Lecture 03: Social Cognition

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McNeill (2012, p. 573): 'We sometimes see aspects of each others' mental lives, and thereby come to have non-inferential knowledge of them.'

What is the evidence for this claim? Is research on categorical perception of expressions of emotion relevant?

1. Categorical Perception

'facial expressions of emotions are perceived categorically regardless of whether the viewer has lexical categories that distinguish between the perceptual categories.' (Sauter et al. 2011, p. 1482)

'we reversed the direction of the facial features of the emotional expressions but retained the general configuration. For example, if the angry expression had V-shaped eyebrows and the neutral expression had horizontal eyebrows, our computer manipulation generated faces with eyebrows shaped in an upside-down V shape.' (Sato & Yoshikawa 2009, p. 371)

'the normal angry and happy expressions were detected faster than were the respective anti-expressions … detection of an emotional expression was superior even when the effects of stimulus visual characteristics were controlled.' (Sato & Yoshikawa 2009, p. 378)

2. Aviezer's Puzzle about Categorical Perception

Are the things categorised by perceptual processes facial configurations? This view faces a problem. There is evidence that the same facial configuration can express intense joy or intense anguish depending on the posture of the body it is attached to, and, relatedly, that humans cannot accurately determine emotions from spontaneously occurring (spontaneously occurring—i.e. as opposed to acted out) facial configurations (Motley & Camden 1988; Aviezer et al. 2008, 2012). These and other findings, while not decisive, cast doubt on the view that categories of emotion are associated with categories of facial configurations (Hassin et al. 2013).

3. Categorical Perception of Speech

(1) There are category boundaries … .

(2) … which correspond to phonic gestures.

(3) Facts (1) and (2) stand in need of explanation.

(4) The best explanation of (1) and (2) involves the claim that the objects of speech perception are phonic gestures.

'word listening produces a phoneme specific activation of speech motor centres' (Fadiga et al. 2002)

'Phonemes that require in production a strong activation of tongue muscles, automatically produce, when heard, an activation of the listener's motor centres controlling tongue muscles.' (Fadiga et al. 2002)

4. The Objects of Categorical Perception

How emotions are expressed facially varies between cultures (Jack et al. 2012).

'cultural differences in expressive behavior are determined by historical heterogeneity, or the extent to which a country's present-day population descended from migration from numerous vs few source countries over a period of 500 y[ears]' (Rychlowska et al. 2015)

'people from historically heterogeneous cultures [as measured by the number of countries in which ancestors of members of the present population lived in the last 500 years] produce facial expressions of emotion that are recognized more accurately than expressions produced by people from homogeneous cultures.' (Wood et al. 2016)

5. How could the objects of categorical perception be actions?

'observation of others' disgust activated neuronal substrates within AI [the insula] that were selectively activated by the exposure to the disgusting odorants' (Rizzolatti & Sinigaglia 2016).

'Observers of a facial expression of emotion au-

tomatically recreate it (covertly, partially, or completely)' (Wood et al. 2016, p. 229)

'[S]imulating another's facial expression can fully or partially activate the associated emotion system in the brain of the perceiver.' (Wood et al. 2016, p. 231)

This activation 'is the basis from which accurate facial expression recognition is achieved' (Wood et al. 2016, p. 231)

'inhibiting the right primary motor (M1) and somatosensory (S1) cortices of female participants with TMS reduced spontaneous facial mimicry and delayed the perception of changes in facial expressions' (Wood et al. 2016)

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