

UiT

THE ARCTIC  
UNIVERSITY  
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# Consequences of violence against children

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Basic knowledge about neurological,  
psychological and social problems in order to  
understand the problems

# The seriousness in the situation

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- Small children who live in longlasting stress and anxiety situations develop neurobiological and psychological impairments
- Unsafe attachment can elicit serious mental impairment

# **The principal function of the brain**

## **The brain levels**

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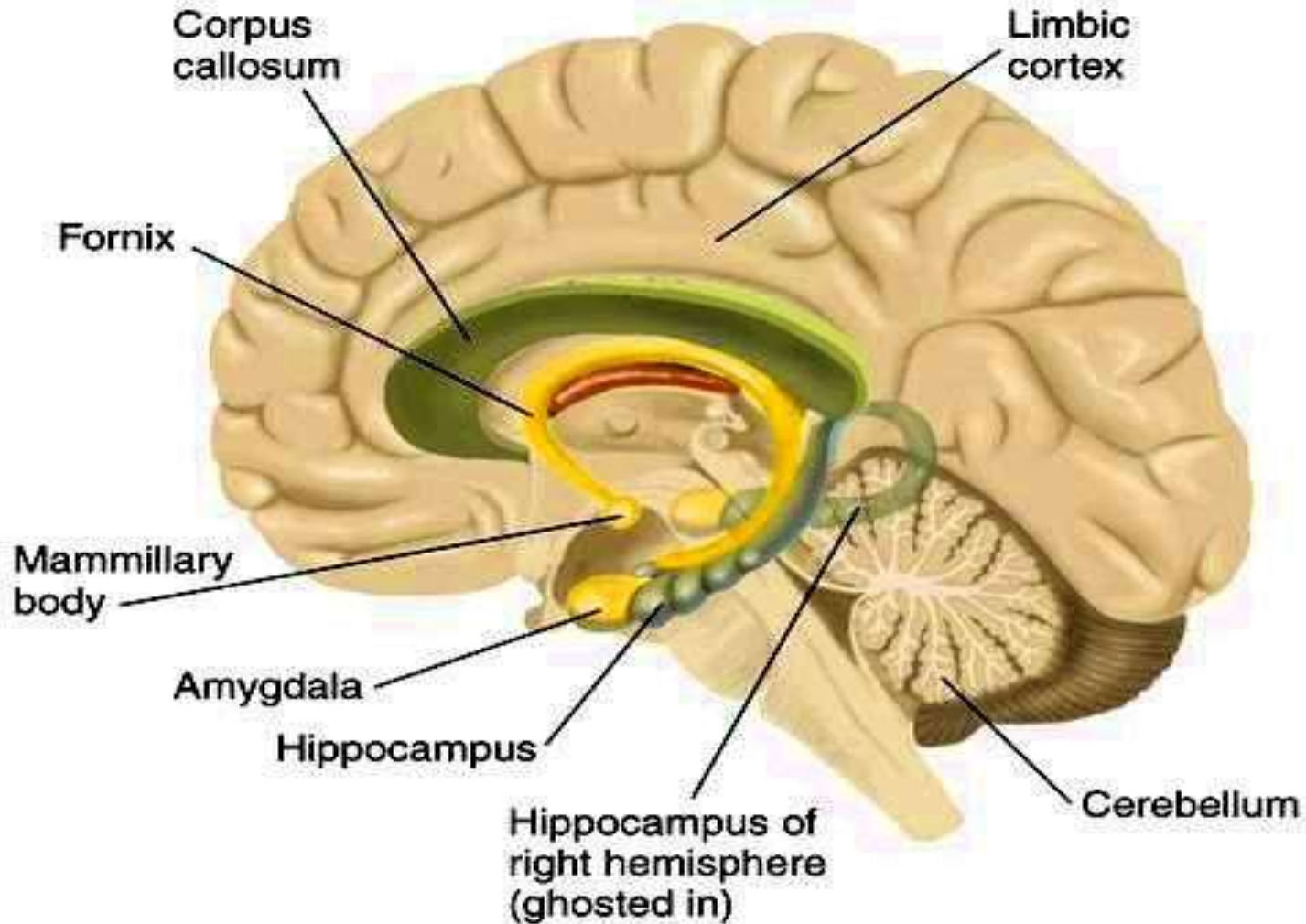
- **The survival brain (brain stem and cerebellum)**  
**Reflexes, breath, heartrate, bloodpressure**
- **The emotion brain (the limbic system)**  
**Anger, anxiety, memory, hormones involved in stress**
- **The logic brain (neo-cortex)**  
**Language, consciousness, operant behavior**

