



PART 2:

The Amazing Social Capabilities of Babies

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Even in the first hour of life, infants can imitate the facial expression of an adult model. Some researchers have theorised that this is an expression of the infant's experience of something being "like me" and having an experience of "me with you" (Meltzoff, 1990; Meltzoff, 2007) – again implying a sense of "me".

Learning about how the world works

Pre-symbolic representations are pre-verbal models of how the world works – i.e. the memories and expectations of how things are. These are developed long before the capacity to use symbols (words/language) to represent and remember events.

There is now a great deal of evidence that infants learn by and from experiences early in life and can identify subtle changes to their environment. Some examples are:

- New-born infants can learn to time their sucking pauses to make music play. When this association is then removed and the pause length they have learned to use no longer makes the music play, they fuss and cry as their expectations are violated (DeCasper & Carstens, 1981).
- At as young as 3 months, an infant can learn to move a mobile by kicking his feet (when a ribbon is tied to his ankle and to the mobile). When returned to the same environment a week later the infant will still remember how to move the mobile – by repeating the leg actions that he had learned to use to successfully move the mobile (Singer & Fagen, 1992).
- Three-month-old infants can remember in detail for 24 hours, the items on a mobile they have looked at (Fagen et al, 1984; Hayne et al, 1986). When presented with the same mobile on 2 successive days, they will remember having learned to kick their feet to make the mobile move and will repeat this action. However, if the mobile presented to them on the second day is slightly different to the one they learned to move 24 hours earlier, they will treat it as something new, and will not attempt to move it with the kicking action.

Babies have amazing capabilities. From birth they use these capabilities to maintain a relationship with their primary caregiver.

In Part one of this series we explored the social capacities that are established in the days and weeks after birth. In this second part we will explore that very early in life babies develop a sense of themselves as separate to others, they are actively learning how to interact with their environment and their parents/caregivers.

Who am 'I' in the world?

It used to be believed that infants, in their early months, were in a state of 'symbiosis' with their mother – experiencing themselves as merged with or undifferentiated from her (e.g. Mahler et al, 1975). There is now considerable evidence that right from their first days of life babies begin to experience themselves as a single entity, separate from others and from the environment, even though a fully coherent and integrated sense of self takes a number of years to develop (Stern, 1985; Beebe & Lachmann, 2002).

On their first day of life, for example, new born infants distinguish their own cry from other babies' cries, responding differently when they hear a recording of their own cries, to how they do when they hear a recording of another baby's cries (Martin & Clark, 1982). Infants in this study cried in response to hearing another baby's cries, but cried very little (or stopped crying if they were already crying) when they heard a recording of their own cry. This implies that they have some sort of auditory "sense of self".

Learning through interactions with parents/caregivers

We now know that through the first year of life, infants are forming representations of their interactions with caregivers.

In Tronick's Still Face procedure (Tronick et al, 1978), for example, a mother is instructed to change from interacting normally with her infant to facing him with a blank expression on her face and not responding to him vocally.

Infants as young as 3 months of age react to this unexpected violation of normal contingency with attempts to elicit a response from their mother, mild distress (including elevated heart rate) and withdrawal, and take several minutes to recover from this stressful experience after their mother re-engages in normal interactions (Tronick, 1989), demonstrating that they are not just living in the moment but are operating from internal representations of how interactions are meant to proceed.

Microanalysis of mother-infant face-to-face communication at 4 months of age has identified patterns of interaction that predict attachment at 12 months. Video of just 2½ minutes of mother-infant interaction at 4 months has been used to differentiate future secure vs. insecure interactions, as well as identifying characteristic features

of interaction of two of the three categories of insecure attachment. (Beebe et al, 2010; Beebe & Lachmann, 2014).

By six months of age, an infant's response to the Still Face procedure becomes stable, and is associated with his/her attachment to his mother at 12 months (Cohn, Campbell & Ross, 1991; Braungart-Rieker et al, 2001).

Infant researcher Daniel Stern has proposed that infants form generalised pictures of how interactions with their caregivers usually go, and that these guide their expectations and behaviour in relationships (Stern, 1985). Indeed, through attachment research we know that an infant's ways of relating to caregivers become stable and characteristic by the end of the first year of life.

By 12 months of age, an infant's experiences with his caregivers have been translated into representations of whether or not he can expect support in times of stress, and these representations can be reliably assessed in laboratory-based attachment assessment procedures (Solomon & George, 2008).

These findings converge to suggest that infants learn from interactions with their parents/caregivers very early in life and these are progressively organised into fairly persistent patterns throughout this first year.

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