

INTEGRATING ENACTIVE AND INTERCORPOREAL APPROACHES TO INTERACTION AND INTERACTION ANALYSIS: d/DEAF PERSONS AND ANIMALS. IN SEARCH OF THE 'IN-BETWEEN' AND ADEQUATE METHODOLOGIES

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ABSTRACT. How does understanding occur in encounters of living beings? What is experienced by the interaction partners and what happens in the 'In-Between'? And how can this be captured? In this paper an enactive approach to interaction is proposed with the focus on reciprocal intercorporeal attunement and co-creation of meaning in a specific environment. As alternative framework this approach is applied to the interaction of d/Deaf persons¹ and animals. In the interaction with an animal, verbal communication – which is challenging for d/Deaf persons – is of secondary importance, so this frame is well suited to focus on intercorporeal attunement. In the interaction discourse regarding d/Deaf persons as well as Human-Animal-Interaction the assessment of the interaction process as such and embodied research methodologies are scarcely to be found. With the enactive approach new perspectives on the mechanisms of interaction and the influencing conditions can be opened as well as new approaches to respective research options.

Keywords: d/Deaf, Human-Animal-Interaction, Intercorporeality, Embodied Cognition, Embodied methodologies, Enactive approach, resonance

1. Interaction through the lens of intercorporeality

The body and its role in interaction is highlighted in some approaches in interaction research, in contrast to conventional models which conceptualize interaction as sending and receiving of mental states and ideas merely by the minds of interaction partners.

The underlying theoretical framework is the philosophy of Embodied Cognition, a part within the philosophy of mind which roots in phenomenology and challenges the dualistic construct of separated mind and body. From the perspective of Embodied

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¹ In this differentiation 'deaf' (lowercase) refers to the audiological condition of hearing loss and addresses hard of hearing and late-deafened persons communicating by oral and writing means. In contrast the uppercase 'Deaf' refers to congenital or early deafened individuals who identify themselves as part of a community sharing a language, i.e. Sign Language, and a culture (according to Padden, C. & Humphries, T., *Deaf in America: Voices from a Culture*, Harvard Univ. Press, 1988).



Cognition cognitive processes are fundamentally dependent on the body and its physical abilities as well as embedded in the environment. Due to the concept of enaction² an organism actively creates his world in mutual and dynamic interactions with the environment. Environment refers to the actual physical surroundings as well as the historical, cultural and social background. In this phenomenological and enactive paradigm of intersubjectivity meaning is co-constructed in face-to-face encounters as 'participatory sense-making' through "mutual incorporation, i.e. a process in which the lived bodies of both participants extend and form a common intercorporeality"³.

According to the phenomenological distinction between the *lived/ animated body (Leib)* and the *physical body (Körper)* mutual attunement occurs in the 'In-Between':

The *lived body's impression* in the one person (A) becomes a *living body's visible expression* for the other person (B), and vice versa: the impression produced in B's lived body becomes a living body's expression for A. Thus, it is the peculiar 'chiasmatic' structure of the body as the turning point of interior and exterior, as both *Leib* and *Körper*, which enables the interlacement of self and other in the process of mutual affection and perception.

This analysis may be regarded as an articulation of Merleau-Ponty's concept of 'intercorporeality' (*intercorporité*, Merleau-Ponty 1960)⁴.

Especially because of these pre-reflective and pre-conceptual aspects of engagement - in contrast to more conscious and cognitive approaches - Meyer et al.⁵ propose intercorporeality as a meaningful model for the research on interaction from an embodied point of view.

Alongside the actual encounter there are also diachronic dimensions: Early experiences in interaction with others are sedimented in the corporeal and intercorporeal memory as patterns and are re-enacted in relationships as implicit relational knowledge.⁶ So "every past experience of being-in-relation and being-in-resonance shapes and forms the present and future individual potential to resonate"⁷.

