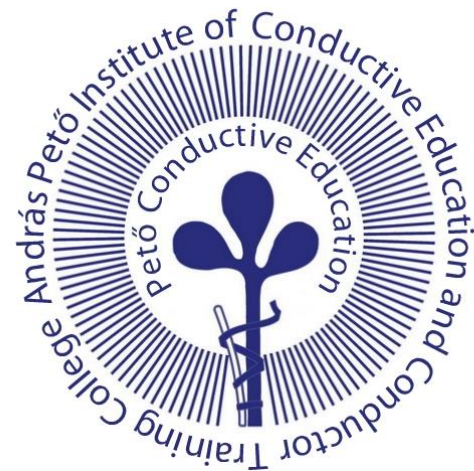


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# Principles of conductive education

Anna Kelemen, MD,  
PhD

**Pető András College**  
**Budapest**

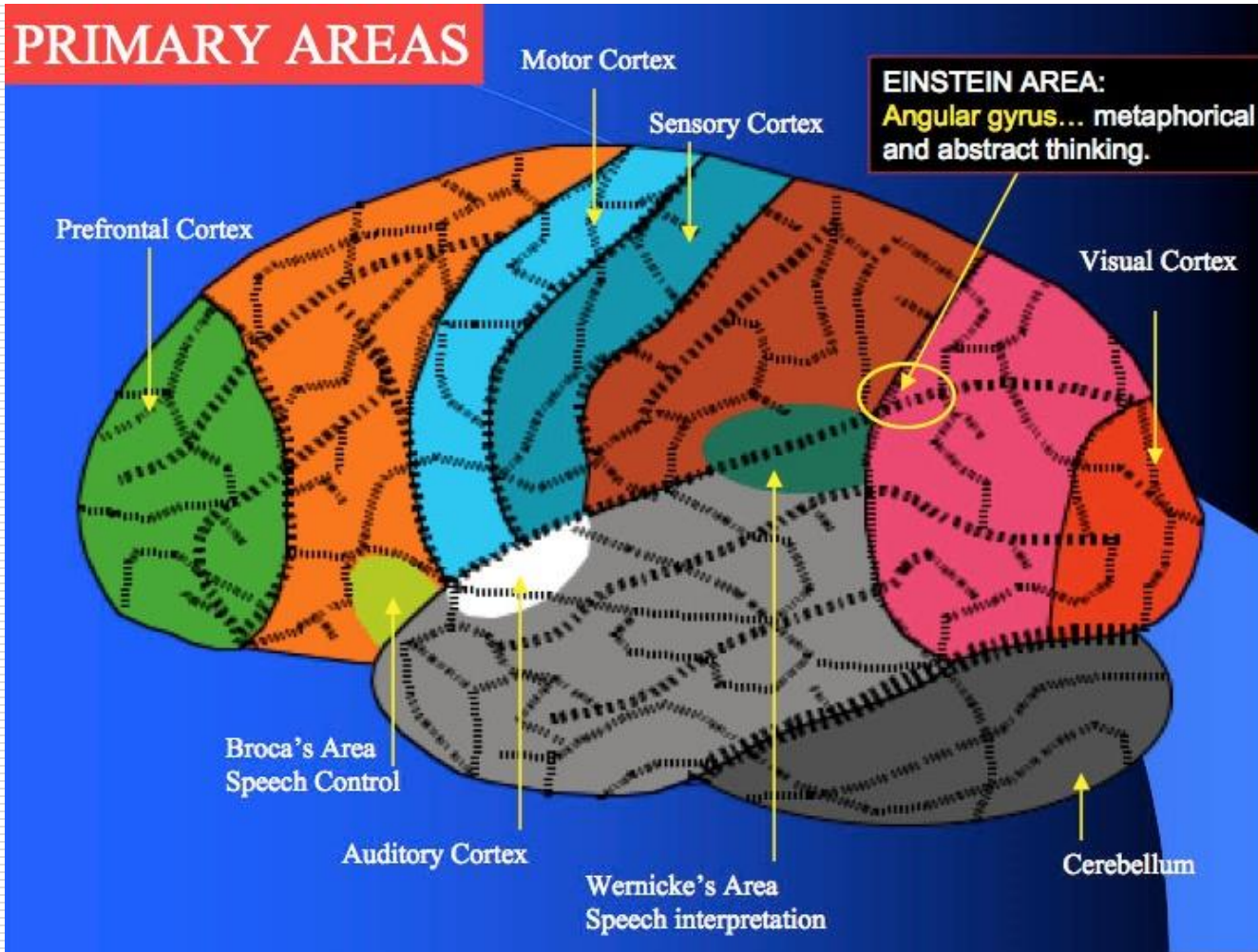


# Basic principles

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1. Not the environment should be adjusted to the dysfunction, but rather the person with special needs is the one should and can change.
  2. Based on neural reorganization and plasticity theory
  3. Method and system
  4. Integrates education and rehabilitation
-

# Localisational theory of brain functions v. networks



□ Stimulation

□ Lesion

□ fMRI

# 1. Brain plasticity

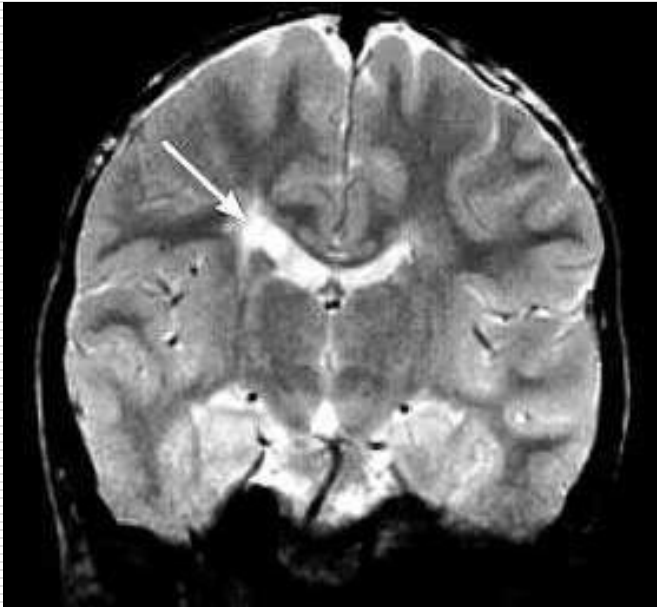
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**In the cortex**

**In subcortical gray matter structures**

**In pathways**

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**Neural plasticity is the ability of the CNS to change and adapt in response to environmental cues, experience, behavior, injury, or disease. Neural plasticity can result from a change in function through alternations in synaptic strength, neuronal excitability, neurogenesis, or cell death” (Brosh & Barkai, 2004).**

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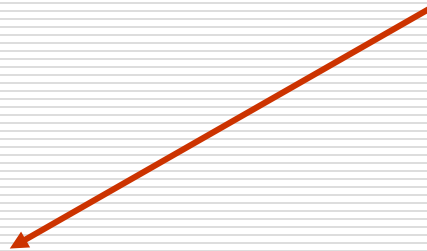
