

Cycle de conférence du CRIS

## **Embodied Communication – Nonverbal Synchrony in Social Interaction**

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When we consider social interaction from a dynamical systems viewpoint, one may expect a process of pattern formation to occur. This has been a core working hypothesis in my research on psychotherapy and other social interactions. A second expectation of systems thinking is that cognition and action are closely coupled, as expressed by the concept of embodiment. Both ideas have ultimately generated a series of research projects centering on nonverbal synchrony – synchrony as an empirical indicator of pattern formation in embodied communication. In these projects, we have been using the video-analysis tool MEA (Motion Energy Analysis) and other actigraphic measures to capture the body movement of social agents. We then computed synchrony based on the crosscorrelations of the interactants' movement time series. In a further step, this correlational measure of synchrony was evaluated using surrogate tests.

In psychotherapy, we found the quality of the therapeutic alliance was represented by the degree of nonverbal synchrony between therapist and patient. Synchrony was further associated with personality features of patients, such as their attachment styles and interpersonal problems. In schizophrenia patients, nonverbal synchrony with healthy partners during diagnostic role plays was significantly related to symptom profiles. In a single-case study using actigraphic sensors we found that the synchrony of patient and therapist increased with time in the course of treatment. The different findings accumulated so far suggest that the degree of nonverbal synchrony may be a pivotal predictor of features of social interaction, of individual emotional responses, as well as an objective and sensitive indicator of the severity of psychopathology in schizophrenia. In addition to this function as a signature of process variables, synchrony was also found predictive of aspects of therapy outcome such as patients' improved self-efficacy.