## Workshop: Pointing, touch, skill

- 1. Pointing is co-operative seeing
- 2. Co-operative pointing is co-operative learning
- 3. Co-operative learning creates shared skills through co-operative pointing and seeing

These three maxims represent three aspects of a key doctrine that finds expression across the human sciences: that the quintessence of humans as a species, what sets them apart from all other animals, is their ability to co-operate, and that the most basic manifestation of this ability, on both an ontogenetic and phylogenetic level, is pointing. Even if formulations of this doctrine may vary in such fields as linguistics, sociology, anthropology, psychology and philosophy, these three interrelated principles repeatedly emerge. The aim of this workshop is to bring together researchers from these disciplines to develop a common theoretical framework and terminology to capture these insights.

While the three maxims presented above may seem self-evident (even if still in need of theoretical elaboration and empirical investigation) to many researchers today in the human sciences, they are in fact of rather recent vintage. Pointing, and the difficulties of achieving shared orientation and attention in the world, were problems famously addressed by Ludwig Wittgenstein in the first half of the twentieth century, but only as a means for uncovering the unfounded assumptions lurking in the background to contemporary philosophy, as in his discussion of ostensive definition:

[W]hat does 'pointing to the shape', 'pointing to the colour' [of an object] consist in? Point to a piece of paper. – And now point to its shape – now to its colour – now to its number (that sounds queer).– How did you do it? – You will say you 'meant' a different thing each time you pointed. And if I ask how that is done, you will say you concentrated your attention on the colour, the shape, etc. But I ask again: How is *that* done? (Wittgenstein 1958 [1953]: §33)

Some years earlier, Karl Bühler (2001 [1934]) had addressed similar questions in his *Theory of Language*, a book that synthesised scholarship across philosophy, linguistics and psychology to produce a comprehensive account of language. Here Bühler distinguished between the 'deictic field' (*Zeigfeld*) and 'symbolic field' (*Symbolfeld*), the former being the

domain in which language is used to point to features of the speech situation and the latter the frame of reference provided by the forms and structure of a language for creating representations. In successive sections of his book, Bühler examined the operation of both fields in detail. In his discussion of the deictic field, which drew in particular on the work of linguists Philipp Wegener (1991 [1885]) and Karl Brugmann (1904), Bühler conceptualised this use of language as a direct extension of physical pointing into the linguistic realm:

The arm and finger gesture of man, to which the index finger [*Zeigefinger*] owes its name, recurs when the signpost imitates the outstretched 'arm'; in addition to the arrow symbol, this gesture is a widespread sign to point the way or the direction. Modern thinkers such as Freyer and Klages have paid well-deserved attention to this gesture, characterizing it as specifically human. There is more than one way to point with gestures; but let us dwell on the signpost: where the pathway branches, or in countryside lacking pathways an 'arm' or 'arrow' is erected so that it can be seen from far off; an arm or arrow normally bears a place-name. If all goes well it does good service to the traveller; and the first requirement is that it must be correctly positioned in its *deictic field* [*Zeigfeld*]. Not much more than this trivial insight need be retained, and the question posed as to whether spoken language contains signs that function as signposts. The answer is yes, deictic words [*Zeigwörter*] such as *here* and *there* have a similar function. (Bühler 2011 [1934]: 93)

Bühler's texts have been enormously fruitful for much subsequent linguistic scholarship and can be considered one of the key moments in the establishment of the modern field of pragmatics (see Nerlich and Clarke 1996: 224–239).

But apart from Bühler's pioneering work on deixis and Wittgenstein's problematisation of ostension, the central place of pointing in human interaction was not a major topic in the human sciences of the early twentieth century. It finds no mention, for example, in the philosophical anthropology of the 1920s or in early phenomenology. It was only through increasing study of gesture with the advent of audio-visual sequence analysis mid-century (see McElvenny and Ploder 2021) that pointing came to be accorded the crucial role it enjoys today in much theorising about human communication and co-operation. This role is visible, among other places, in Charles Goodwin's (2018) studies of interaction, where pointing proved itself to be a key component in the interactional strategies of everyone from sufferers of aphasia to doctors, scientists and lawyers establishing their 'professional vision', their professionally informed interpretation of what it is that is seen (see also Goodwin 1994). Similarly, Colwyn Trevarthen and Kenneth Aitken (2001) definitively demonstrated the importance of pointing to the development of intersubjectivity in infants. For Michael Tomasello, it is a simple matter of fact that we use and understand pointing and miming instinctually. He identifies in them the evolutionary origins of all human communication:

