

Transduction, Re-entrance,
Translation:
A Neuropsychanalytical
Case Study
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Intergenerational Transmission of Trauma in CHS

I) **Intro:** a) Rakoff (1969): Children and Families of Concentration Camp Survivors Eitinger (1961); Nederland (1968); Krystal (1968): Survivor Syndrome; b) Families: Danieli (1980): 4 Distinctive Subtypes of Families: 1. VICTIM; 2. FIGHTER; 3. NUMB; 4. THOSE WHO MADE IT; Bergmann & Jucovy (1982); c) Solomon (1988): Israeli CHS who developed combat-related PTSD took longer to recover compared to control.

II) Lifetime Cumulative Effect of Tr & Cortisol

Changes: Resnick, Yehuda, Pitman (1995); McFarlane, Atchison, Yehuda (1997)

II) **Vulnerability/Resiliency:** a) **Prenatal:** stress exposure during pregnancy- (Davis, Glynn, Snidman, Wadhwa, Schetter, & Sandman, 2004); b) **Postnatal:** Novac and Hubert-Schneider (1998): Higher likelihood of comorbidity in CHS; Yehuda et al. (1998): Vulnerability to PTSD in adult offspring of Holocaust survivors ; Kendler et al (1988): Nongenetic Transmission of Traits

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Cumulative Effect of Trauma and Vulnerability

No Pre-natal Trauma



Pre-natal Trauma



Intergenerational Trans...(cont'd)

- In Humans= as a “package,” including vulnerability to traumatic stress:

- Also described in rhesus monkeys (Soumi & Levine)

- Mechanisms of transmission:

(1) Verbal and non-verbal transmission of info

(2) Transmission of acquired traits (vertical, non-genetic)

(3) Intrafamilial microtraumatization (unpredictable environment)

(4) Prenatal traumatization

(5) Attachment Patterns (AAI)

Secure/Autonomous (F)

Secure (B)

Dismissive (Ds)*

Avoidant (A)

Preoccupied (E)

Resistant (C)

Unresolved /

Disorganized/

Disorganized (U/D)*

Disoriented (D)

Transduction, Re-entrance, Translation

Signal Transduction = Perceptions are converted into cellular processes like influx of Na and Ca^{++} & efflux of K; ATP dependent ion pumps and exchanges maintain ionic equilibrium; intracellular conc. of cyclic guanine monophosphate (cGMP) when cells activated transducin catalyzes the break-down cGMP

Re-entrance= Heimer's work: The piriform (olfactory) cortex terminates in the ventral striatum rather than in the anterior-lateral hypothalamus, as was widely accepted before. The amygdaloid complex also projects into the ventral striatum.

Translation in Neuropsychanalysis

TOP DOWN

- Cognitions, Perceptions,
Processed / digested memories
- Attachments/Transference
- New Emotional Control

(Use of Gross anatomical circuitry)

TRANSLATION

Entropy

Energy

Consumption

BOTTOM UP

Cellular Processes activated:

- Transduction
- Receptor & Membrane
changes

OUTPUT:

Early:

“Paradigm shift”

Later:

New memories: “Tokens”

Reshaping of emotional

response = New internal models

In processing trauma

Possible white matter,

Anatomical conn changes

- Translation = A curative transformation obtained through repetition, by which old defenses and implicit memory sequences are converted (relearned?) into new “complex memories” that maintain a long-term bridge to the analytical experience.
- = Translating old self into New Self =