## Block Seminar Winter Semester 2020/21: Meaning – Embodiment – Extrospection

Lecturers: Martin Fischer, Michael Pauen, Friedemann Pulvermüller

Time: 26.11.2020, 18:00h and 15. – 19.3.2020, 10:00 – 17:00h

Venue: zoom

<https://hu-berlin.zoom.us/j/9426686881?pwd=cG5oZ0FJR0FZSVVxcmFNOFRvRUxCQT09>

Meeting-ID: 942 668 6881 – Passwort: KultPhil

Materials available on:

[www.pauen.com](http://www.pauen.com), click on „Studenten“, then select course

User name: mozart – Password: otto (both lowercase).

[www.brainlang.fu-berlin.de/teaching/WS2021](http://www.brainlang.fu-berlin.de/teaching/WS2021), select course, then ‘materials’

password: brainlang123 (lowercase)

**Seminar Syllabus**

###### I. Introduction: Perception, Action, Embodiment and Meaning

1. **Martin Fischer, MF:** **Brief introduction**, based on Witt, J. K. (2018). Perception and action. In: Serences, J.T. , & Wixted, J.T. (Eds.). Stevens' Handbook of Experimental Psychology and Cognitive Neuroscience, 4th ed. Vol. 2: Sensation, Perception, & Attention (pp. 489-523). New York: John Wiley Publishers. (This chapter should be read by all students; it provides the frame for the MF papers selected for later discussion)
2. **MF: Attention and body posture:** Hatukai, T., Algom, D., & Fischer, M. H. (2020).  Rodin has It! The role of hands in improving the selectivity of attention. Acta Psychologica (in press). <https://doi.org/10.1016/j.actpsy.2020.103160>
3. **MF: Affordances.** Chong, I., & Proctor, R. W. (2020). On the evolution of a radical concept: Affordances according to Gibson and their subsequent use and development. Perspectives on Psychological Science, 15(1), 117-132. doi: 10.1177/1745691619868207
4. **MF: Action informs perception**. Sakurada, T., Knoblich, G., Sebanz, N., Muramatsu, S. & Hirai, M. (2018). Probing links between action perception and action production in Parkinson's disease using Fitts' law. Neuropsychologia, 111, 201-208. doi: 10.1016/j.neuropsychologia.2018.02.001
5. **MF: Grounding and Embodiment I.** Barsalou, L. W., Kyle Simmons, W., Barbey, A. K., & Wilson, C. D. (2003). Grounding conceptual knowledge in modality-specific systems. Trends in Cognitive Sciences, 7(2), 84-91.
6. **Michael Pauen, MP: Mirror Neurons:** Rizzolatti, G., & Craighero, L. (2004). The mirror-neuron system. Annual Review in Neuroscience, 27, 169-192.  **Experimental**: Kohler, E., Keysers, C., Umilta, M. A., Fogassi, L., Gallese, V., & Rizzolatti, G. (2002). Hearing sounds, understanding actions: action representation in mirror neurons. Science, 297(5582), 846-848.
7. **Friedemann Pulvermüller, FP: Meaning and action A**. experimental psychology: Glenberg, A. M., & Kaschak, M. P. (2002). Grounding language in action. Psychonomic Bulletin & Review, 9(3), 558-565.
8. **FP: Meaning and action B**. neuroscience of language: Pulvermüller, F., & Fadiga, L. (2010). Active perception: Sensorimotor circuits as a cortical basis for language. Nature Reviews Neuroscience, 11(5), 351-360.
9. **MF:** Elsner & Hommel (2001): ideomotor theory

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###### II. Philosophical Foundations of Extrospection, Intelligence and Meaning

###### Michael Pauen, MP: Extrospection, Brief Introduction

###### MP: Clark, Andy, and David J. Chalmers. 1998. "The Extended Mind."  Analysis 58:10-23.

###### MP: Situated predictions. Clark, A. (2013). Whatever next? Predictive brains, situated agents, and the future of cognitive science. Behav Brain Sci, 36(3), 181-204.

###### MP: Extrospection. Pauen, M., Haynes, J.-D. Measuring the Mental. Manuscript.

###### MP: 2nd. Person Perspective. Pauen, M. (2012). The second-person perspective. Inquiry, 55(1), 33-49.

###### MP: Embodied Intelligence. Moravec, Hans P. 1988. Mind children: the future of robot and human intelligence. Cambridge, Mass.: Harvard University Press, p. 6-22.

###### MF: Embodied Intelligence. Cangelosi, A., Bongard, J., Fischer, M. H., & Nolfi. S. (2015). Embodied Intelligence. In J. Kacprzyk & W. Pedrycz (eds.), Springer Handbook of Computational Intelligence (pp. 697-714). Springer Verlag.

###### FP: Meaning as language use. Wittgenstein, L. (1953). Philosophical Investigations. Oxford: Blackwell Publishers, §§ 1-50. Baker, G. P., & Hacker, P. M. S. (2009). Wittgenstein: Understanding and meaning. Essays (Vol. 1, part 1). Chichester: Wiley-Blackwell. Baker & Hacker, 2009, analyt commentary, vol 1, pt 2, chapter VIII: Meaning and use.

