Viewpoint embedding in the life stories of people with schizophrenia.

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People with a schizophrenia diagnosis are hypothesized to experience difficulties with perspective-taking (e.g., Fuchs & Röhricht, 2017). To illuminate these difficulties, we use Mental Space Theory (Fauconnier, 1985) to analyze in a series of three studies the linguistic embedding of viewpoints in the life stories of people with schizophrenia (collected by the third author between 2018 and 2020). In the first study we build on basic notions of Mental Space Theory to develop the Deictic Navigation Network (DNN), a framework to analyze and clarify the nature of viewpoint disturbances in natural discourse. The framework rests on the notion that cognitive deficits in recognizing and distinguishing viewpoints parallel linguistic expressions of viewpoint in intersubjective discourse, in particular deictic expressions, speech and thought reports and implicit viewpoints. These expressions reflect how speakers embed and navigate between multiple viewpoints in the here-and-now Speech Act Domain and the there-and-then Narrative Domain. Accordingly, analyzing these expressions can elucidate the perspective-taking abilities of the Speaker and, importantly, help to localize potential viewpoint disturbances such as "loosing track", resulting in involuntarily blending of spaces.

In study 2, we apply the DNN to the life story of a person diagnosed with schizophrenia and analyze in detail the linguistic manifestation of viewpoint constructions. These constructions are found to emerge from the use of tense shifts, spatial deixis, and speech and thought reports. The analysis elucidates the complexity of managing multiple viewpoints in conversational narrative, both in linguistic and cognitive respect. The results furthermore reveal the Speaker's difficulties with separating between viewpoints anchored in different domains and to maintain viewpoint stability, as indicated by inconsistent use of spatial deictic adverbs and tense shifts. Thus, the DNN helps to pinpoint individual perspective-taking problems, specifying the ways in which people with a schizophrenia diagnosis might struggle with particular viewpoint presentation difficulties.

In study 3, we use the DNN to quantitatively analyze viewpoint embedding and navigation in a corpus of life stories told by people with schizophrenia (> 5,000 clauses). Results show that in general, Speakers were able to skillfully embed viewpoints other than their own current viewpoint. Shifts between the Speech Act Domain and the Narrative Domain were in most cases explicitly marked by means of a tense shift or temporal adverb, reflecting the ability to clearly distinguish between multiple viewpoints and domains and to avoid involuntarily blending of spaces.

In the final part of this talk, we will reflect on how Mental Space Theory can help to bridge the gap between phenomenological theory about schizophrenia and empirical research. We will furthermore discuss if and how Mental Space Theory can be of value to research in the fields of psychopathology and psychiatry that aims to understand the nature of mental illnesses. Finally, we will reflect on the application of Mental Space Theory for categorizing, coding and analyzing linguistic elements that signify mental spaces and domains and their embedding and blending in discourse of significant length and complexity, or even in larger corpora.

References
Fauconnier, Gilles. 1985. *Mental Spaces: Aspects of Meaning Construction in Natural Language.* Cambridge: Cambridge University Press.
Fuchs, Thomas & Röhricht, Frank. 2017. Schizophrenia and intersubjectivity: An embodied and enactive approach to psychopathology and psychotherapy. *Philosophy, Psychiatry, and Psychology* 24(2). 127–42.