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Social Learning in Expertise Transmission

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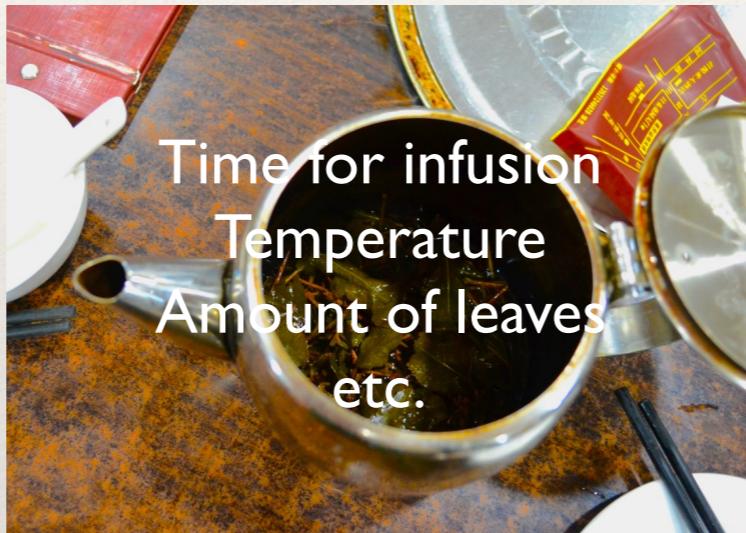
Overview of the talk

- ❖ Expertise transmission
- ❖ Social learning
 - Didactic behaviour
- ❖ Experimental study: the effect of infant-directed action on infants' attention

Expertise transmission

- ❖ What is expertise?
 - The characteristics, skills and knowledge allowing individuals with ***extensive experience*** to perform significantly better than novices on a given complex task (Dukas, 2017).

Expertise transmission



expertise

Expertise transmission

- ❖ Expertise transmission and cumulative cultural evolution
 - Limited lifespan
 - Opportunities for further refinement, improvement and innovation
- ❖ **How do experts (i.e., experienced) pass on their expertise to novices (i.e., inexperienced)?**

Social Learning

- ❖ **Learning from others**, as opposed to learning through one's own efforts, which is variously described as individual, personal, or asocial learning (Whiten, 2017)
 - Imitation
 - Fidelity
 - Conformity
 - Teaching

Didactic behaviour

- ❖ Experts' modulation of their behaviour for teaching purposes
- ❖ Infant-directed speech (e.g., Fernald, 1985), action (e.g., Brand et al., 2002) and specialised skills (e.g., Marchand, 2010) etc.
- ❖ Exaggeration - segmentation, many pauses, slow performance, repetition etc.

Does experts' didactics help learning?

- ❖ It seems yes?
 - Fieldworks in Anthropology (e.g., Downey, 2008)
 - Computational modeling (e.g., Eaves et al., 2016)
- ❖ How to assess novices' learning experimentally?
 - Attention
 - Memory
 - Imitation

Brand & Shallcross (2008)

- ❖ How does infant-directed action (mationese) have an effect on infants' learning?
- ❖ Assess the learning in infants - their attentional change by measuring looking time
- ❖ In the current experiment, infants saw mothers demonstrating a novel object to her infant (infant-directed; ID) or to another adult (adult-directed; AD).

Study 1

- ❖ 32 infants (6- to 8- month-olds)
- ❖ Infants saw two videos on the screen (i.e., preferential looking paradigm; Golinkoff & Hirsh-Pasek, 2008)



Study 1

- ❖ One side depicted a mother demonstrating a novel object to her infant.
- ❖ The other side depicted a different mother demonstrating the same object to her partner.

(a)



Results

- ❖ 6- to 8- month-old preferred (i.e., looked longer) for ID videos relative to AD videos.
- ❖ This preference was not due to the appearance of the demonstrators.
- ❖ Age difference and other social cues (e.g., eye gaze, facial expression)?

Study 2

- ❖ 52 infants (6- to 8- month-olds / 11- to 13- month-olds)
- ❖ The same procedure
 - Standard / Blur condition (between-subjects)



Results

- ❖ In the Standard condition, 11- to 13- month-olds preferred ID action whereas 6- to 8- month-olds did not.
- ❖ In the Blur condition, both infants looked longer at ID action.
- ❖ This preference was not due to the appearance of the demonstrators.

Discussion

- ❖ Motionese seems to attract infants' attention.
- ❖ Action exaggeration might be sufficient to change infants' attention.
- ❖ What is crucial to use motionese?
 - Range of motion
 - Repetition
- ❖ Effect on other cognitive abilities such as memory and imitation.

Summary

- ❖ Humans have developed expertise through social interaction, which has contributed to cumulative cultural evolution.
- ❖ One of the crucial aspects of social learning would be experts' didactic behaviours to novices.
- ❖ Experts' didactic action modulation had an effect on novices' attention and could influence other cognitive abilities.

Any questions?

References

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