# The user dependent brain

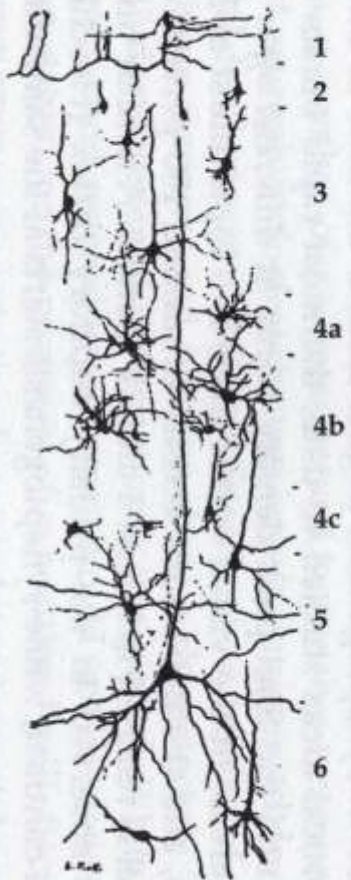
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- Born with 100 billion cells
- Only 12-15% connected at birth
- Later connections are dependent upon experiences
- Three years with 250.000 new connections pr hour
- The architects are the genes
- The constructors are parents and social network
- Use it or lose it (Torstein Wiesel 1961, Nobel price winner 1983)
  
- Further reading: Alison Gopnik, Andrew Melzow, Patricia Kuhl: The scientist in the crib.