Interbodily resonance as reciprocal attunement of bodily and facial expressions, postures and movements⁸ as well as synchronization are of high importance for interaction processes. Synchronization for example is considered a significant relationship component and an indicator of a sense of belonging and feeling understood in mother-child

² Varela, F. J., Thompson, E., & Rosch, E., *The Embodied Mind: Cognitive Science and Human Experience*, MIT Press, 1991.

³ Fuchs, T., & De Jaegher, H., "Enactive intersubjectivity: Participatory sense-making and mutual incorporation", in *Phenomenology and the Cognitive Sciences*, 8(4)/ 2009, 465-486, 465.

⁴ Fuchs, T., "Intercorporeality and Interaffectivity", in *Phenomenology and Mind*, 11/ 2016, 194-209, 200.

⁵ Meyer, C., Streeck, J., & Jordan, J. S., *Intercorporeality: Emerging socialities in interaction*, Oxford University Press, 2017.

⁶ Fuchs, T., "Intercorporeality and Interaffectivity", in *Phenomenology and Mind*, 11/ 2016, 194-209.

⁷ Mühlhoff, R., "Affective resonance and social interaction", in *Phenomenology and the Cognitive Sciences*, 14(4)/2014, 1001-1019, 1013.

⁸ Fuchs, T., & Koch, S. C., "Embodied affectivity: on moving and being moved" in *Frontiers in Psychology*, 5/ 2014, 508.

relationships as well as in therapy contexts.⁹ Thereby resonance can be understood as an umbrella term that includes different phenomena of mutual reference. While synchronization is related to the timing, resonance includes phenomena beyond close temporal coordination or phenomena that are not related to personal relationships such as in nature¹⁰.

2. Interaction of d/Deaf persons

The dominant view regarding hearing loss and deafness depicts challenges in verbal interaction, access to language, psychosocial effects and challenges in everyday life. However, the embodiment perspective offers a different view to this discourse. How can interaction of d/Deaf persons be seen through the lens of intercorporeality?

First of all, regarding the physical prerequisites the experiences of d/Deaf persons are fundamentally different from those of hearing people because of different sensory-motor perceptual conditions. As auditory perception becomes less important, visual perception gains significance. For Deaf persons by using sign language “the embodied self is obvious and central throughout their whole lives because it is through the body that language

is formed and identity is performed (the signing person, not the person who uses sign language)”¹¹.

Furthermore, from an intercorporeal point of view the question of when a hearing loss is experienced is crucial, may it be from birth as with congenitally d/Deaf or acquired in early childhood or later in life. Congenital d/Deafness e.g. is not “experienced as the missing of some positive sense, being deaf or deafblind doesn’t mean to have an incomplete form of experience but a different form of experience”¹². An acquired hearing loss occurring later in life, e.g. deafness or even progressive hearing loss in adulthood, means a massive experience of loss of previous communication possibilities and thus of social functioning. With the discrepancy between the habitual body¹³ and the actual body with the current abilities in a concrete situation, the difference to one’s own former normality can be well described. A musician who became deaf can no longer react in the same way to the request or affordance of his instrument to be played.

Of high relevance are limitations in verbal interaction as they often cannot ‘flow’ in a relaxed and natural way and often are experienced as ‘strained’ by both parties. Considering interaction as co-construction of meaning by corporeally mediated

⁹ Ramseyer, F., & Tschacher, W., “Nonverbal synchrony in psychotherapy: coordinated body movement reflects relationship quality and outcome”, in *Journal of Consulting and Clinical Psychology*, 79(3)/ 2011, 284-295.

¹⁰ Pfänder, S., Herlinghaus, H. & Scheidt, C.E., „Synchronisation in Interaktion: Eine interdisziplinäre Annäherung an multimodale Resonanz“, in: Breyer, T., Buchholz, M., Hamburger, A., Pfänder, S. & Schumann, E., *Resonanz–Rhythmus–Synchronisierung. Interaktion in Alltag,*

Therapie und Kunst, transcript Verlag, 2017, 65-84.

