„BORN TO RELATE”

Katalin EGYED

1

Let’s try to connect to the previous topics!

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Why is parent-child interaction so significant?

- Four significant functions of infant-caregiver interactions (lecture 1):
  1. promotion of social understanding
  2. development of attachment
  3. acquisition of language
  4. maturity of emotional regulation

- Still-face paradigm:

https://www.youtube.com/watch?v=zdSRzNEjBFg
3:18 -

Tronick, emotional development, Still-face paradigm

Brandt et al. (2014)

3

3

Why is parent-child interaction so significant?
– Stern (and Gerda) helps to understand (1995)

- Relational approach

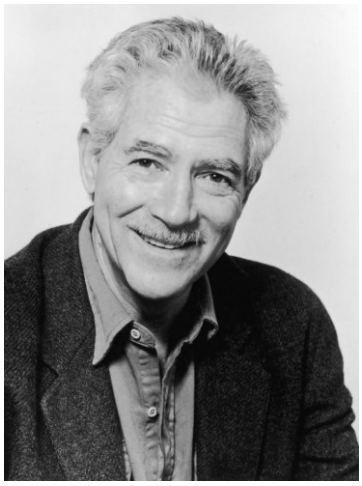
Microevents: is a descriptive level of events

Macroevents: that occupy most clinical theories

E.g.

Macro event: depression / well-functioning happy mother?

Microevent: What does the mother do with her eyes and face at the moment when the infant's smile at her? ➔ This is what we can see in the IA and the baby meets as well.



Daniel STERN

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Why is parent-child interaction so significant?
– Stern (and Gerda) helps to understand (1995)

- „The parent-infant interaction is the centerpiece of the clinical situation. It is the key element to be understood, for several reasons…the parent-infant interaction is the arena in which the parents' most critical representations, wishes, fears, and fantasies about the infant are played out…. only those parental representations, fantasies, and so on, that are enacted in the interaction will directly influence the baby. They thus occupy a special place clinically…. Similarly, the interaction is the arena for the enactment of the infant's representations, which directly influence the parents. ➔ The interaction is thus the bridge between the parent's and the infant's representations…the young infant's interactive traffic is overwhelmingly with his primary caregiver, especially during the first months and first year. The parent filters and regulates the growing but still relatively limited traffic with the world external to direct parent-infant interactions.
- We can start with the assumption that the clinically important events and moments are the very small, ordinary, daily, repetitive, nonverbal events that, objectively speaking, did happen. In fact, these may be the only kinds of human events that initially exist for the infant." p59-62

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„BORN TO RELATE AND INTERACT" 1
– what babies know

- At least two social partners participate in the interaction.
- The baby participates as a pro/active partner
- who can contribute to, influence, shape, changes, interpret the environment. (transactional approach II brain development)

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6

„BORN TO RELATE AND INTERACT" 1 – What do babies know?

- At least two social partners participate in the interaction;
- who can contribute to, influences, shapes, changes, interprets the environment. (transactional approach II brain development)
- The nurturing carer supports the interaction.

- The **baby** participates as a **pro/active** partner
- who is **competent and ready** to relate and participate in social world.

➔ **What capabilities make the babies so competent as social partners?**

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A little social being

https://www.youtube.com/watch?v=9FhImmxcwbs&list=RD9FhImmxcwbs&start_radio=1&t=1 3:13-

The Baby Human

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What shall we (humans) have to know in a social interaction?
What are the main tasks?

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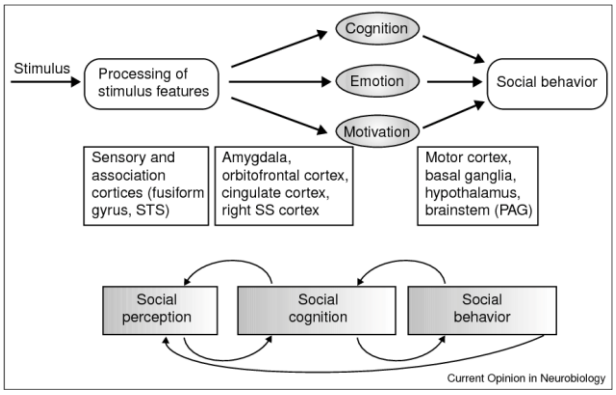
Social functioning in adults (and not functioning)



Adolphs (2001)

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Social functioning in adults

- to **perceive** the socially relevant stimuli,
- to **understand and interpret** them
- to **adapt behaviour** to the interpreted stimuli

➔ **Competencies: Interrelated** and manifested neur., motor, perceptual, language, social, emotional level

➔ Development of social cognition and understanding in infancy will show relations among different aspects of development.

➔ **Research on (developmental) social cognition**, social understanding creates **a comprehensive perspective for early childhood**.

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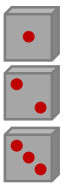
Born to relate – topics



Social perception

Emerging self-concept – the nature of self-knowledge, types and origin

Understanding other minds

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What to perceive?