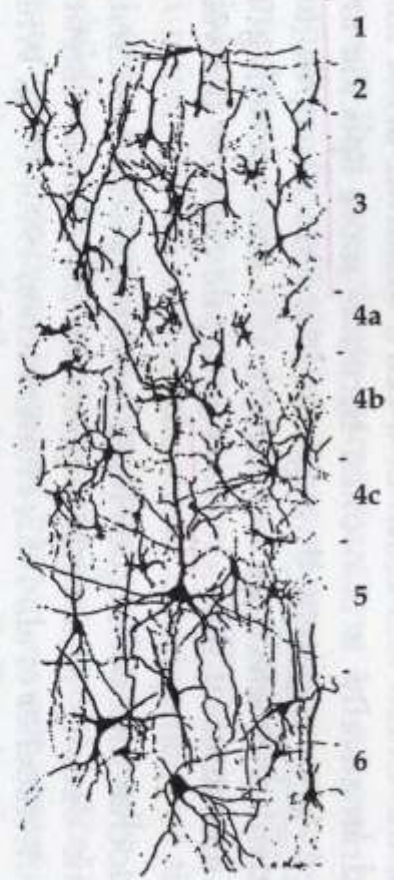
# CHILD BRAIN PROTECION



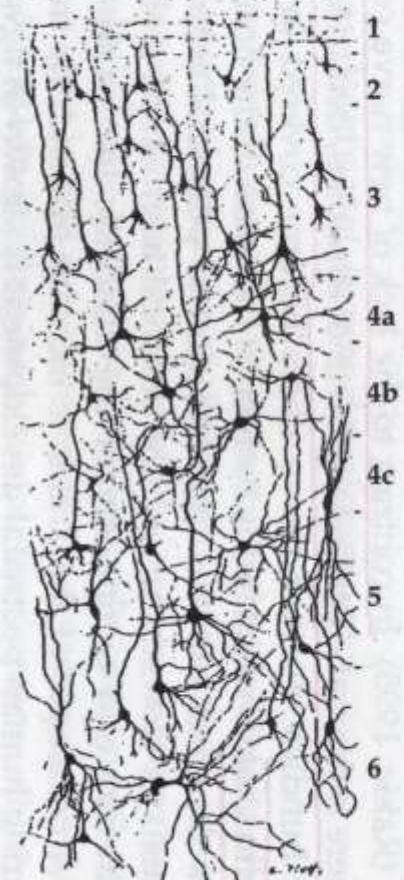
Newborn



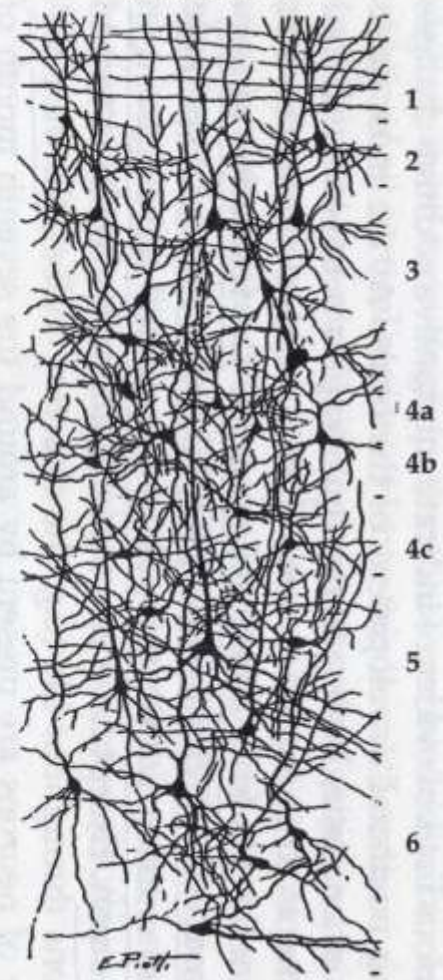
1 month old



3 months old



6 months old





25 days



35 days



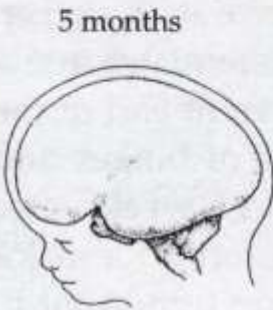
40 days



50 days



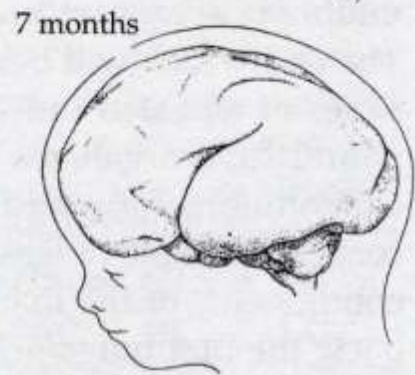
100 days



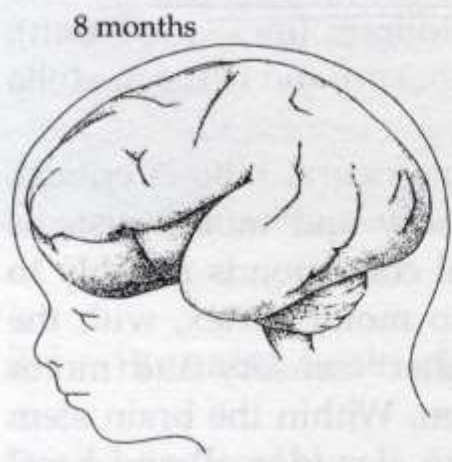
5 months



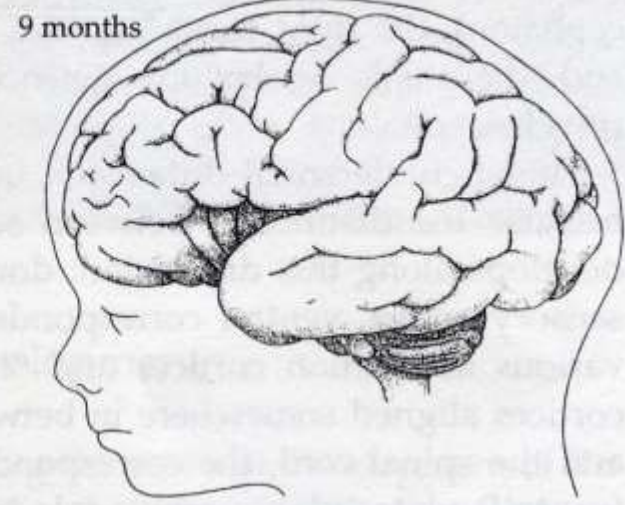
6 months



7 months



8 months



9 months



# Neurobiology

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**Small children living with longlasting stress and anxiety situations develop neurobiological and psychological damages**