¹¹ Young, A., Ferguson-Coleman, E., & Keady, J., “Understanding the personhood of Deaf people with dementia: Methodological issues” in *Journal of Aging Studies*, 31/ 2014, 62-69, 68.

¹² Gallagher, S., “Embodied Intersubjective Understanding and Communication in Congenital Deafblindness”, in *Journal of Deafblind Studies on Communication*, 3/ 2017, 46-58, 55.

¹³ ‘corps habituel’ according to Merleau-Ponty.

attunement processes, the focus here is not on the individual and his or her supposed inability or limited ability to receive and decode verbally sent messages but on two agents interacting in a specific environment.

For the understanding of interaction processes, the embodied perspective offers an approach that points out different influencing factors regarding each of the interaction partners, the 'In-Between' and the environment. For the interaction of d/Deaf persons the following aspects could have influence:

Regarding the interaction partners and their self-resonance, the different sensorial perception leads to different embodied experiences and different channels of communication. Interaction experiences in verbal communication might be exhausting and frustrating on the part of the d/Deaf person, for Deaf signers additionally unsatisfactory because the environment often cannot sign. These experiences might be sedimented in the body. Expectations on verbal exchange might be strained, the (self-)confidence in successful communication rather low. For deaf persons the experience of higher stress levels and physical tension in communication situations is documented¹⁴.

The hearing interaction partner's mental or stress state is influential as well. There might be uncertainties about how to deal

with the unfamiliar and stressful situation, growing tension could be found on this side, too. Respective past experiences with d/Deaf-hearing communication might be sedimented in the body of the hearing partner as well and so might influence the mutual attunement and resonance. As the interaction always is embedded in a specific setting and social environment it must be stated that the physical surroundings are mainly tailored to auditory perception and often do not fulfill the requirements of d/Deaf persons, e.g. regarding light, sound conditions and alert systems. The impact of the social context on the interaction and attunement processes becomes visible with the societal understanding of d/Deaf persons as 'disabled' persons which may lead to being stigmatized and pitied.

3. Human-Animal-Interaction (HAI) through the lens of intersubjectivity

Several publications introduce embodied intersubjectivity and reciprocal corporeality in the context of Human-Animal interaction¹⁵. The enactive approach is even proposed as a unifying theoretical framework explaining potential benefits of human-animal-encounters¹⁶. Phenomenological aspects

¹⁴ Holman, J. A., Drummond, A., Hughes, S. E., & Naylor, G., "Hearing impairment and daily-life fatigue: a qualitative study", in *International Journal of Audiology*, 58(7)/ 2019, 408-416, Zaidman-Zait, A. & Dotan, A., "Everyday Stressors in Deaf and Hard of Hearing Adolescents: The Role of Coping and Pragmatics", in *The Journal of Deaf Studies and Deaf Education*, 3/ 2017, 257-268.

¹⁵ Brandt, K., "A language of their own: An interactionist approach to human-horse communication", in *Society & Animals*, 12(4)/ 2004, 299-316, Birke, L. & Brandt, K., "Mutual corporeality: Gender and human/ horse relationships", in *Women's Studies International Forum*, 32(3)/ 2009, Elsevier, 189-197.

¹⁶ Verheggen, T., Enders-Slegers, M.-J., & Eshuis, J., "Enactive Anthrozoology: Toward an integrative theoretical model for understanding

of animal experience¹⁷ are stated as well as suggestions for a phenomenological research approach¹⁸. Even outside the field of Human-Animal-Studies some interaction researchers attribute intercorporeal attunement to animals as well, instancing the guide-dog for the blind or intercorporeality with horses while riding¹⁹. Aspects of animal corporeality and reciprocal attunement offer an innovative approach to the study of human-animal relationships and new implications for ethical considerations²⁰. In Human-Animal encounters, too, the present mental or stress state and experiences in the past affect the potential of self-resonance and thereby the intercorporeal resonance likewise. Signs of indisposition at the animal part can have effects on a bodily level - even if they are not registered by the human part. Thus, the well-being of the animal is an unconditional prerequisite for positive effects of animals on humans and so the intercorporeal paradigm provides arguments to consider animal welfare beyond ethical claims. In this sense the concept of the interconnectedness of living beings and the environment

