gestos Faciales, Negación.

Introduction

Dr Roland Pfau is an associate professor in sign language linguistics at the Department of General Linguistics, at University of Amsterdam in the Netherlands and also an editor of the journal "Sign Language & Linguistics", which aims at providing an international forum for the discussion of sign language structures in the larger context of natural language, and thus to further our understanding of sign language grammar. He has co-edited and co-authored an introduction to sign language linguistics (Baker et al. 2016), and he recently edited, together with Josep Quer and Annika Herrmann, "The Routledge Handbook of Theoretical and Experimental Sign Language Research", an up-to-date survey of key topics in theoretical and experimental sign language research (Quer et al. 2021). In his research, he has studied various aspects of sign language grammar, including morphophonology (e.g. pluralization), morphosyntax (e.g. agreement and classifiers), and syntax (e.g. relative clauses, questions, and negation), as well as grammaticalization. Much of his work sheds light on the use of various types of non-manual markers, illustrating their crucial role for sign language grammar (see Pfau & Quer 2010). One of the foci of his work is the expression of standard negation, and its grammaticalization, a topic he has studied for various sign languages (e.g., German Sign Language, Sign Language of the Netherlands, Georgian Sign Language, and Kata Kolok, a village sign language from Bali), both from a descriptive and theoretical point of view (e.g., Pfau 2002, 2015, 2016a; Oomen & Pfau 2017; Lutzenberger et al. 2022; Pfau et al. 2022).

Given Pfau's strong presence in the sign language linguistic scene, it seemed natural to invite him for an interview, and discuss the state-of-the-art of research on non-manual markers in sign languages as well as avenues for future research. The interview took place in May of 2022.

Figure 1. Professor Roland Pfau. Source: private

Emely: Here in Brazil, the study of non-manual markers in Brazilian Sign Language is in slow development. Could you tell us how you see the study of non-manual markers in other sign languages, such as American Sign Language or Sign Language of the Netherlands?

Pfau: It's true that for some sign languages, the study of grammatical non-manuals is really just beginning. As is true for various domains of grammar, the earliest available studies, and this includes studies on non-manual markers, are on American Sign Language (ASL). However, I think it is safe to say that by now, the study of non-manuals has really expanded. Obviously, there still are only a handful of sign languages for which non-manual markers have been fairly well investigated, and there are still many sign languages which have received less attention. For Brazilian Sign Language, the work by Ronice Quadros is, of course, highly important, and while she focuses often more on the syntax, she has always included non-manual markers in her work.

So, work on non-manuals is increasing all over the world, but still for only a rather small number of sign languages. Clearly, there is still a lot of work to be done in this domain.

Emely: Is there any country that you feel has emerged as the most advanced in this field of research?

Pfau: I would be hesitant to pick one country, although, once again, the United States have to be mentioned, simply because the work on non-manuals has a comparably long tradition there. But in the meantime, sign languages of various European countries, Australia, as well as Asian sign languages like Hong Kong Sign Language and Indian Sign Language have been added to the typological picture; so, in fact, there are places pretty much around the globe where non-manuals have been and are studied. Still, in some countries, the research efforts are obviously more intense than in others. As for Europe, important recent research efforts have been made in, e.g., the Netherlands, Germany, Italy, Turkey - so, once again, I would not want to single out one specific country.

Emely: I agree, we've been seeing some work from India, so I think that they are developing right now, in a more homogeneous way. Do you believe that the more significant concentration of studies is due to some concentration of groups that are influencing the research?

Pfau: I think this is certainly the case. What I mean is that there are still a couple of countries, or maybe even many countries, where sign language researchers are sort of isolated, in the sense that they are not yet part of a network, while in other countries, or even in international research projects or networks, groups of researchers are interacting with each other, leading to more

intense research efforts, for the simple reason that there is more manpower to investigate certain structures. Moreover, it has to be mentioned that for some sign languages, there are now sign language corpora of a considerable size - e.g., in Germany, Poland, Great Britain, the Netherlands, and Australia - and once you have corpus, of course you have other possibilities and other resources to study sign language structures. This turned out to be extremely helpful.