Human beings [...] find such gestures as pointing and pantomiming totally natural and transparent: just look where I am pointing and you will *see* what I mean. [...] My central claim [...] is that to understand how humans communicate using a language and how this competence might have arisen in evolution, we must first understand how humans communicate with one another using natural gestures. Indeed, my evolutionary hypothesis will be that the first uniquely human forms of communication were pointing and pantomiming. (Tomasello 2010 [2008]: 1–2)

## **Co-operative seeing**

Another thread in the current literature on the evolution of human sociality has led us to the formulation of 'co-operative seeing' that permeates our opening maxims. In his ambitious sketch of human history, David Sloan Wilson proposes that group selection has been one of the chief forces driving human evolution. Among the things he identifies as binding human groups together as single evolutionary units are the following three factors:

- 1. *Eyes as organs of communication*. We are the only primate species with white sclera and other features that provide information to our social partners about direction of gaze, emotional state, and more. According to the 'cooperative eye' hypothesis, this is because this degree of helpfulness was not favoured in any other primate species [...]
- Pointing. Even though pointing appears simple to use and appear
  [in] early infancy, apes evidently do not point things out to each other or do anything comparable in natural environments. [...]

What seems to be lacking is a sense of what others might want and/or the motivation to help by pointing. [...]

 Shared social awareness in human infants. From an amazingly early age, human infants have an ability to adopt the perspective of others and to help by pointing, joining a task, or otherwise coordinative activities. In short, humans have instincts for *teamwork* that appear extremely early in life [...] (Wilson 2011: 136–137)

These three qualities clearly depend on each other; they all have to do with collaboration through vision, what we have term 'co-operative seeing'. Even if we take these as three fundamental factors driving human evolution, we must still ask what co-operation consists in and how it arises. 'Human evolution', writes Wilson (2011: 133), 'can be described in terms of three C's: Cognition, Culture, and Cooperation.' But Wilson is content with a general sociological explanation that leaves the puzzle of co-operation unsolved and simply assumes it as a axiomatic principle: 'The entire package of traits that make humans so distinctive are forms of teamwork that require interaction among trustworthy partners. The first C to evolve was cooperation and the other two C's are forms of cooperation' (ibid.).

Our notion of co-operative seeing also allows us to bridge the gap between the world of shared perception (with its specific resources) and the world of linguistic deixis, which can reach anything that is available to the participants in ongoing linguistic co-ordination and therefore greatly exceeds the immediate context of shared visual perception. Deictic practices enable us to 'see' things in a shared space of orientation that is not visually present and to keep things available that have shown themselves in perceptual space. That is to say, deixis mediates attention between the realms of perception and representation. Deictic procedures are intermediaries between our own resources for orientation and those of others. In this context, Anja Stukenbrock (2015: 22) speaks of a 'multimodal space of condensation' (*multimodale Verdichtungsraum*) at the interface of gaze, gesture and linguistic deixis.

But the overriding unity of gaze, gesture and linguistic deixis is all too often occluded in contemporary investigations. In contrast to the grand theory building of classical modernity, the period after the Second World War has been characterised by the formation of new disciplines and the balkanisation of research. Psychologists, linguists, sociologists and anthropologists have spoken less and less to one another and accordingly their dialects have diverged. Terminological and conceptual unity has fractured and researchers are left speechless when faced with the most fundamental theoretical questions.