reflects the One Health/ One Welfare Paradigm which states the mutual dependence of the well-being of humans, animals and environment²¹. The stress-buffering effects of animals are proved by several research activities. As interaction means reciprocal attunement, lower stress levels as well as reduced tension in the human interaction partner may be influential. As the animal doesn't reflect the interaction as such in a human manner, thus irritation or embarrassment on his part can be ruled out. Regarding the diachronic dimension, possibly past negative experiences of interaction with humans may not be transferred as the animal as an interaction partner is completely different from human counterparts.

4. Interaction research

In current interaction research, mainly ethnomethodological conversation analysis, embodiment is considered on different levels. Bodily forms of expression beyond talk, gesture and gaze are analyzed using a multimodal approach²², even if sensorial aspects

the therapeutic relationships between humans and animals", in *Human-Animal Interaction Bulletin*, 2/ 2017, 13-35.

¹⁷ Lestel, D., Bussoline, J., Chrulow, M., "The Phenomenology of Animal Life", in *Environmental Humanities*, 5/ 2014, 125-148.

¹⁸ Dutton, D., "Being-with-animals: Modes of embodiment in human-animal encounters", in Hockenull, J. & Birke, L., *Crossing Boundaries: Investigating human-animal relationships*, Brill, 2012, 91-112.

¹⁹ Meyer, C., Streeck, J., & Jordan, J. S., *Intercorporeality: Emerging socialities in interaction*, Oxford University Press, 2017.

²⁰ Dutton, D., "Being-with-animals: Modes of embodiment in human-animal encounters", in

Hockenull, J. & Birke, L., *Crossing Boundaries: Investigating human-animal relationships*, Brill, 2012, 91-112.

²¹ Hediger, K., Meisser, A., & Zinsstag, J., "A One Health Research Framework for Animal-Assisted Interventions", in *International Journal of Environmental Research and Public Health*, 16(4)/ 2019.

²² Deppermann, A. & Streeck, J., "The body in interaction. Its multiple modalities and temporalities", in Deppermann A. & Streeck, J., *Time in Embodied Interaction: Synchronicity and sequentiality of multimodal resources*, John Benjamins Publishing Company, 2018, 1-29.

have been somewhat neglected so far²³. Meyer et al.²⁴ discuss intercorporeal aspects as foundation for interaction. Methodological implications of the embodiment approach in qualitative research are taken into account, e.g. regarding modes of transcription²⁵. To capture the bodily attunement there is a corpus of research on the neurological basis of intersubjectivity. Studies investigated the role of mirror neurons, and Polyvagal Theory of neuroception as well as synchronization of brains interaction²⁶. Furthermore, there are approaches to monitor (nonverbal) synchronization in interaction, e.g. motion energy²⁷. But: In order to investigate the interactive experience of intercorporeal interaction, methods are necessary that do not only describe observable multimodal bodily aspects in interaction, but also include the researcher's body itself in the investigation. To include

the subjective experience of the researchers De Jaegher et al.²⁸ present a systematic protocol (PRISMA) which involves the experience of different observers. Katila & Raudaskoski²⁹ offer a micro-analysis which includes the researcher's experience as well: After the multimodal analysis of an interaction sequence the researchers analyze their own video-recorded exchange.

If one directs the view on the **interaction of d/Deaf persons**, in the interaction analysis discourse "practices of hearing ... are often presupposed but not topicalized as such"³⁰. For adults with acquired hearing loss "studies concerning interactional aspects of hearing loss based on video-taped authentic encounters are still a desideratum"³¹. The research focus is rather on elevating self-reports of interaction experiences through interviews, surveys and questionnaires than investigating naturally

²³ Mondada, L., "Contemporary issues in conversation analysis: Embodiment and materiality, multimodality and multisensoriality in social interaction", in *Journal of Pragmatics*, 145/ 2019, 47-62.

