What Touch Can Communicate: Commentary on "Mentalizing Homeostasis: The Social Origins of Interoceptive Inference" by Fotopoulou & Tsakiris

Meaney and Szyf's classic study on mother rats licking their pups tells us something that as mammals (and particularly as young mammals) we all instinctively and primitively know: we are what is done to us – or more specifically in the case of attachment figures, we relate in the way we touch (Meaney & Szyf, 2005).

Attachment theory – with its "move to the level of representation"(Main, Kaplan, & Cassidy, 1985) in the form of internal working models – has to some degree lost its relationship with its most essential evolutionary origins, as understood by Bowlby, as in the first instance about safety and preservation of life through proximity and physical care. The theory of mentalizing as indicated by its name (*mental* in opposition to *physical*) risks implying a similar kind of abstraction. This valuable and elegantly written target article by Fotopoulou and Tsakiris gives us an enriching and wide-ranging account of how physicality, and in particular physical interaction with others, is at the core of the formation of the self. In the mentalizing literature, we have emphasized the developmental significance of caregiver mentalizing in supporting the emergence of a child's mentalizing (for example, Fonagy & Luyten, 2016): "the human mind is incubated by the minds around it" (Bevington, Fuggle, Cracknell, & Fonagy, forthcoming). Through the concept of "embodied mentalization", Fotopoulou and Tsakiris remind us of the earthy reality of the human condition – that in actuality it is only a mind *in a body* that performs this task. The metaphor of incubation that we have used is pertinent here – as the authors point out, the particular immaturity of the human baby makes these embodied interactions particularly vital: "because human infants are born without a fully matured motor system, and hence they cannot regulate their own homeostasis unaided, the actions of their caregivers necessarily determine how they come to

experience the affective core of their embodied selfhood." Minimal selfhood, interoception, recognising one's own body and its relatedness to other bodies – in other words, reaching the developmental achievements by which a person can make sense of himself or herself as an embodied subject is supported, it is compellingly argued, by embodied interactions with others.

The way we would frame these insights within our most recent developmental thinking would be to conceptualize physical interaction as a form of communication. Take the instructive example used by the authors, of how an infant is more easily comforted in their caregiver's arms if the caregiver stands up and walks about than if the caregiver sits, no matter how comforting the caregiver might seek to make the seated embrace. What is it about this universal infant preference for the authentic rocking sensation of being carried at walking pace? Does it hark back to the archetypal evolutionary baby on the savannah and the need to know that their nomadic parents are carrying them on their journey along with the rest of their group? It is certainly (as any exhausted parent will testify) more costly in terms of energy to comfort a baby by walking and rocking rather than sitting and embracing. Such moments can partially be read as a small reverberation of the parent/offspring conflict conceptualized by Trivers (Trivers, 1974) – like attachment, a middle level theory of evolution, and one that has not, as Simpson and Belsky have compellingly argued (Simpson & Belsky, 2016), been adequately integrated by attachment theorists into their thinking. One of the implications of taking into account the element of parent/offspring conflict in caregiving is that it helps us to embed attachment more firmly in the realm of the physical: sensitive responsiveness and attentive caregiving are not simply the manifestation of internal symbolic processes, they also involve costly effort and physical investment. And for a caregiver who is in an adverse environment, feels isolated or threatened, the cost of this investment and effort is higher. Meanwhile, the infant, of course, is not overly concerned

with the distinction between action and intent on the part of the caregiver – an infant, as Winnicott so powerfully understood, is merely aware of whether or not his or her needs are being met. But, as Winnicott also argued, the communication that is constituted by having one's needs met is a rich and significant one for an infant.

The primary function of attachment is of course the provision of safety through proximity to the caregiver and the safeguarding that this delivers. But evolution has also hijacked the attachment relationship to invest it with multiple other developmental functions. Standing up and walking a crying infant of course immediately functions to soothe the infant by providing the preferred motion, but it also tells the infant that someone is there who is sufficiently invested in their survival, and can reassure by drawing on physical resources of movement to sustain the infant. The capacity of humans to adapt to numerous environments involves and depends upon the ability to parent in different ways – the complexity of different cultural and social milieux that humans are capable of generating in response to their circumstances means that there can be no set instinctive way to go about parenting, as the work of the anthropologist Hrdy has pre-eminently demonstrated (Hrdy, 2011). The attachment relationship therefore serves as an indicator of the nature of the infant's environment (Belsky, Steinberg, & Draper, 1991; Simpson & Belsky, 2016), indeed it appears to be a powerful communication mechanism which works at the level of gene expression as well as at the level of social cognition, as Meaney's work (Meaney, 2010; Meaney & Szyf, 2005) and some epigenetic human studies have shown (McGowan et al., 2009; van IJzendoorn, Caspers, Bakermans-Kranenburg, Beach, & Philibert, 2010).

