

Master-Thesis

(M.Sc. Sport & Exercise Science)

Is Pantomime = Pantomime?

We use pantomimes to communicate an activity non-verbally. Inabilities to perform a pantomime is also the cardinal symptom of apraxia, a disorder of action following stroke. It is unclear whether a pantomime bases on the real action program or whether the motor commands a generated de novo for a communication. In the first scenario a pantomime would reflect expertise in the second scenario it would be independent from expertise. This thesis tests the two cases in sport experts (e.g. tennis players) versus novices.

Methods: Experimental work – 3-D Motion Capture (e.g., Qualysis or Vicon) and kinematic analyses.

Participants: Sport experts in a racket sport (e.g., Tennis) and Novices.

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Information/Literature:

Laimgruber, K., Goldenberg, G., & Hermsdörfer, J. (2005). Manual and hemispheric asymmetries in the execution of actual and pantomimed prehension. *Neuropsychologia*, 43(5), 682-692. DOI: 10.1016/j.neuropsychologia.2004.09.004

Hermsdörfer, J., Li, Y., Randerath, J., Goldenberg, G., & Johannsen, L. (2012). Tool use without a tool: kinematic characteristics of pantomiming as compared to actual use and the effect of brain damage. *Exp Brain Res*, 218(2), 201-214. DOI: 10.1007/s00221-012-3021-z

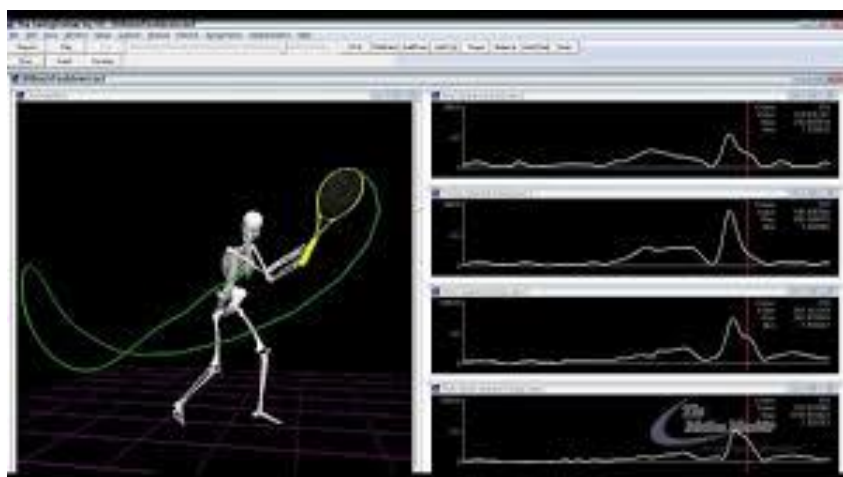


Figure: Motion capture of a tennis swing