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Social perception
– early perception of „people" as social stimuli

1. What is this?

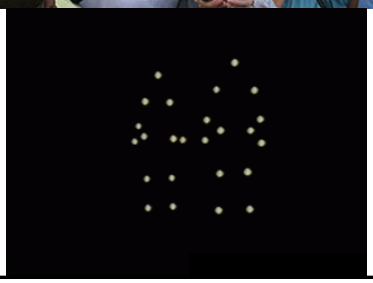
- As a categorisational task: to identify my species as a distinct and special category; for me different from the others and significant ➔ a potential partner for me in a social interaction

e.g.

- Has face, moves, reacts to
- ➔ my species

2. Who is this?

- Recognition of Individual exemplars ➔ available data from memory and interpretational work



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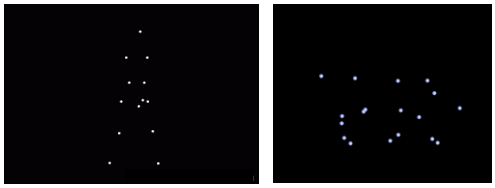
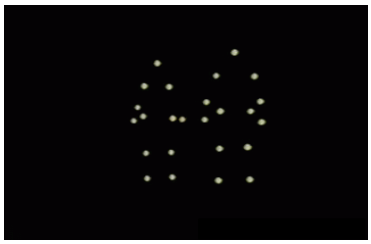
Social perception – perception of „people” as social stimuli

Adults

- recognize human motion based on 10-12 light-points in 0,2 sec (Johansson, 1973).
- identify gender, person, emotional states, complex motions.
- right superior temporalis sulcus
- Enhanced activity for:
  - normal position > inverted
  - biological motion > not biological





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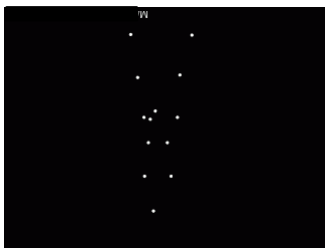
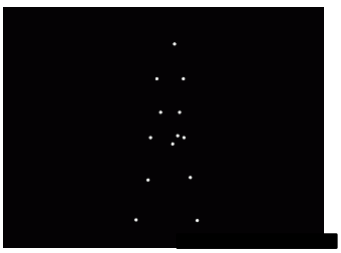
Social perception
– early perception of „people” as social stimuli & long development

- **3m**: discriminate usual vs. inverted; animate vs. inanimate motion
- **5-9m**: sensitive to incosistencies, cover in the pattern (Berthental et al., 1982)
- **8m**: ERP N290 stronger in normal condition
- **5, 10 y**: detection of motion direction (Blake &, 2003)
- **Development even in adolescence** (exact, disturbing effects) (Pavlova et al., 2000).

Point-light display





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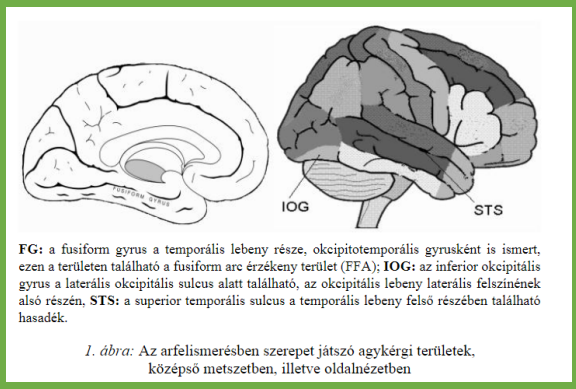
What do these photos refer to?



FG: a fusiform gyrus a temporális lebeny része, okcipitotemporális gyrusként is ismert, ezen a területen található a fusiform arc érzékeny terület (FFA); **IOG:** az inferior okcipitális gyrus a laterális okcipitális sulcus alatt található, az okcipitális lebeny laterális felszínének alsó részén, **STS:** a superior temporális sulcus a temporális lebeny felső részében található hasadék.

1. ábra: Az arfelismerésben szerepet játszó agykérgi területek, középső metszetben, illetve oldalnézetben

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Social perception – faces
Adults

Face perception and recognition

Human faces: quick and exact discrimination and recognition

- **Configurative processing**
- **Face Inversion Effect (FIE)**: slower, less exact (Yin 1969);
- Right fusiformis gyrus ➔ right later. fusiform face area **FFA**
- **FIE**: less FFA activity,
- FIE and FFA activity correlate
- Face specific ERP: **N170**
  - For human faces
  - FIE

Perception expertise

- **„Greeble research"**: Gauthier et al. – effects of expert perception (vs. novice) **: faces II natural and artificial objects**
- Experts: configurative/holistic; novice: piecemeal/featural
- Greeble expert:
  - Enhanced FFA activity,
  - N170