Emely: Well, as you mentioned earlier some researchers that work on syntax, e.g., in Brazilian Sign Language, showed that to mark negation, in addition to shaking the head from side to side, we have facial expressions marked by eyebrows and lips that are usually tilted down (Silva et al, 2020). Your work in this area of negative non-manuals is remarkable, so we thought to ask you about the non-manual markers in sign languages that the professor has analyzed?

Pfau: This is a very good question. Indeed, I've done quite some work on non-manuals for negation in different sign languages, also in collaboration with colleagues. However, what I have focused on, for the most part, is the head shake. What you say is that there may be other non-manual markers which also play a role in negation - I think you mentioned the eyebrows and lips. I have never looked at these for the sign languages I have studied. Once, many years ago, I commented on facial expressions that commonly go with negation, but we concluded at the time that these are not grammatical, because signers, of course, also use emotional non-manual markers. But my focus has always been on the head shake. We know by now, as you just mentioned, Emely, that in other sign languages other non-manual markers may also play a grammatical role in negation. You mentioned the eyebrows, and this has indeed been described for Turkish Sign Language. In this sign language, there are also negative head movements, but

Kadir Gökgöz has argued that the eyebrow position is even more important in the expression of negation (Gökgöz 2011).

Emely: Yes, for Brazilian Sign language, we have seen that the eyebrows carry a very strong message, and that the lips tilted down is also an addition in some sentences to indicate negation (Silva, 2020).

Pfau: This is very interesting, and I would really want to know whether these markers are indeed obligatory, which one is maybe optional, how they interact with each other, and how they interact with the head shake. So, I think there is still a lot of work to be done.

Emely: Absolutely. In the role of grammaticalization, the negative facial expression appears as a gesture/movement also associated with speech. The professor just told me about the emotional side. In the affective cases, how can we measure or differentiate the influence of the negation marker?

Pfau: This is an intricate issue. Let's take a step back and consider what we know. Looking at the example of head shakes, we know that head shakes are also commonly used in spoken languages as co-speech gestures, and that they are not only used in the context of negation. Rather, one also finds head shakes in expressions of intensification or uncertainty (e.g., Kendon 2002). For instance, if I tell you something like: "Wow, this is so beautiful!" and shake my head at the same time, which is not uncommon, then the head shake does not negate, but signals intensification - and obviously, this is also something that signers might do. So, what your question implies is that it's not always easy, or maybe even sometimes impossible, to disentangle what is truly grammatical and what is maybe more on the affective or emotional side of the scale.

Emely: It's a very tricky separation, right?

Pfau: Well, basically your question was, “How can we differentiate?”, and my answer was “I don't really know”. Still, it has to be mentioned that there have been efforts in the literature to distinguish affective and grammatical non-manuals. For the headshake, it has been claimed, that the more gestural handshakes are usually slower, and that grammatical headshakes are more tightly linked to the grammatical structure of the utterance. However, for many sign languages, this has never been systematically investigated, so it may, at times, be more of an intuitive judgment.

Emely: Yes, I had read some studies that the emotional facial cues occur more rapidly. So, they occur but they vanish quickly. While in sign language they have a more marked configuration, so they are maintained longer throughout the sentence.

Pfau: That could also be a difference. But we have to keep in mind that any such differences might also be sign language-specific. We are now speaking about the scope of the non-manual marker, and it has been observed for the head shake, for instance, that different sign languages allow for different scope options (Zeshan 2004; Oomen & Pfau 2017).

Emely: This is an amazing conversation for me, because for the construction of assistive technology, particularly in the sign language domain, when we’re trying to recognize facial actions, it is interesting if you have some cues labeled that you can teach the system to identify.