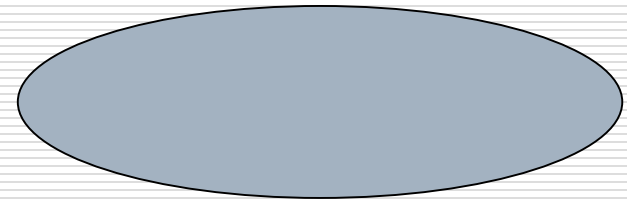
# REORGANISATION

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Lesion: type, extent, localization, timing



Intervention - Treatment



Function: motor, sensory, cognitive

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# Elements of CE

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- ❑ Conductor
  - ❑ Conductive Group (socializing, motivating)
  - ❑ Task series integrated into daily routine
  - ❑ Rhythmical intention
  - ❑ Differentiation
  - ❑ Principle of gradation
  - ❑ Facilitation
-

# The task series

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# Intention and rhythm

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- The person's mental preparation, via a symbolic representation for overt behavior."
- „Rhythmic refers to the fact that the intention is delivered in musical, beat-like sequence because it increases the possibility of a completed and deliberate action „



# Neuroscience of **intention**

## Predictive motor control

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Conscious experience of **intending to act** (*movement /action*)

- *Sustaining the posture and movement*
- *Inhibiting external influences, other movements*
- *Shifting to sequences*

