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Social affordances in context:

What is it that we are bodily responsive to?

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Abstract: We propose to understand social affordances in the broader context of responsiveness to a field of relevant affordances in general. This perspective clarifies our everyday ability to unreflectively switch between social and other affordances. Moreover, based on our experience with Deep Brain Stimulation for treating obsessive-compulsive disorder (OCD) patients, we suggest that psychiatric disorders may affect skilled intentionality, including responsiveness to social affordances.

Social affordances in context:

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We suggest that the two constituents of a second-person approach proposed by Schilbach et al., emotional engagement and social interaction, are best seen as aspects of bodily or *skilled intentionality*. Skilled intentionality can be understood as adequate responsiveness to a *field* of relevant affordances (Rietveld, in press) enabled by embodied know-how or abilities. From phenomenology (e.g., Merleau-Ponty 1945) and ecological psychology (e.g., Gibson 1979; Reed 1996) we learn that normally we engage skillfully with our environments (Ingold 2000). This skillful engagement is a form of unreflective action that is “solicited” or “motivated” by the situation. It is characterized by responsiveness to “affordances” (Gibson 1979; Rietveld, 2008); to possibilities for action offered by the environment. Affordances are relations between aspects of the environment and abilities (Chemero 2003). Crucially we are selectively responsive to one affordance rather than another: In the context of the particular situation and depending on the person’s concerns, some affordances are more relevant than others. Social affordances are a subcategory of affordances, namely possibilities for social interaction offered by the environment. For example, a friend’s sad face

invites comforting behavior, a person waiting for a coffee machine can afford a conversation, and an extended hand affords a handshake. The field of relevant affordances integrates social affordances and other affordances such as object affordances, epistemic affordances, place affordances, and even possibilities for reflection.

Although social interactions are extremely important for understanding both our everyday life and possible disorders of it, it is important to take into account that they take place within a broader context: Any relevant possibility for social interaction is embedded in a field of other soliciting possibilities for action. While engaged in a conversation with a friend, the cup of coffee on the table affords drinking from it, and my iPhone affords checking my email. Every now and then I unreflectively switch from interacting with my friend to drinking and back to the conversation afforded by my friend. Thus “the context” is not a static pre-given: What is at the foreground and what is at the background for us shifts – depending both on what happens in the environment and on our current needs. It is important to understand how we switch spontaneously from responsiveness to a social affordance to responsiveness to another affordance and back, because this is what happens in real life all the time.

Are we just “responsive to the socially relevant, expressive behavior of others” (sect. 3.1.1, para. 3) or are we responsive to something broader? Our work on skillful unreflective action suggests that it is the *whole* field of relevant affordances (social and other) that we are responsive to. This also explains why we switch so easily between interacting with a person and interacting with an object: We are immersed in an integrated field of relevant affordances, each of which can solicit activity.

Affordances in the background can solicit activity because they are bodily *potentiating*. A relevant affordance can generate bodily “action readiness” (Frijda 1986; 2007), that is, the readiness of the affordance-related ability (Rietveld, 2008). In this way, starting from bodily or skilled intentionality, our perspective avoids an artificial separation between social cognition and nonsocial engagements with the environment.

All this amounts to putting social affordances in context, which is in line with our findings in psychiatry, where we investigate the phenomenology of patients suffering from treatment-refractory obsessive-compulsive disorder (OCD) who are treated with Deep Brain Stimulation (DBS). DBS treatment consists of permanently implanted electrodes that deliver electrical pulses to a target brain region. DBS of the nucleus accumbens shows encouraging results as treatment for therapy-resistant OCD (Denys et al. 2010). OCD is characterized by the presence of recurrent and anxiety-provoking thoughts, images, or impulses (obsessions), typically followed by repetitive ritualistic behaviors (compulsions) to relieve anxiety. One could interpret compulsions as a disturbance in affordance-responsiveness, the perpetuation of a meaningless act that is an ongoing but inappropriate response to the field of affordances. Interestingly, some patients respond rapidly to DBS and many report profound changes (Denys et al. 2010). Important changes do indeed concern the social dimension: Patients report increased social interests and communicative interactions. However, patients also report a different interaction with the world in general; feeling more open and less anxious. Some even report a renewed sense of their own body, and more intense perception of the world. This suggests that at least certain kinds of

psychiatric disorders may be described by changes or dysfunction in affordance-responsiveness, including responsiveness to social affordances.