Pfau: To be honest, I'm quite happy that other people are doing this kind of work, as it is so intricate. If you take just a simple sentence like “I like books”, then we find that in some sign languages, such as Sign Language of the Netherlands, if you negate the sentence, it is possible to have the head shake on only the verb. Yet, we also find examples where the head shake co-occurs with the verb and the object. The question that emerges then is - and this is for the technicians of course highly relevant. Is there a difference in meaning depending on the scope of the headshake? My research on German Sign Language and Sign Language of the Netherlands (Pfau 2002; Oomen & Pfau 2017) indicates that at least in these two sign languages, this is probably not the case. Now, you maybe want to model this, or you want to program an avatar. Then, what do you tell the system? Should the head shake accompany only the verb, or should it extend beyond the verb? Does it make a difference? And how do signers perceive it? Taken together, this is a highly complex issue.

Emely: We are still trying to figure it out. The hope is that fellows researchers can help us look at that. Going back a little bit in your interests, could you comment on the difference between urban and village sign languages and the regional variation present in sign language from the perspective of non-manual markers.

Pfau: Focusing on the head shake, we have to acknowledge that for rural sign languages, also called village sign languages, there is simply not as much research. To date, negation has only been studied for a handful of rural sign languages. When such sign languages first started to be studied, I think researchers concluded that across rural sign languages, a manual negative element is obligatory, which could be taken to suggest that this was a general characteristic of rural sign languages. We know by now that this is probably not true. I have recently worked with

Hannah Lutzenberger and Connie de Vos on Kata Kolok, a rural sign language of Bali (Lutzenberger et al. 2022). Previous research (Marsaja 2008) had established that this is a sign language where you do find heads shakes, yet a manual negative sign is always obligatory, while the head shake seems to be less important. Our study based on a small corpus, including three generations of signers, suggests that the picture is more complex. That is, we also find sentences that are negated only by means of a non-manual marker. This tells me that, once again, more research is necessary to establish whether there are indeed systematic differences between rural sign languages and what we call urban sign languages. At this point, I don't think we could make such a strong claim.

Emely: Well, Professor Kate Kumada has some studies in this line of research, but towards more familiar sign language or homesign since there is a disregard about linguistic and cultural diversity of deafness, which reinforces the marginalization of the deaf within the school and its community, brought by some cultural differences and further mischaracterization in sign language from the Brazilian sign language, familiar sign language, and also the indigenous Brazilian sign language (Kumada & Cavalcanti, 2014). Thus, there is enormous and exciting scope for comparative and descriptive analysis within familiar sign language and other sign languages focusing on non-manual markers.

Pfau: I would be very interested to hear about these results. To the best of my knowledge, negation, or non-manual markers more broadly, has not been studied in detail for many rural sign languages. As I just mentioned, there is some work on Kata Kolok, and also on Inuit Sign Language, a sign language from Northern Canada (Schuit 2014), and Yolngu Sign Language, an Aboriginal sign language of Australia (Bauer 2014). Also, I am aware of a recent study on San

Juan Quiahije Chatino Sign Language, a rural sign language from Mexico (Mesh & Hou 2018). People have looked at non manual markers also from the perspective of prosody. There is really interesting work on a rural sign language of Israel, which is called Kafr Qasem Sign Language, which looks at the emergence of non-manual markers for the marking of prosodic structure (Kastner et al. 2014).

Emely: Keep in the same line of facial expressions in the case of intra-modal variations, that is the modality of language transmission, what are the generalizations and differences between the two modalities? The oral modality and visual modality in your studies?

Pfau: What we know is that most, if not all, of the non-manual markers that we find in sign languages are also used in the surrounding hearing culture. Some of these non-manual markers may undergo grammaticalization in sign languages, which implies that they are used in a more systematic way (Pfau & Steinbach 2011). So, this is an important difference. As for the head shake, it has been shown that in some sign languages, it is used more systematically, as it may be obligatory in certain contexts and the scope options are more constrained. Moreover, in some sign languages, the head shake may be the only marker of negation. This is clearly different from the co-speech gesture in a spoken language, where one could never negate a clause only by means of a head shake. For instance, if I say “I'll buy a book” in English or Portuguese, while shaking my head at the same time, this can never mean “I don't buy a book”. However, in some sign languages, this scenario is possible and even common. This is a significant difference, and it is an indication that the head shake in these cases functions as a grammatical marker.