➔ Signs of expert processing**?**

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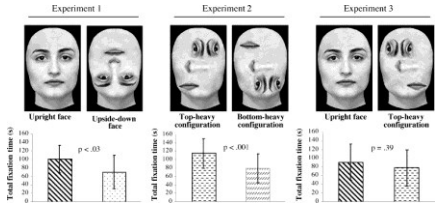
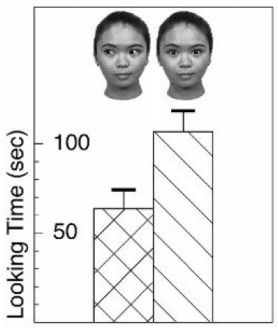
Social perception – faces (early preferences)
Babies and development

- **Newborns**: preference for face-like figure (Fantz, 1963; Morton & Johnson, 1991; Macchi Cassia et al, 2004).
  - https://www.youtube.com/watch?v=ue1h1_vRLtU 2-4min to think
  - Preference for faces with **direct gaze** (Farroni et al., 2002, 2006)
- **4.5, 6.5, 8,5m**:
  - **looks** at **more the eyes region**, 12.5m: already mouth and nose region as well;
  - If **inverted face**: more looking time at **eye** region in each age group (Oakes & Ellis, 2013)





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Social perception – faces (preferences)
Babies and development

- 2-3-day babies: prefer the mother's face (in comp. to other females), (if they can hear) (Bushnell et al., 1989; Sai, 2005)
- Newborns remember better the face who spoke to her earlier + gazed at her (in comparison to a gaze away face (Guellai & Streri, 2011)
- 3m: prefer familiar faces (Pascalis et al., 1998).
- 4m: recognize better the face gazing at them directly (Farroni et al., 2007).
- 6-24m: mother's face ➔ stronger EKP response
- 44-25: =
- 45-54m: stranger's face ➔ stronger EKP response
- Might be a flexible adaptation to the changing social world (Carver et al. (2003)

Identification ➔ memory, interpretational processes

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Social perception – faces (neural level)
Babies and development

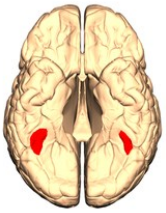
II **adults**: right FFA, N170, face inversion effect

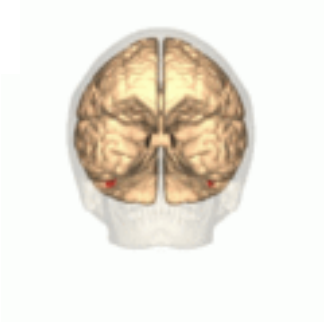
- **2m: FFA** II region active (PET) (Tzourio-Maoyer et al., 2002)
- **ERP N170 precursor**: already **3m**

BUT

➔ **Specialization** is **a long developmental process** that requires experience

- In infancy non-social regions are also active.
- Configurative processing correlates with age
- II FIE incraeses with age
- Right lat. at 12-14y is not adult level.





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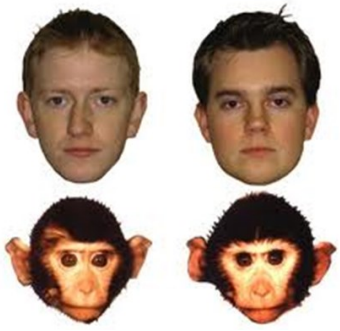
Social perception – faces
Specialization – use it or loose it

- **6m**: can discriminate well both monkeys' and persons' faces.
- **9m**: much **better at** discriminating **persons' face** (Pascalis et al, 2002).
- Except for the cases (6-9m **individuation** of monkeys) if they know the monkeys' name (Scott & Monesson, 2009).
  - A training can preserve the skill
  - if it focuses on individuals with names („monkeys" or observing individuals without names – not enough).



- Necessity: „use it or loose it"
- Experience shapes neural and behavioural development.

➔ **Development depends on the specific experience.**

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Imitation – motor mimicry

- **Motor mimicry**: newborns tend to imitate some face expressions (e.g.. Meltzoff & Moore, 1977): ‚like me'
- **More interest in persons who imitate** them ➔ effects on each others ➔ **more likely to turn take**. Functions of IAs

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Social perception
- emotional expressions

Emotional expressions:

From general reaction to

- more, different emortions
- more triggers
- more complex emotions

Figure 9.11
Myers/DeWall, *Psychology in Everyday Life*, 4e, © 2017 Worth Publishers

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What happens if the visual channel is missing?

The same smile?

- **Smile**

Social smile 2-3m – necessary: IAs with positive feedback.

Self-conscious smile: pride (from 2y)

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Social perception – perception and effect

Perception of others' emotions:

- Early onset.
- 7m: ERP shows early capacity to discriminate among different expressions (visually, voice) (Nelson & de Haan, 1996; Grossmann, 2005).

• effect: Emotional contagion: Newborns tend to cry more if they perceive other babies' distress/crying (Simner, 1971).

26

26

etc.

Socal bias, preference:

- voice
- speech
- motherese
- mother tounge
- mother's smell
- …

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„BORN TO RELATE AND INTERACT"

➔ Social perception makes us competent early in life. Although there are some paradoxical situation…

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„Born to relate and interact”

➔ It was not a comprehensive summary that takes in everything but a useful illustration that we are well equipped with early on perceive the potential social partners. It is true that there are paradoxical situations…

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