There is something right in Schilbach et al.'s suggestion of understanding psychiatric disorders as “disorders of social cognition” (sect. 5.1). However, they are not disorders of *just* social cognition. From the OCD patients treated with DBS, it becomes very clear that many aspects of engagement with the world change all together: perception, reflection, mood, interests, and social interaction. These phenomenological changes can be understood as changes in their responsiveness to the field of affordances as a whole, not just to social affordances encountered. This general capability of affordance-responsiveness may correspond to brain activities that heavily interact and need to be understood in rapidly communicating neurocircuitries (Freeman 2000; Friston 2011; Friston et al. 2012; Thelen & Smith 1994) rather than separate brain areas, which in turn explains the integrated responsiveness to the field of affordances. This general capability of affordance-responsiveness may be directly influenced by brain manipulation such as with DBS.

To conclude, Schilbach et al. make an interesting call for a second-person methodology for neuroscience. We also support their broader understanding of social cognition as fundamentally encompassing the implicit, bodily, affective, and contextual aspects of our social interactions. We suggest that a fruitful way to integrate these aspects is to understand social interactions as a form of skilled intentionality. We are bodily responsive to a field of relevant affordances, including social and other affordances. Such a broader account sheds light on how we unreflectively switch between these affordances. Finally, based on our experience

with DBS for treating OCD patients, we suggest that psychiatric disorders may affect affordance-responsiveness in general.

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References

- Chemero, A. (2003) An outline of a theory of affordances. *Ecological Psychology* 15(2):181–95.
- Denys, D., Mantione, M., Figeet, M., Van den Munckhof, P., Koerselman, F., Westenberg, H., Bosch, A. & Schuurman, R. (2010) Deep brain stimulation of the nucleus accumbens for treatment-refractory obsessive-compulsive disorder. *Archives of General Psychiatry* 67(10):1061–68.
- Freeman, W. J. (2000) *How brains make up their minds*. Columbia University Press.
- Frijda, N. H. (1986) *The emotions*. Cambridge University Press.
- Frijda, N. H. (2007) *The laws of emotion*. Erlbaum.
- Friston, K. (2011) Embodied inference: Or “I think therefore I am, if I am what I think?”. In: *The implications of embodiment (cognition and communication)*, ed. W. Tschacher & C. Bergomi, pp. 89–125. Imprint Academic.
- Friston, K., Shiner, T., FitzGerald, T., Galea, J. M., Adams, R. Brown, H., Dolan, R.J., Moran, R., Stephan, K.E. & Bestmann, S. (2012) Dopamine, affordance, and active inference. *PLoS Computational Biology* 8(1): 1–18.

- Gibson, J. J. (1979) *The ecological approach to visual perception*. Houghton Lifflin.
- Ingold, T. (2000/2011) *The perception of the environment: Essays on livelihood, dwelling and skill*. Routledge.
- Merleau-Ponty, M. (1945/2002) *Phenomenology of perception*, trans. C. Smith. Routledge.
- Reed, E. S. (1996) *Encountering the world: Toward an ecological psychology*. Oxford University Press.
- Rietveld, E. (2008) Situated normativity: The normative aspect of embodied cognition in unreflective action. *Mind* 117: 974–1001.
- Rietveld, E. (in press) Bodily intentionality and social affordances in context. In: *Consciousness in interaction: The role of the natural and social context in shaping consciousness*, ed. F. Paglieri. John Benjamins.
- Thelen, E. & Smith, L. B. (1994) *A dynamic systems approach to the development of cognition and action*. MIT Press.