As for the other side of your question, about the similarities, it has been argued for at least some sign languages that certain non-manual markers behave similarly to tone or intonation

in spoken languages. Despite the different channel of signal transmission, of course there is intonation in sign language, and non-manuals have been argued to be the equivalent of intonation. Additionally, we and some other scholars have argued that certain non manuals indeed behave like tone. We know from the study of spoken languages that tone fulfills functions at the level of the lexicon, the morphology, and the syntax. This is also what we find for non-manuals: not all non-manual have a syntactic function, we also find lexical non-manuals and non-manuals with a morphological function. On top of this, many non-manuals, just like tone, can spread (Pfau 2016b).

So, here we see a clear reminiscence or point of comparison across the two modalities. On the one side, there is the discussion about certain non-manuals that are used as co-speech gestures, and that are functionally and qualitatively different from the same non-manuals as used in sign languages. On the other hand, we have the comparison between tone/intonation and non-manuals, and here we argue that there is a functional equivalence.

Emely: This explanation was very interesting and really made me think of other sides of approximation between oral cues being used in signed dialogues, particularly in the case of culturally determined facial markings being appropriated for grammatical form in sign languages. How we sometimes say something, and our gestures are more cultural than grammatical, and how does that bring information into the sentence.

Pfau: Co-speech gesture is influenced by culture, and it is indeed to some extent culture-specific. Of course, what we commonly observe is that within a culture, the sign language may borrow some specific gestures. This means that, to some extent, non-manuals that are used in a specific sign language may also be culturally determined. For example, in the study of Kata Kolok I

mentioned before, we found that in the expression of negation signers may use a tongue protrusion, where they stick out their tongue for a moment. This specific marker has not been observed in European sign languages in the context of negation, and it may indeed be influenced by the culture.

Emely: Recently, there has been some work on facial actions and non-manual markers in sign languages around the world (Denmark et al., 2019; da Silva et al., 2022; Morais et al, 2022; Kocab et al., 2022; Giustolisi et al., 2022; Gürer et al., 2023; Irasiak et al., 2023). In your view, what kinds of challenges and gaps still exist in this study of non-manual expression or in classifying the correct facial markings, and what is being done or needs to be done to advance this area?

Pfau: We already have accumulated a fair amount of knowledge, at least for a handful of sign languages, about the various roles of non-manual markers and the non-manual markers used for specific grammatical structures. However, there is still a lot of work to be done. What you already mentioned, Emely, is the importance of work on a wider variety of sign languages, including rural sign language. There is still a need to add sign languages to the typological picture in order to get a better understanding of the variations and the similarities in this domain. An understudied aspect that would also be very relevant for your work, I think, is that we need to know more about the interaction of syntax and pragmatics. For instance, when analyzing non-manuals, we tend to think of them as being purely grammatical or prosodic markers. But how exactly you articulate a non-manual may not just depend on the syntactic structure of the sentence; rather, it may also depend on pragmatic factors. This is something that is often overlooked or neglected - also in my own work, by the way. To give one example: In the

Netherlands, students who learn Sign Language of the Netherlands learn that when you ask a WH-question, it needs to be accompanied by lowered eyebrows (frown), while for YES/NO-questions, it is necessary to raise the eyebrows. Now, once you look at corpus data, the picture is really not that clear. For instance, we do find WH-questions accompanied by raised eyebrows, which is not what you would expect. Therefore, one may ask: Why is that? Is there maybe something special about those WH-questions? Are there maybe pragmatic factors that trigger the use of raised eyebrows rather than lowered eyebrows? Such examples suggest that the very nature of the non-manual or subtle differences may be influenced by the discourse structure, and in this respect, we certainly still have a lot to learn.

Again, in your work, this is something that I would expect to be extremely challenging, you know, for implementing such factors in an automatic sign language recognition system, in an artificial signer, or for modeling it.

