

Affiliative (Interpersonal) Behavior and Translational Neural Systems

Andrei Novac, MD, FAPA

Clinical Professor of Psychiatry

Director Traumatic Stress Program

University of California, Irvine

Empathy 1

- Historical:

A. Einfühlung / Verstehen (19th cent.) = Used by Germ. Expressionists

B. Empathy (Eng.)- 1. R. Vischer (1873) = Our capacity to symbolize inanimate objects of nature and art; 2. Lipps (1903) extended term to intersubjectivity: “inner inhibited objectivity”

3. Husserl (1977 in trans.)- empathy relevant in the constitution of our cognitive world, e.g., the role of others by “shared experience” in making our world “objective” (Lebenswelt = experiential world)

Cultural Impact & Significance

- Classics (Shakespeare, Moliere, Racine, Goethe, Schiller)-deeply observed human nature
- Romanticism (Lamartine, Chopin, Brahms, Schumann < Tchaikowsky)--Dominated by subjectivity; looking inwards
- Modernists= Symbolists, Dadaists, Expressionists, Structuralists=(Symbol, Meaning)
- Postmodernism

Cultural Anthropology Re: Empathy

- Empathy limits aggression towards next of kin = a way of preserving continuity in society
- Empathy can be inhibited intentionally = a way of setting standards of conduct, healthy rearing

Empathy 2

- MIRRORING -- Mirror Neurons-** Gallese et al (1996); Rizzolatti & Craighero (2004); Rizzolatti et al (1996); etc. = A subpersonally or *we-centric* common space = embodied simulation = mediates the sharing of meaning of actions, intentions, feelings, emotions with others = grounding our identification with & connectedness to others = occurs unconscious mandatory non-declarative
- CONTAGEON:** a) automatic mimicry, primitive, “fast”(E)-facial, vocal, body lang, transmodal
b) imitation, conscious, “slow”(C)
- SHARED REPRESENTATIONS-** evolved, late acquisition (18-24 mo)

Translational Systems I

Brain circuits that mediate between sensory modalities and affect / cognition

Cortico-Subcortical Re-entrant: Olfactory & amygdaloid cortex = majority of proj. to basal ganglia (accumbens + rest of striatum)

Striatum = projects to the cortex

Bi-directional route between: prefrontal functions (cognition) & striatum (implicit memory)

Translational System II

- A. The extended amygdala: 1.the amygdala contains two major components: a. central-medial nuclei--to striatum; b. cortical and basal nuclei--to cortex (**Extended Amygdala--EA**, a ring of neurons that encircle the internal capsule and the basal ganglia. Components: central EA + medial EA + Stria Terminalis + Bed Nucleus of the Stria Terminalis. Continues with the shell of the Accumbens. Extended Amygdala + Accumbens= circuits to orbito-frontal cortex and the medial temporal lobe.

Translational Systems III

- B. The striatal-pallidal system (basal gl): Ventral striatal pallidum - behavioral
Dorsal striatal pallidum- motor
- C. Substantia Innominata = ventral extension of the pallidal complex of basal ganglia (in the past “terra incognita”)
- Ventral SI = subcomissural
- Posterior SI = sublenticular SI -- Extended Amygdala (SI = cholinergic cells + interface islands --reserve for neurogenesis)

(Heimer)

For additional information regarding this subject, please contact Dr. Novac at anovacmd@gmail.com