- The brain is plastic and «user dependent»
- The brain is not fully developed until the age of 25
- The phylogenetic oldest structures (The limbic systems) develops first and are therefore in highest risk of mal-development from experience based trauma (violence, neglect and abuse)

## Domestic violence

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- What happens in the 1 ½ year old child who has escaped under the living room table and is very quiet during all the last hour with his hands over his head for protection

# Hippocampus

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- The child can never remember what happened because the context creator and reporter, hippocampus is not developed before the age of four. Later, Hippocampus will register, store and submit such experiences to explicit memory

## Hippocampus get injured

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- This do not means that hippocampus remain intact under the livingroom table. Older children can remember and tell us that the heart was bumping tremendously with a violent father and a mom running around in the house, bleeding and falling.
- Mom remember that the child under the livingroom table vomited.

## The HPA system

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- The stress system in the child (HPA) is activated on top level in such situations
- If it happens regularly during the early years will traumatic memories be stores in the alarm center of the child much earlier than the child can remember

(HPA= Hypotalamic-Pituitary-Adrenalaxis system)

# Amygdala

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- The alarm center has the Greek name *amygdala* meaning almond due to its shape, is well developed at birth.
- It is the early development of the amygdala that explains why small children crawl to a place they believe is safe.

## We can call it brain damage

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- Amygdala becomes activated and put into «alarm-level» at all early stress situations. A high activity level can be permanent and harmful even if life calm down.
- This activation can again harm hippocampus who plays a central role in the development of a quick and efficient memory

## A dramatic conclusion

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- Not only will terrifying pictures be stored in the child's memory, the tool itself to be used by the child to master normal daily living and later, stressful situations, is destabilized and create fear in itself.
- To call domestic violence a crime is therefore the truth



## **The following is self evident**

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- If we harm hippocampus in a child, we reduce the possibility to succeed in school
- If a child not succeed in school, an exclusion in the labour market and a new generation of children in the social welfare system is not far away

# The basic structures and examples of consequences of traumatization

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Amygdala: «Alarm center». Sends signals to the Adrenal gland: Activates «fight- or- flight» reactions

Hippocampus: Differentiate between danger and non - danger and transfer to explicit recall: Reduced ability to separate between danger and non danger

Orbito frontal cortex: Important in attachment and cueing of social signals: Reduced ability of relation building and behavioral flexibility (learning)

Medial prefrontal cortex: Self-observation, self regulation and emotional signals from the limbic system: Impusivity and lack of reflections. Emotional instability

# Transmission across generations

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- ❖ **It is proven transmission across generations of child protection services and social security clients in Norway**
- ❖ Child care is moderately stable across generations
- ❖ Weak and harmful child care transmits more over generations than high quality care
- ❖ Four of five families in child protection services are low SES families

# Unsafe elusive attachment

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- ❖ Unsafe, elusive attachment: Parents respond with anger and anxiety to the child's attachment behavior.
- ❖ The child avoid the parents responses by tuning down attachment behaviors. They display silent, non-attentive behaviors and independency

# Unsafe ambivalent attachment

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- Unsafe, ambivalent attachment: Parents are passive and callous.
- The child escalate the attachment behavior and display temper tantrums, anger and defiance