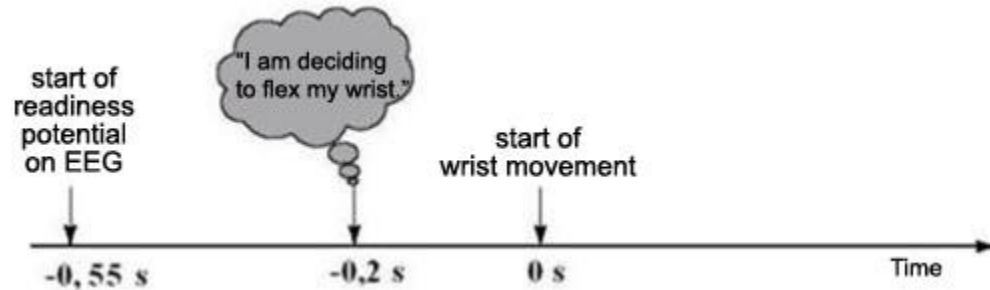
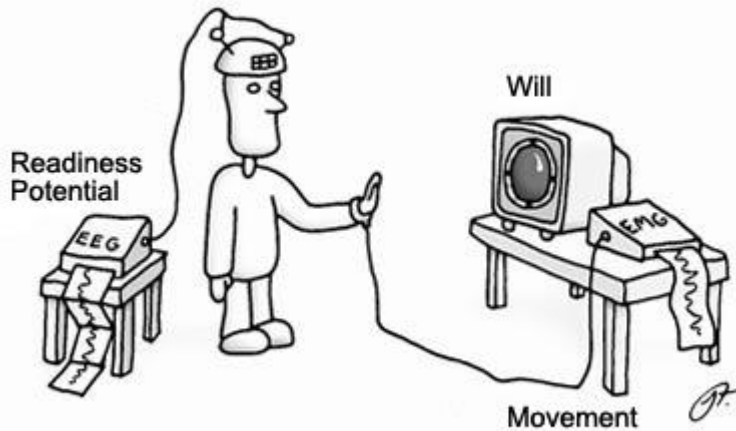
*Praxis ( how) and intention (when)*

### **AGENCY**

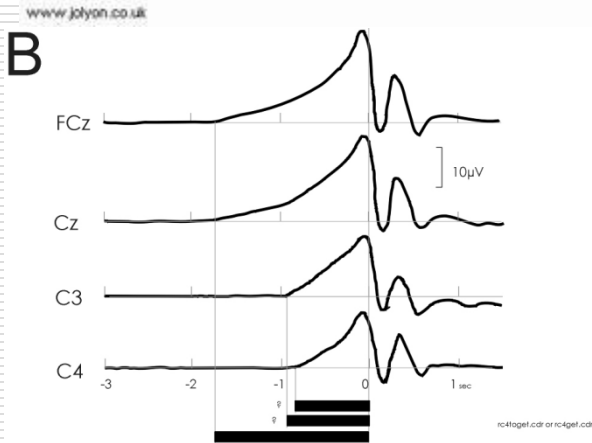
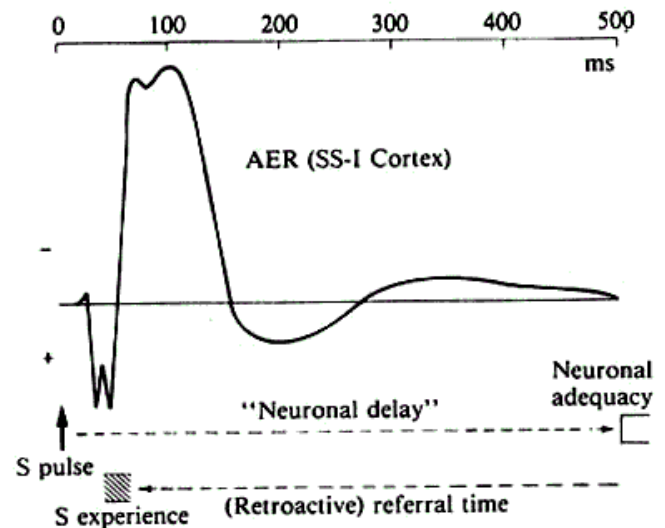
- *an inspiration to do something, to change, to controll*
  - *the decision to do it*
-

