As we move in our daily lives we create synergies with other people on-the-fly. We coordinate conversations through body language, carry objects together, smoothly move through busy traffic, or do team sports. Through our mutual coordination we create a larger whole, a collective function that arises without words, mediated by embodied knowledge. What exactly does it take to complement, modulate, invite or guide actions of others in real time, while the environment evolves?

This project aims to learn about synergy building from interaction experts, using methods that help them explore and verbalize their often implicit expertise; from this we create a scoreline of the process by which a collective synergy is built. Three bodily practices are examined: Taichi (an Asian martial art), Acroyoga (acrobatic lifts) and Contact improvisation (a contemporary dance). In all three fields two individuals practice in close body contact and in a mindful fashion. Every moment is negotiated in real time and – the joint path arises as it is walked. Taichi contrasts slightly insofar as its dynamic isn’t collaborative; the purpose is to create synergies that induce loss of balance despite an opponent’s best efforts to prevent this.

We will invite experts to workshops, record them while they practice together with two cameras, and ask them to comment on the video-feedback; we have them explore variations of form or dynamics to discover “differences that make a difference”, explore boundaries, and find action alternatives. To ensure high temporal resolution of these reports we use micro-phenomenological interviewing tools that guide the experts’ attention to small interaction details. This will include trigger signals for starting, continuing, stopping or rerouting an action; skills for inviting and manipulating others; techniques used to maintain enabling geometries and balance between bodies or to stepwise build collective anatomy structures (e.g. connective force arcs, self-supporting bone alignment architectures or levers between bodies); skills for negotiating critical moments, repairing errors and developing novel options; and finally the individual’s bodily pre-organization that makes all this possible.

Micro-phenomenology puts the rich experiential knowledge of experts under the magnifying glass. While research on expertise and sports has applied similar methods, our zoom factor is innovative. It hands us a systematic and “stereoscopic” process audit, which tracks the micro-scale assembly of collective patterns and captures how varying aims or external conditions shape this. We expect multiple benefits: The data can inform biomechanic studies and interaction simulations; interaction pedagogy can benefit (e.g. train the trainer; self-observation); and Embodied Cognitive Science will welcome a fine-grained account explaining how structures of “intercorporeality” arise and which attentional, perceptual and regulation mechanisms support these ensemble functions.