# Unsafe desorganized attachment

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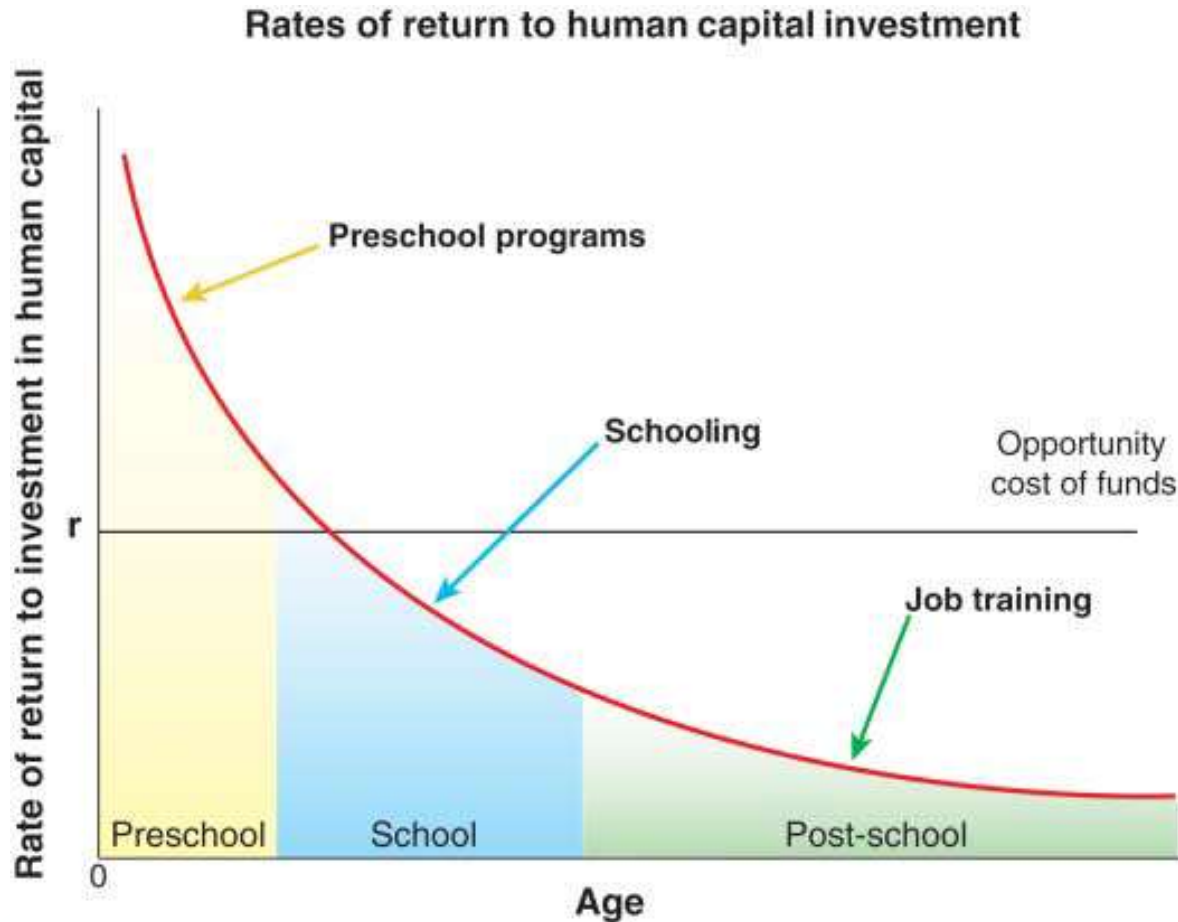
- ❖ Unsafe, desorganized attachment:  
Parents are violent and ridiculing the child.
- ❖ The child shows fear for the caregiver and displays stereotypic behavior, anxiety and confusion. The child is in risk for developing serious mental health problems.

# Investments

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- James Heckman. Economist. Nobel prize in economy in 2000
- Investments promoting and protect childrens cognitive development gives great earnings in the future
- Heckmans promise:
  - Reduction of large expences by prevening drop out in school
  - Great earnings from future well educated tax-payers

# Rate of return to human capital investment (Opportunity costs of funds = if invested in savings)





# Principles in child welfare decisions

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From Parliament Proposition 106 L

The superior principle: the children's best. This principle should be based on the following principles:

- ❖ The quality of attachment and relationship between child and caregiver
- ❖ Biological string between child and caregiver
- ❖ The least intrusive intervention
- ❖ The child's contribution

# New principle

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- \* **The developmentally supportive attachment principle**

The caregivers must interact with the child with a quality that support the child's development

It is the child's best to live in developmental supportive conditions not necessarily with their biological parents

# Thresholds for moving the child out of home

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The threshold should be assessed according to the following criteria:

1. Is the quality of attachment and personal relations between the child and the parents developmental supportive or not?
2. The impact and stability of the abuse and neglect
3. The caregiver's characteristics (potential for change)

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Thank you for your attention