# Neuroscience of intention

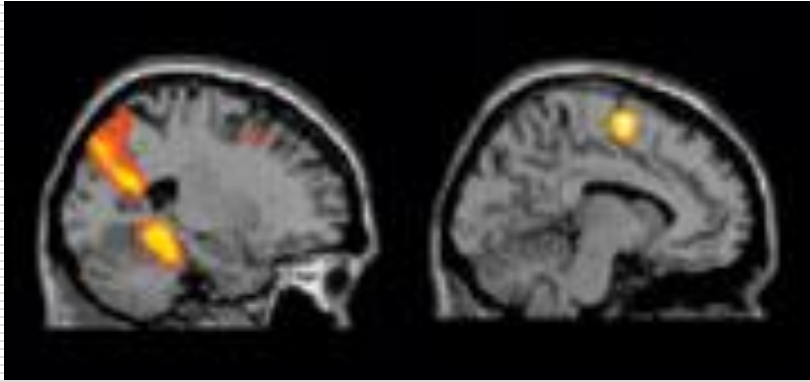
## Libbet's experiments



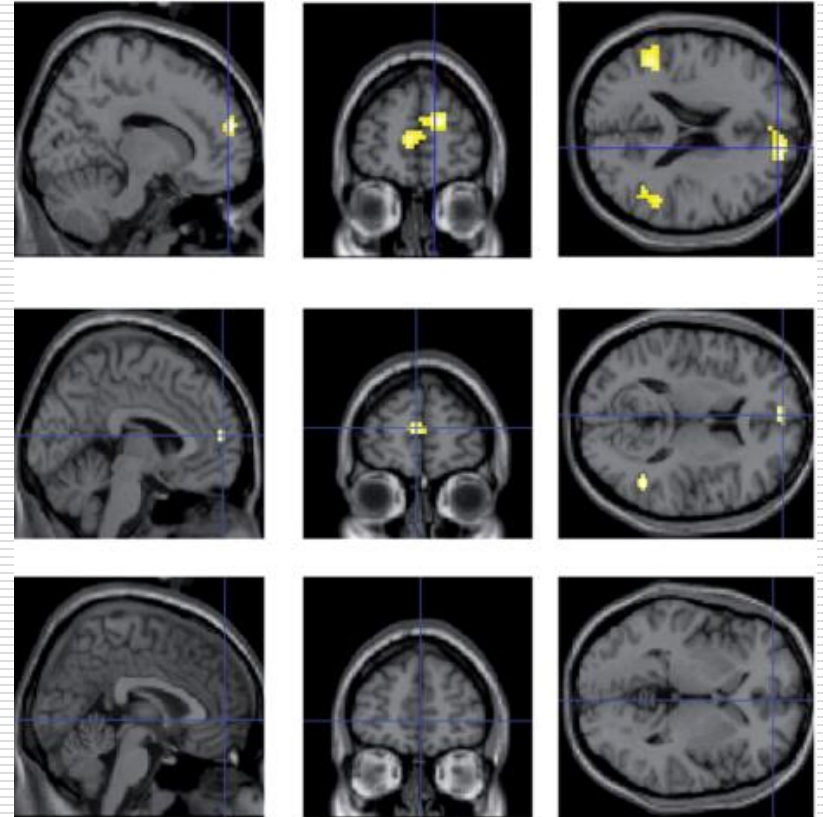
Retroactive referral (antedating) of subjective sensory experience



## Imagining spatial navigation (left) and playing tennis.



## Attention to intention



Conditional status 38%

Motor performance of movements required for the play

Better results

Quality of play



Concentration

Muscle fatigue

An inner desire for  
exercise

Symmetric movement

Fatigue



Competition

Fair play

Rivalry

Fun

Endurance (75%)

Attention

# Facilitation



# Worldwide cooperation: training and practice



# Thank you for your attention!

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# International Projects

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## Conductor Training

- USA
- UK
- Spain
- Mexico
- Russia
- Iran

## Continuous CE

- ✓ UK
  - ✓ Russia
  - ✓ Germany
  - ✓ Iran
  - ✓ Yemen
  - ✓ Egypt
  - ✓ Australia
  - ✓ China
  - ✓ Austria
  - ✓ Japan
  - ✓ Etc
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