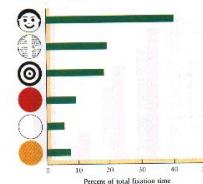


Lecture 6 Early Social Development

Early research simply measured how long infants would look at visual stimuli.

Using this simple technique, Fantz in the 1950s demonstrated that 2-month-old infants had visual preferences



Brain Plasticity

Experience-expectant (evolution)
Experience-dependent (within a lifetime)

Sensitive periods (when changes can occur)

e.g. Imprinting in birds



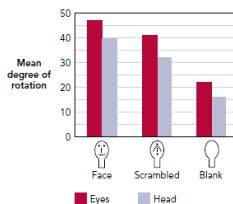
Newborn Face Preferences

Johnson & Morton (1991) argued that humans are born with a configural mechanism that makes newborns orient to faces in order to learn about them.



Conspec and Conlearn

Brain mechanisms that allow for orienting towards and learning faces



Scanning Patterns at 1 & 3-Months of Age



Face preference set-up



Early Social Interaction

- **Babyness**
 - Lorenz's term for attractiveness of big eyes and heads
- **Imitation**
 - gestures
- **Contingency**
 - smiling & interactions
- **Gaze following**
 - Dyadic and triadic gaze relationships
- **Pointing**
 - protoimperative & protodeclarative: object- or event-oriented
- **Joint attention**
 - socially defined objects of attention



Babyness



We have a perceptual preference for the young who have a relatively large eyes to head ratio.

(Lorenz, 1943)

Pre-pubescent children prefer pictures of mature animals of different species. At puberty they switch preference to the young of a species.

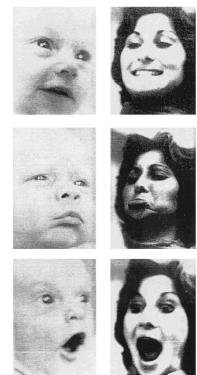
(Fullard & Reiling, 1976)



Some cultures accentuate the eye region.

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Infant Imitation



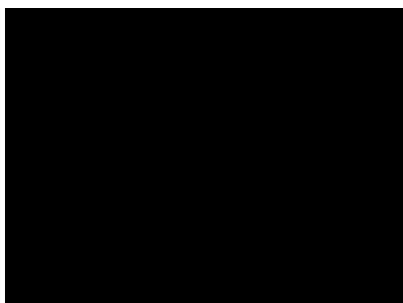
Newborn imitation is controversial and difficult to elicit.

Are the babies imitating the adults or are the adults imitating the babies?

Plate 9.1 Modeled and matching expressions of adult and neonate (from Felt et al., 1985). Copyright 1985 by the AAAS.

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Newborn Imitation



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Rudiments of Joint Attention

Social Smiling: emerges at around 3 months (probably reflexive as blind babies also smile at this age)

Social Reciprocity: the "still-face" effect. Three-month-olds readily reciprocate social interaction and become distressed when the adult terminates social interaction

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Early Social Synchronization

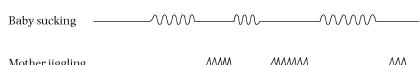


Figure 7.1 Baby's sucking bursts interspersed by mother's activity (from Schaffer, 1996). Reprinted with permission.

Turn-taking depends on -

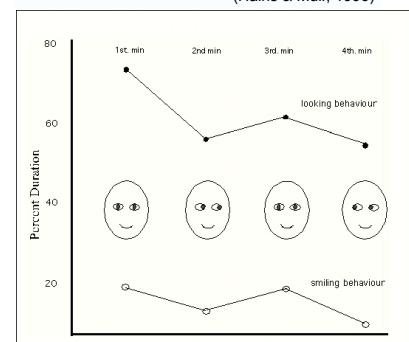
Temporal Organization: burst-pause patterns

Adult Sensitivity: Mothers read the behaviour as intentional

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Contingent Smiling and Joint Attention

(Hains & Muir, 1996)



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Contingency

• Murray & Trevarthan (1985) de-synchronised mother-infant interactions, producing disinterest and distress in 2-month-olds.