²⁴ Meyer, C., Streeck, J., & Jordan, J. S., *Intercorporeality: Emerging socialities in interaction*, Oxford University Press, 2017.

²⁵ Chadwick, R., "Embodied methodologies: challenges, reflections and strategies", in *Qualitative Research*, 17(1)/ 2017, 54-74.

²⁶ Dumas, G., Nadel, J., Soussignan, R., Martinerie, J., & Garnero, L., "Inter-Brain Synchronization during Social Interaction", in *PLoS One*, 5(8)/ 2010, e12166.

²⁷ Ramseyer, F., & Tschacher, W., "Nonverbal synchrony in psychotherapy: coordinated body movement reflects relationship quality and outcome", in *Journal of Consulting and Clinical Psychology*, 79(3)/ 2011, 284-295.

²⁸ De Jaegher, H., Pieper, B., Cl nin, D. & Fuchs, T., "Grasping intersubjectivity: an invitation to

embody social interaction research", in *Phenomenology and the Cognitive Sciences*, 16(3)/ (2017), 491-523.

²⁹ Katila, J., & Raudaskoski, S., "Interaction Analysis as an Embodied and Interactive Process: Multimodal, Co-operative, and Intercorporeal Ways of Seeing Video Data as Complementary Professional Visions", in *Human Studies*, 43(3)/ 2020, 445-470.

³⁰ Mondada, L., "Contemporary issues in conversation analysis: Embodiment and materiality, multimodality and multisensoriality in social interaction", in *Journal of Pragmatics*, 145/ 2019, 47-62, 51.

³¹ Egbert, M., & Deppermann, A., "Introduction to conversation analysis with examples from audiology", in Egbert, M. & Deppermann, A., *Hearing Aids Communication. Integrating Social Interaction, Audiology and User Centered Design to Improve Communication with Hearing Loss and Hearing Technologies*, Verlag f r Gespr chsforschung, 2012, 40-47, 9.

occurring interaction³². Only few researchers as Kaul³³ analyzed real-life interactions of deaf adults with Conversation Analysis and could show how misunderstandings and difficulties in understanding were countered with deferring expectations and repair strategies. In regard to Deaf students Adami and Swanwick³⁴ criticize that usually only resources of speech and/or sign language and writing are analyzed with the result of limited understanding of the interacting parties and claim “multimodal frameworks that can account for situated meaning-making beyond ‘codified/linguistic’ resources”³⁵. To sum up research on the processes of the co-creation of meaning occurring in interaction with d/D persons is very limited.

Human-Animal Interaction is a growing interdisciplinary field of research³⁶, but currently mainly the impact on the human part is assessed. The outcomes of the research are partly inconclusive or inconsistent. As reasons among others the variety of methodologies and the wide range in human and animal participants are cited. As

other research limitations weak designs without control conditions and small sample sizes are named.³⁷ From the intercorporeal perspective could be added that in most cases neither the ‘condition’ or better the well-being of the animal nor the the ‘getting involved with each other’ or mutual engagement nor the influences of the setting have been captured. And more often than not the individual conditions, needs and preferences of the human and the animal part were not assessed and considered. Looking for the underlying effect mechanism it is pointed out that Human-Animal Interaction has been treated as a construct with certain effects but without assessing what exactly happens in the process of interaction and which ingredients in which dosage are efficacious for whom³⁸. Accordingly, there is a lack of appropriate research tools and methods. Wilson & Netting (2012) provide an overview of available tools for assessing Human-Animal Interaction. None of them captured reciprocal processes in interaction. From an intercorporeal point of view it is highly unsatisfactory to evaluate a two-way Human-Animal Interaction by only

³² Egbert, M., & Deppermann, A., “Introduction to conversation analysis with examples from audiology”, in Egbert, M. & Deppermann, A., *Hearing Aids Communication. Integrating Social Interaction, Audiology and User Centered Design to Improve Communication with Hearing Loss and Hearing Technologies*, Verlag für Gesprächsforschung, 2012, 40-47.