1. **FP:** **How can we talk about emotions?** Gebauer, G. (2017). Wie können wir über Emotionen sprechen? In G. Gebauer, M. Holodynski, S. Koelsch, & C. von Scheve (Eds.), Von der Emotion zur Sprache: Wie wir lernen, über Gefühle zu sprechen (pp. 34-84). Velbrück Wissenschaft: Weilerswist.

**III. Meaning, Embodiment, Extrospection: Cues from Neuroscience**

1. **Friedemann Pulvermüller, FP:** **Emotional meaning as a test case of grounded meaning theories**
2. **FP: Brain correlates of different kinds of abstract meaning A.** Harpaintner, M., Sim, E. J., Trumpp, N. M., Ulrich, M., & Kiefer, M. (2020). The grounding of abstract concepts in the motor and visual system: An fMRI study. Cortex, 124, 1-22. doi:10.1016/j.cortex.2019.10.014
3. **FP: Emotion words and the motor system.** Moseley, R., Carota, F., Hauk, O., Mohr, B., & Pulvermüller, F. (2012). A role for the motor system in binding abstract emotional meaning. Cereb Cortex, 22(7), 1634-1647. doi:10.1093/cercor/bhr238
4. **MF:** **Blocking muscles – blocking emotions?** Havas, D. A., Glenberg, A. M., Gutowski, K. A., Lucarelli, M. J., & Davidson, R. J. (2010). Cosmetic use of botulinum toxin-A affects processing of emotional language. Psychological Science, 21(7). 895-900.
5. **FP: Brain correlates of different types of abstract concepts B.** Dreyer, F. R., & Pulvermüller, F. (2018). Abstract semantics in the motor system? - An event-related fMRI study on passive reading of semantic word categories carrying abstract emotional and mental meaning. Cortex, 100, 52-70. doi:10.1016/j.cortex.2017.10.0212
6. **FP:** **Autism, Alexithymia and language processing.**  Moseley, R. L., & Pulvermüller, F. (2018). What can autism teach us about the role of sensorimotor systems in higher cognition? New clues from studies on language, action semantics, and abstract emotional concept processing. Cortex, 100, 149-190. doi:10.1016/j.cortex.2017.11.019

###### IV. Abstract Meaning and Mathematics

1. **Martin Fischer, MF: Brief Introduction**
2. **MF:** Pitt, B., & Casasanto, D: (2020). Journal of Experimental Psychology: General, 149(6), 1048-1070. http://dx.doi.org/10.1037/xge000069
3. **MF:**  Harrison, A., Smith, H., Hulsea, T., & Ottmar, E. R. (2020). Spacing out! Manipulating spatial features in mathematical expressions affects performance. Journal of Numerical Cognition, 2020, Vol. 6(2), 186–203, <https://doi.org/10.5964/jnc.v6i2.243>
4. **MF:** Winter, B., & Yoshimi, J. (2020). Metaphor and the philosophical implications of embodied mathematics.  Front. Psychol. 11:569487. doi: 10.3389/fpsyg.2020.569487
5. **MP:** Problems for the embodied cognition perspective. Dove, G. (2016). Three symbol ungrounding problems: Abstract concepts and the future of embodied cognition. Psychon Bull Rev, 23(4), 1109-1121. doi:10.3758/s13423-015-0825-4
6. **FP: Is there an embodied perspective on the concept of causation?** Pulvermüller, F. (2018). The case of CAUSE: neurobiological mechanisms for grounding an abstract concept. Philos Trans R Soc Lond B Biol Sci, 373(1752). doi:10.1098/rstb.2017.0129

###### V. General Discussion

1. **Martin Fischer: Integrative presentations (30 min)**
2. **Michael Pauen: Integrative Presentation (30 min)**
3. **Friedemann Pulvermüller: Embodiment, semantic grounding, and extrospection:** How do the three fit together? **(30 min)**

**Background information and Success criteria:**

**Each participant is expected to present one of the above mentioned papers OR to write a protocol of one of the blocks of the seminar (see blocks I-V of the above syllabus). Presentations should be pre-recorded on a podcast and be accompanied by an informative handout. Presentations should ideally be given by one participant, but in case there will be > 30 seminar participants, presentations can sometimes be given by two persons together. Protocols should include a summary of the presentations and discussions of one of the blocks of the seminar. They should be short (1 page) and always have only one author.**

**As students from different universities (FU, HU, UP) and from very different MAs (Cognitive and neuroscience, psychology, linguistics) are part of this course, the criteria for success vary according to the relevant rules (see your own “Studienordung”). For some study courses, it is necessary to also write an essay. If you are interested in writing an essay, please contact the lecturer responsible for the topic (see initials on the above syllabus).**

**Here you will be able to register for paper presentations:**

<https://docs.google.com/spreadsheets/d/11q_IuV308az-L82A6Nj7Lg_6tScP85InDX3317QmmAs/edit?usp=sharing>