We use physical touch as a metacommunication. It is a primary communication that affirms selfhood, but looked at in terms of more advanced levels of functioning, embodied mentalization holds significance beyond interoception. Physical touch is an ostensive cue beyond the physically organizing characteristics described. In the context of intergenerational

transmission, the provision of sensitive and comforting physical touch conveys that the infant is being "invested" in. It communicates that another mind/body is interested in the infant's mind/body, and it may therefore be in the infant's interest to be invested in what others do – to mentalize and to collaborate. The authors argue convincingly that interactive physical touch helps form "physical boundaries of the psychological self." We suggest, in addition, that this cannot be separated from the *representation* of the self and the other as positive (in the case of soothing touch). Through the meeting of physical needs, touch affirms the reality and validity of the infant's body's needs. This is in part about interoception but it also has powerful implications for the developing mind's opening of epistemic trust: trust in the accuracy of the caregiver to meet those needs, and also, trust in the infant's relationship with its own body because in seeking to meet the infant's physical needs, the caregiver is affirming the legitimacy of the body's demands. The infant benefits from the experience of having their knowledge of the world (this knowledge in the first instance being an awareness of their physical needs) confirmed and validated through appropriate response, thus supporting the opening of the communication of knowledge between the self and the other as aligned and personally relevant. Significant disconnect between the infant's own physical needs and the other's physical response constitutes the first experiences of meaninglessness and the distortion of knowledge.

As mentioned above, the young infant does not distinguish between action and intent, and here we are following the infant's lead. The blurring between mentalizing and physical action partly distinguishes attachment relationships from non-attachment relationships, but some element of this blurring is at the heart of human communication. The thinking of Ivan Fónagy on language is instructive here (Fónagy, 2000). Following classic structural linguists such as de Saussure (de Saussure, 1911), Fónagy agreed that a word itself is an abstract, arbitrary signifier for the concept itself, by which the signified is encoded. But he further

postulated that there is a secondary coding system, by which words and language are invested with non-arbitrary, non-neutral meaning. This is what gives richness and depth to human language – it is why heuristically we think of language in terms of poetry, metaphor, richness and feeling, rather than simply as a coding system. Just as we suggest that physical action cannot be separated from the level of representation in terms of its communicative power, the physical, affective and symbolic content of language are blurred. Language itself therefore is a gesture. This is manifest most obviously at the level of expression - in tender speech, words are articulated smoothly and gently and so forth. It is also conveyed at the level of the sound of words, for example the use of open vowels in sad poems. And it translates into the micro-gestures of word formation. The gestural nature of language, it was proposed, is an artefact of the way in which language evolved out of physical gesture (Fónagy, 2000), and we have linguistic remnants of this in the way, for example, preverbal children across cultures often accompany the act of pointing with an 'iii' sound, with the tongue pushed forward in the mouth as if reaching and pointing itself.

We introduce this discussion of the intrinsically gestural nature of language – at the level of phonetics, syntax, and semantics – as the perspective it brings is relevant to the concept of embodied mentalization and touch as meta-communication. Just as within language, in which multiple levels of communicative codes are stored and conveyed, we are highly sensitized to the meaning of action. The way touch is experienced will be encoded as a powerful form of social communication. This is beyond the mere fact of touch and the boundary information it conveys. There is additional information about the dispositional state (mental state) of the caregiver which is decoded by the infant and contributes to an albeit nascent construction of the caregivers mind along with deeply biologically primed messages about what the dispositional state may convey about the environmental context of that the infant is in. Partly for its bearing on this, we see as particularly exciting the authors'

suggestion that lower interoceptive awareness may be associated with an increased tendency to blur self-other boundaries, and that this may be because interoceptive awareness plays an important role in agency – the infant's awareness of the caregiver's recognition of the legitimacy of his needs and the validation provided by the need being effectively addressed. We do not know whether classical psychoanalysis is correct in attributing additional sense of agency to the infant in this context (viz. the phantasy of creating the breast which meets the need). The mere fact that one's needs are reflected and acted on may well be sufficient to affirm one's experience and contribute to the creation of an agentive sense of self.

The elephant in the room is the unmentalized child whose physical needs are overlooked and at times transgressed by neglectful and abusive care. What is communicated through the gestures of cruelty, the ignoring or even creation of discomfort or pain, we realize, becomes an organizing principle that generates invalidation and unreality in the child's sense of bodily self. The clinical implications of this work, in relation to the developmental sequelae of physical abuse or neglect, are highly suggestive and we hope that this might be an area for future work of Fotopolou's extraordinarily creative and brilliant group.

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