³³ Kaul, T., *Kommunikation schwerhöriger Erwachsener*, Kovaléc, 2003.

³⁴ Adami, E. & Swanwick, R., “Signs of understanding and turns-as-actions: a multimodal analysis of deaf–hearing interaction”, in *Visual Communication*, 2019, Sage, 1-25.

³⁵ Adami, E. & Swanwick, R., “Signs of understanding and turns-as-actions: a multimodal

analysis of deaf–hearing interaction”, in *Visual Communication*, 2019, Sage, 1-25, 21.

³⁶ Yacilla, J. K., “A Panorama of Human–Animal Interactions Research: Bibliometric Analysis of HAI Articles 1982–2018”, in *Anthrozoös*, 2020, 1-13.

³⁷ Rodriguez, K. E., Herzog, H., & Gee, N. R., „Variability in Human-Animal Interaction Research”, in *Frontiers in Veterinary Science*, 7/ 2021, 1-9, Serpell, J., McCune, S., Gee, N., & Griffin, J. A., “Current challenges to research on animal-assisted interventions”, in *Applied Developmental Science*, 21(3)/ 2017, 223-233.

³⁸ Vitztum, C., “Human-animal interaction: a concept analysis”, in *International Journal of Nursing Knowledge*, 24(1)/ 2012, 30-36.

evaluating one part of the dyad or by only asking human-centric questions.

There are some studies analyzing behavioral synchronization in interaction³⁹, emotional transfer⁴⁰ and synchronization of biological markers as Heart Rate Variability (HRV) among others⁴¹.

For the analysis of the behavior of humans and animals in interaction two instruments were developed and tested. The *OHAIRE Coding Tool: Observation of human-animal interaction for Research*⁴² captures emotional display, facial and verbal cues of the human part in the interaction. The state, behavior and expressions of the animal part are not assessed. Another tool is the Human Animal Interaction Scale⁴³ which describes and quantifies behavioral interactions be-

tween humans and animals. Here the animal's behavior is captured but from the perspective and the estimation of the human part. The look at the available instruments reveals a gap: The instruments listed do not fulfill the requirements of embodied interaction research, as there is no instrument that takes the two interaction partners as well as the 'In-Between' into account, let alone the intercorporeal experience.

5. Embodied d/Deaf Human-Animal Interaction research - an approach

Especially to capture the animal's perspective and the 'In-Between', the intercorporeal attunement, a phenomenological research perspective with regard to the first-person experience can provide a suitable

³⁹ Griffioen, R. E., van der Steen, S., Verheggen, T., Enders-Slegers, M. J., & Cox, R., "Changes in behavioural synchrony during dog-assisted therapy for children with autism spectrum disorder and children with Down syndrome", in *Journal of Applied Research in Intellectual Disabilities*, 2019, Pirrone, F., Ripamonti, A., Garoni, E. C., Stradiotti, S., & Albertini, M., "Measuring social synchrony and stress in the handler-dog dyad during animal-assisted activities: A pilot study", *Journal of Veterinary Behavior*, 21/ 2017, 45-52.

⁴⁰ Scopa, C., Contalbrigo, L., Greco, A., Lanatà, A., Scilingo, E. P., & Baragli, P., "Emotional Transfer in Human-Horse Interaction: New Perspectives on Equine Assisted Interventions", in *Animals*, MDPI, 9(12)/ 2019.