Emely: Well, we sometimes try to get the most detailed description of non-manual features inside the linguistic aspect. When we create a corpus with deaf signers, they change what is presented or what was asked, because it's their way to sign it, or because this is how they understood the request. Such occurrences create a fork in the research. On the one hand, it does inspire a novel analysis, because we can then add the difference in non-manual markers and search for an answer on what motivates the difference. However, our primary goal of collecting specific facial action samples becomes enlarged. It is great for linguistic research, but not so good for modeling onto algorithms.

Pfau: It seems to me that this must be very complicated because what you want to know is why the signer signed differently. For the signer, this is just natural, and it's not easy to ask a native

signer about their intuitions, or about the linguistic structure. Oftentimes, they might tell you: “This is just how it is”, but it's very challenging to pinpoint exactly what pragmatic, syntactic, or contextual factor really influences the exact realization of a non-manual.

Emely: As you mentioned, communication quality depends on perceiving facial cues. Signing can utilize the same facial muscles as emotional expressions. In some cases of co-occurrence, facial expressions of emotions become secondary to linguistic expressions. In your view, would it be possible or important to separate the facial parameters according to their functions?

Pfau: Quick answer: Yes, it’s very important. Yet, in reality, it is sometimes impossible because we know that a signer’s face and head and body can do multiple things at the same time. We as researchers want to know which component expresses exactly what, that is, which component is truly linguistic, and which may be just an additional layer of emotional expression. So, once again, I'm sure that this is something that you constantly struggle with in your own work and that you would like to disentangle. However, oftentimes, this will be impossible. You mentioned emotional and linguistic functions, but the two may also influence each other. For instance, in a given context, one may be more important than the other. In fact, there is very interesting work that has demonstrated that there may also be a sort of trade off. Research by Connie de Vos and colleagues on Sign Language of the Netherlands (de Vos et al. 2009), and also work on American Sign Language by Tracy Weast (2008), investigated possible mismatches between linguistic and emotional cues. An example would be the following: When asking WH-questions, the eyebrows should be down, while when asking a YES/NO-question, the eyebrows should be raised (at least in Sign Language of the Netherlands). So, these positions are linguistically motivated. Now, on

the affective side, when you are angry, you tend to lower your eyebrows, but when you are surprised, your eyebrows are up. De Vos and colleagues tested what happens when the linguistic and the emotional expression don't match, for instance, what if you ask an angry YES/NO-question? According to the sentence type, your eyebrows should be up, but according to the emotional state (anger), the eyebrows should be down. In this small scale study, it was found that there was indeed a sort of a trade off, such that in the end, when looking at the different muscles involved in the facial expression, the position of the eyebrows was somewhere in between. So, the eyebrows will still be raised, but not as pronounced as they would be in a true YES/NO-question lacking the angry emotion.

Emely: This conversation is very interesting because, thinking of Brazilian Sign language, we also used these markers for YES/NO-questions. So, because we mark the question at the end of the sentence with a head movement, one could expect that the angry emotional facial expressions would start with the sentence, and then the other facial expression would appear only at the end of the sentence.

Pfau: This is an interesting speculation. Based on what you are saying, there might be two options. Maybe in one sign language, there would be a trade-off, such that the resulting non-manual marker that combines a linguistic and an emotional facial expression would be somewhere in between, as I just described. What you are suggesting is that in other sign languages there might be a way to sequentially combine the two types of facial expressions, such that the emotional expression appears at the beginning of the sentence, while towards the end of the sentence, where maybe there is a question word or a question particle, there is a switch to the linguistic facial expression. This possibility certainly requires more exploration.

Emely: Exactly, you give me a lot to think about. Let's change the topic, and talk about the indispensable role of movements of the body in sign languages. Even in the negative, there is the presence of shoulder movement. However, other body movements are not incorporated in most sign languages studies, such as, for instance, the movement of the upper body (like backwards, forward and left and right) and shoulder movement (up and down). To your knowledge, are there any studies that focus on body expression, or even the creation of a taxonomy for body expressions for sign language?

