

Informing through pointing:**Development of communication and social understanding in children****Hélène COCHET**

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The objective of the present work is to investigate the relationship between the production of pointing gestures, the development of cooperation and language acquisition in young children. The predictive relationship between the production of pointing and the development of language has been well documented in infants and toddlers (e.g., Colonnese et al., 2010), but the analysis of different communicative functions of pointing suggests that imperative and declarative pointing might play different roles in language acquisition: declarative pointing, and in particular declarative informative pointing (Tomasello et al., 2007), has been argued to be closely linked to language from early stages and to develop jointly with imitation and cooperation abilities (Cochet & Vauclair, 2010; Liskowski et al., 2008).

Informative pointing, used to provide recipients with information they need about a referent, may indeed require (1) some understanding of the partner's attentional and knowledge states (Meng & Hashiya, 2014) and (2) the willingness to inform this partner. This gesture was reported to appear in the child's gestural repertoire from 1 year of age (e.g., Liskowski, 2005), in relation with the development of pro-social behavior over toddlerhood and childhood (Svetlova, Nichols, & Brownell, 2010). Results of an experimental study have shown that children between 15 and 30 months of age monitor their partner's activity more frequently in such informative situations, by alternating their gaze between the adult and the object being pointed at, compared to other communicative situations (Cochet & Vauclair, 2010). This result may highlight the role of informative pointing in the development of early social understanding – namely the ability to represent the mental states that motivate others' actions.

The study of hand preference for gestures also revealed interesting findings: right-sided asymmetries were stronger for informative pointing gestures than for object

manipulation, whereas the difference was not significant for other functions of pointing (Cochet & Vauclair, 2010). This might reflect a close association between the production of informative pointing and hemispheric specialization, an association that may develop along with the dominance of the left cerebral hemisphere for language, characterizing the vast majority of individuals. Hand preference is therefore regarded here as a way of further studying the relationships between gesture and language.

Finally, informative pointing was found to be related to the development of theory of mind abilities, measured with standard tasks (e.g., Sally-Ann test) in children between 3 and 4 years of age (Cochet et al., 2015). By contrast, our results did not show any correlation between theory of mind abilities and the production of other types of pointing, including declarative expressive pointing (Tomasello et al., 2007).

Thus, our objective is to determine to what extent the production of declarative informative pointing, more than any other gesture, constitutes a major step in the development of communication by allowing children to cooperate and understand others' intentions. These questions may have some implications for developmental psychologists, teachers and parents, given the importance of these abilities in establishing and maintaining healthy interactions with our social environment.

References

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