⁴¹ Duranton, C., Bedossa, T., & Gaunet, F., "Interspecific behavioural synchronization: dogs exhibit locomotor synchrony with humans", *Scientific Reports*, 7(1)/ 2017, 12384, Naber, A., Kreuzer, L., Zink, R., Millesi, E., Palme, R., Hediger, K., & Glenk, L. M., "Heart rate, heart rate variability and salivary cortisol as indicators of arousal and synchrony in clients with

intellectual disability, horses and therapist during equine-assisted interventions", in *Pet Behaviour Science*, 7/ 2019, 17-23, Schöberl, I., Wedl, M., Beetz, A., & Kotrschal, K., "Psychobiological Factors Affecting Cortisol Variability in Human-Dog Dyads", *PLoS One*, 12(2)/ 2017, e0170707.

⁴² O'Haire, M.E., McKenzie S.J., Beck A.M. & Slaughter V., "Social Behaviors Increase in Children with Autism in the Presence of Animals Compared to Toys". *PLoS ONE* 8(2)/ 2013 e57010, Guérin, N. A., Gabriels, R. L., Germone, M. M., Schuck, S. E. B., Traynor, A., Thomas, K. M., McKenzie, S. J., Slaughter, V., & O'Haire, M. E., "Reliability and Validity Assessment of the Observation of Human-Animal Interaction for Research (OHAIRE) Behavior Coding Tool", in *Frontiers in Veterinary Science*, 5/ 2018, 268.

⁴³ Fournier, A. K., Berry, T. D., Letson, E., & Chanen, R., "The Human-Animal Interaction Scale: Development and Evaluation", in *Anthrozoös*, 29(3)/ 2016, 455-467.

framework. Usually, the researcher strives to leave his own subjective experience out of the investigation, to maintain objectivity and neutrality. But from the enactive perspective the researcher is an embodied agent, too, and the double aspect of perception - to perceive oneself and the other at the same time through the lived body - also applies to him.

Whereas the third-person perspective, the 'objective' view, can be investigated by the analysis of observations and the measuring of physiological markers among others, the other's first-person 'subjective' experience is not directly accessible. Humans can be asked regarding their experience during interaction, but the animal's perspective is difficult to capture.

How could an approach to an embodied methodology and research design for the analysis of the interaction of a d/Deaf person with an animal look like? A qualitative combined with a quantitative research approach in a mixed-methods design will best capture the complexity of entanglements. From the perspective of co-production of meaning it is essential to leave the anthropocentric perspective behind and regard the human and the animal interaction partner's perspective alike. Particularly challenging is the capture of the animal's perspective and the 'In-Between'.

The basis could be videotaped free unstructured encounters of dyads of d/Deaf persons and animals. An alternative approach to grasp intercorporeal interaction processes could include the following aspects, based on and adjusting existing approaches:

- the involvement of several observers to include different perspectives
- the observation and coding of bodily behaviour of each - human and animal - part (as gaze, posture, movements among others) and the investigation of whether and how they relate to each other
- the inclusion of aspects of perception of oneself, the other and the 'In-Between' through the observers' bodily sensations as breathing and posture – adjusting ideas of the PRISMA on Human-Animal Interaction⁴⁴.

Conclusions

An enactive approach with the emphasis on intercorporeal reciprocal attunement seems to be a highly suitable perspective for the understanding of interaction processes of d/Deaf persons. This perspective directs the view on factors with influence on the interaction regarding each of the interaction partners, the 'In-Between' and the environment, beyond the narrowing to the hearing loss. Regarding Human-Animal Interaction, aspects of animal corporeality and intercorporeality provide new implications for ethical considerations and reflect the One-Health paradigm. Several facets indicate a possible positive impact for d/Deaf persons through the interaction with an animal, these might be transferable to rehabilitation and therapeutic contexts. And finally an embodied methodology points to possibilities of capturing not only the human but also the animal's perspective and maybe even the 'In-Between', the somehow elusive resonance.

⁴⁴ De Jaegher, H., Pieper, B., Clénin, D. & Fuchs, T., "Grasping intersubjectivity: an invitation to embody social interaction research", in *Phenomenology and the Cognitive Sciences*, 16(3)/ (2017), 491-523.