Pfau: I agree, there is not as much research on the upper body when compared with research on the eyebrows and the head. Still, there is some work, for instance, by Ronnie Wilbur on ASL (Wilbut & Patschke 1998), but also by colleagues from the Netherlands (van der Kooij et al. 2006), where they look at forward and backward body movement, particularly for pragmatic functions, such as the expression of contrast. For instance, a forward movement of your upper body would imply agreement and involvement, while the pragmatic function of a backward body lean would be more of distancing oneself.

Additionally, the role of body leans has also been investigated for coordination structures, i.e., the combination of clauses. It has been observed that the two parts of the coordinated structure, that is, the two conjuncts, may be accompanied by body leans to contrasting sides of the signing space. For instance, when signing a clause combination like "[My sister will go to the market] and [my brother will visit a friend]", a signer might lean towards the right while signing the first conjunct and then to the left while signing the second conjunct (e.g., Davidson 2013 for ASL; Hartmann et al. 2021 for Sign Language of the Netherlands). So, in this respect, there is some work on upper body movements, but compared to other non manuals, it is still in its

beginnings. For Brazilian Sign Language, Angelica Rodriquez (UNESP) has investigated different types of coordination structures, looking at manual and non-manual markers, and specifically the grammaticalization of these markers (Rodrigues 2022; Rodrigues & Pfau 2023).

Emely: Continuing in the line of assistive technologies, we would like to ask you to comment on your vision of assistive technologies and accessibility for the deaf community and the modeling of non-manual markers in such systems.

Pfau: This is something that I consider really important, and it is also a line of research that is high on the agenda in many countries right now. As I already admitted, it is not my area of expertise. However, at the University of Amsterdam, there is a research project running right now, led by Floris Roelofsen, which looks at different types of WH-questions. On the one hand, they take a purely linguistic/theoretical perspective. But the same project also has an applied dimension, as they are also making efforts to implement the findings in a signing avatar. Such work should be really interesting for you. It is only just at the beginning; however there have already been a couple of MA students who worked on the topic, and a PhD project has recently started. Obviously, in the future, such applications should be very helpful for deaf people, as they will assist them in daily challenges that they are faced with. At the European and international level, lots of researchers work on related issues at the moment. One of the implementations that has been worked on here in the Netherlands is the use of such systems for train station announcements. The idea is that announcements - e.g., about track changes or delays - which , of course, are in spoken Dutch, would automatically be translated into sign language by a signing avatar on your mobile phone. It seems a very good domain to start with because the vocabulary

and the structures that are used are fairly limited, that is, highly creative language use is not required. So this could be a promising starting point, and then you can take it from there.

I am always so impressed by the work the people on the more technical and applied side are doing because one really has to be rather advanced in understanding sign language structures, and one also has to be able to implement this knowledge in the technical application.

Emely: We arrived at our last question. Could you tell us what you are investigating right now? What is your current topic of research, and maybe also talk a little about what your group is researching?

Pfau: Well, it is not going to surprise you that I am still interested in negation. Even for Sign Language of the Netherlands, there are still things that deserve further investigation when it comes to negation. As for research projects that I'm involved in right now, and focusing on the project of my PhDs, there is one project that aims at giving a comprehensive description of reduplication in Sign Language of the Netherlands, a morphological phenomenon. Then I have a PhD student who is doing comparative and formal work on Sign Language of the Netherlands and Russian Sign Language in the domain of subordination (including complementation and relativization structures). She is also interested in agreement phenomena in complex sentences, a really fascinating field of research. Finally, I have a PhD student from the Philippines, and she is studying sociolinguistic variation in Filipino Sign Language. This is also an extremely interesting research project, and not only because one of the domains she investigates is negation (the other one being numerals). Of course, all of these projects have a strong typological flavor, something that has also guided my own research in the past 20 years. This means that we are

always interested in comparing different sign languages to each other and also to patterns that have previously been described for spoken languages.

Emely: Ah, well, our interview is coming to an end. I'm very grateful for all your answers, and for the acceptance and availability. It has been an honor to talk to you, Professor.

Pfau: Well, I thank you. The pleasure was all mine.

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