• Depressed mothers either too flat or too exaggerated.

• Infants in baby walkers prefer to approach contingent strangers (Roedell & Slaby, 1977).



Plate 7.1 Studying mother–infant communication in a laboratory situation. From C. Trevarthen, "Descriptive analyses of infant communicative behavior." In H. R. Schaffer (Ed.), *Studies in mother–infant interaction* [London: Academic Press, 1977].

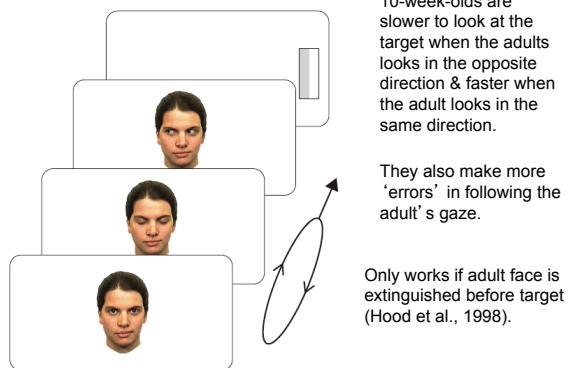
Still-Face Effect



Ed Tronick's Lab



Adult Gaze Following & Infant Attention



Pointing

Protoimperative: goal-oriented
"Get me that"
Shared with other primates



Protodeclarative: object- or event-oriented
"Wow, look at that!"
Uniquely human



Interpreting Pointing

Adult & 12-month-old infant observe a puppet show over 10 trials. Puppet appears and infant points.

Four responses from adult:

- joint attention condition – back and forth between infant and puppet
- face condition – adult focuses exclusively on infant
- event condition – adult focuses exclusively on puppet
- ignore condition – adult ignores puppet & infant

Overall, pointing more prevalent during joint attention. On some individual trials, more agitated pointing.



Joint Attention

The direction of gaze can be used to signal something of interest

Scaife & Bruner (1972) Joint Attention Paradigm

Engage infants attention and then turn to look as if there is something that has caught your interest. Infants will turn to look in the same direction if they have joint attention

Emerges reliably within 9mths and becomes increasingly sophisticated



12-mth-olds will only follow if adult's eyes are open (Meltzoff et al., 2009)

Joint Attention-Redirecting Gaze

"Head-turning paradigm" (Scaife & Bruner 1975)

Before 6 months: although the capacity for joint attention is present, attentional disengagement is necessary before infants initiate joint attention (Hood et al., 1998).

6 months: infants turn to the correct side of the room but do not identify which of two targets is correct. Also no targets behind.

12 months: infants turn to the correct target but fail to look to targets behind: Begin to understand pointing

18 months: infants will turn to look behind themselves



Social Referencing and Potential Danger

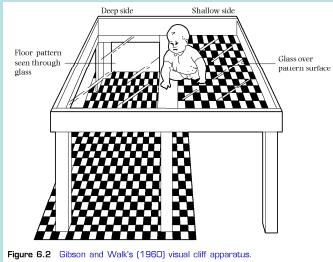
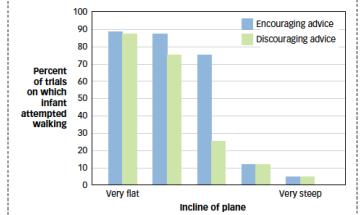


Figure 6.2 Gibson and Walk's (1960) visual cliff apparatus.



75% of 12-month-olds will cross the cliff if mother pose a happy face c.f. 0% of infants when mother poses fearful face (Sorce et al., 1985).

Walk This Way



18 month-olds use mothers in situations of ambiguity. If the slope is very steep or very flat they ignore mother. (Tamis-LeMonda et al. 2008)



Summary

- Infants and parents are pre-adapted to attend to each other.
- Initial communication is preverbal and mainly through expression.
- Infants become increasingly socially interactive.
- Infants are most sensitive to contingency.
- Joint attention is a fundamental building block for social interaction.
- Infants use adults to interpret situations for them.