## The paradox of theoretical convergence amid disciplinary divergence

We are confronted with an inescapable paradox: on the practical level, there has emerged a cross-disciplinary consensus on the importance of pointing, deixis and indexicality to human co-operation, but on the level of theory formation, there is no common vocabulary or conceptual framework in which to communicate the insights won across the various disciplines. The responsibility for formulating an ultimate theory of co-operation is always shifted to other disciplines or to empirical research. Linguists locate the basis of human co-operation not in language, but in a pre- and extra-linguistic 'human interaction engine' (Levinson 2006). Cognitive scientists, by contrast, find this basis in the material practices of evolutionary history, such as hunting (Sterelny 2016). Social theorists in turn look to a faculty of language or communication (Garfinkel and Sacks 1970). Developmental psychologists appeal to phenomenological motifs, such as 'intersubjectivity', *Spiel*, 'tuning', etc (Trevarthan and Aitken 2001; Stern 1985).

This workshop will step up to the challenge of formulating a new transdisciplinary theory of human co-operation, taking as its point of departure the three maxims above that have been distilled from a survey of existing research literature. The workshop brings together three projects in the CRC Media of Co-operation. P02 Anthropology of Co-operation leads the workshop. Through its research into the intellectual history of the concepts of co-operation and interaction, it will sketch a background against which the new theory can be developed. P01 Multisensory Mediality and Co-operative Practice, which investigates multisensorial practices from an ethnomethodological perspective, will provide theoretical and empirical resources for the construction of the new theory. B05 (Early) Childhood and Smartphone, looking back at a decade of empirical research into the use and interaction of small children with smartphones and other digital media, will contribute key insights into developmental aspects of pointing, touch and co-operation.

## References

Brugmann, Karl. 1904. ,Die Demonstrativpronomina der indogermanischen Sprachen', in Abhandlungen der sächsischen Gesellschaft der Wissenschaften, 22:

- Bühler. 2011 [1934]. *Theory of Language: The representational function of language*. Amsterdam: Benjamins.
- Garfinkel, Harold, and Harvey Sacks. 1970. 'On formal structures of practical action', in *Theoretical Sociology*, ed. J. C. McKinney und E. A. Tiryankian, pp. 337–366. New York: Apple-Century-Crofts.

Goodwin, Charles. 1994. 'Professional vision', American Anthropologist 96.3: 606–633.

- Goodwin, Charles. 2018. *Co-operative Action*. New York, Cambridge: Cambridge University Press.
- Levinson, Stephen C. 2006. 'On the human "interaction engine"', in *Roots of Human Sociality: Culture, Cognition and Interaction*, ed. Nick J. Enfield und Stephen C. Levinson, pp. 39–
  69. Oxford: Berg.
- McElvenny, Jame, and Andrea Ploder, eds. 2021. *Holisms of communication: The early history* of audio-visual sequence analysis. Berlin: Language Science Press.
- Nerlich, Brigitte, and David D. Clarke. 1996. *Language, Action and Context: The early history of pragmatics in Europe and America*. Amsterdam: Benjamins.
- Sterelny, Kim. 2016. 'Cooperation, culture, and conflict', *British Journal for the Philosophy of Science* 67: 31–58.
- Stern, Daniel. 1985. The interpersonal world of the infant. New York: Basic Books.
- Stukenbrock, Anja. 2015. Deixis in der face-to-face-Interaktion. Berlin: De Gruyter.
- Tomasello, Michael. 2010 [2008]. *The Origins of Human Communication*, Cambridge, MA: MIT Press.
- Trevarthen, Colwyn, and Kenneth Aitken. 2001. 'Infant Intersubjectivity: Research, Theory, and Clinical Applications', *Journal of Child Psychology and Psychiatry*, 42.1: 3–48.
- Wegener, Philipp. 1991 [1885]. Untersuchungen über die Grundfragen des Sprachlebens, reprint with an introduction by Clemens Knobloch. Amsterdam: Benjamins.
- Wilson, David Sloan. 2011. 'The human major transition in religion, in symbolic behaviour, including language, imagination, and spirituality', in *Homo Symbolicus: The Dawn of Language, Imagination and Spirituality*, ed. Christopher S. Henshilwood and Francesco d'Errico, pp. 133–140. Amsterdam: Benjamins.
- Wittgenstein, Ludwig. 1958 [1953]. *Philosophical Investigations*, trans. by G. E. M. Anscombe. Oxford: Blackwell.