

**The Education of Persons with Disabilities:
Where Social Justice and Human Progress Converge**

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October 22, 2021



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THE MISSION

**Literacy is a
basic human
right around
our world.**



Towards a More Fully Human, Knowledge-based Conceptualization of Disabilities

	United States	Global
Physical Disability	16%	15%
Emotional/Mental Health Disability	26%	13%
Learning Disability	10-20%	10-20%



**“At some point I stopped thinking about myself
as someone who needed repairing”**

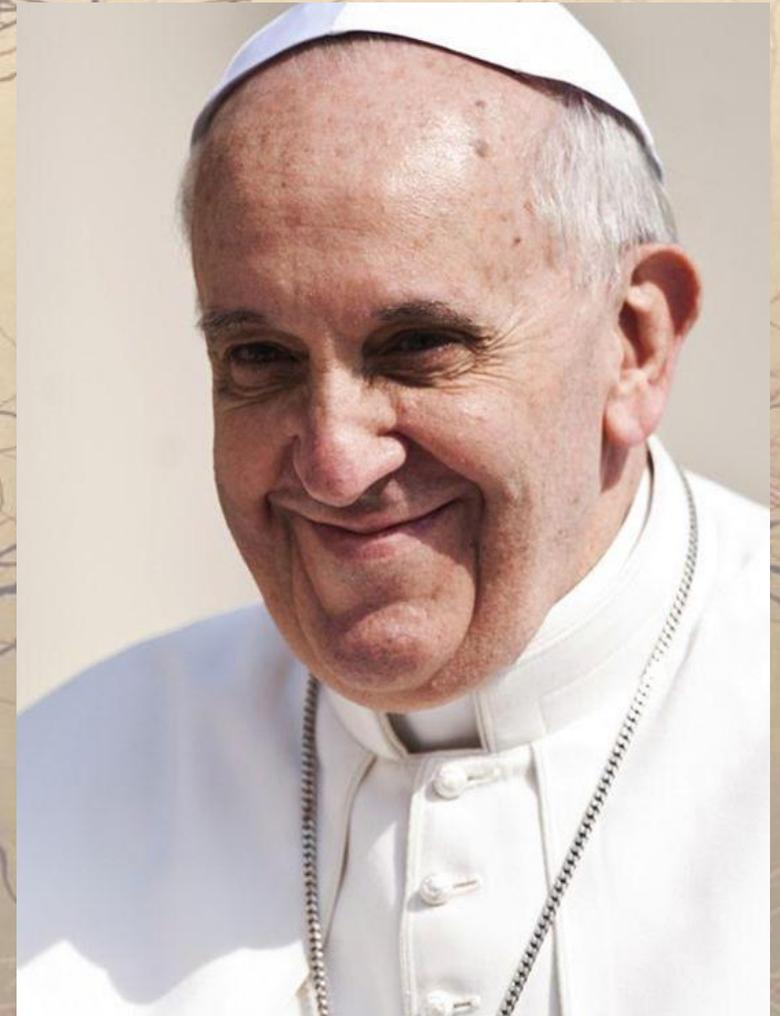
- Jan Grue, *I Live a Life Like Yours, a Memoir*

Education Reveals What is in Our Minds and Hearts

“Education is one of the most effective ways of making our world and history more human.

Education is above all a matter of love and responsibility handed down from one generation to another.”

- Pope Francis, September 9, 2021



Three Premises

Education is a platform for the development of our full humanity and the intellectual, socio-emotional, and moral development of the species.

Neuroscience of learning enhances teachers' capacity to teach often neglected individuals and release their unique potential to contribute to our world.

An understanding of how individuals with varied disabilities learn propels teaching for ALL individuals.



Reading as Example of Three Premises

Literacy changes the brain,
which is the basis for education,
which changes the intellectual, social-emotional, and moral development of the individual,
which changes society,
which changes the future of the species.

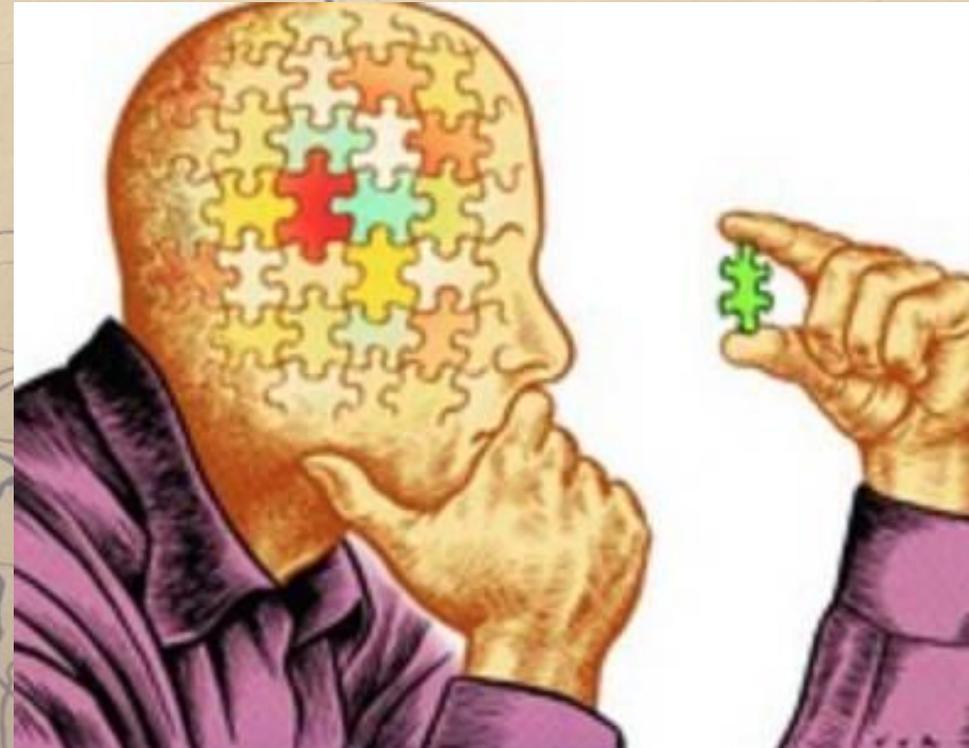
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Learning Disabilities: Example of Relationship between Education and Social Justice

Education provides basis for equal opportunities in: Intellectual, Social-emotional, and Moral development; Economic independence; Physical and mental health; Unique Strengths from Cerebrodiversity.



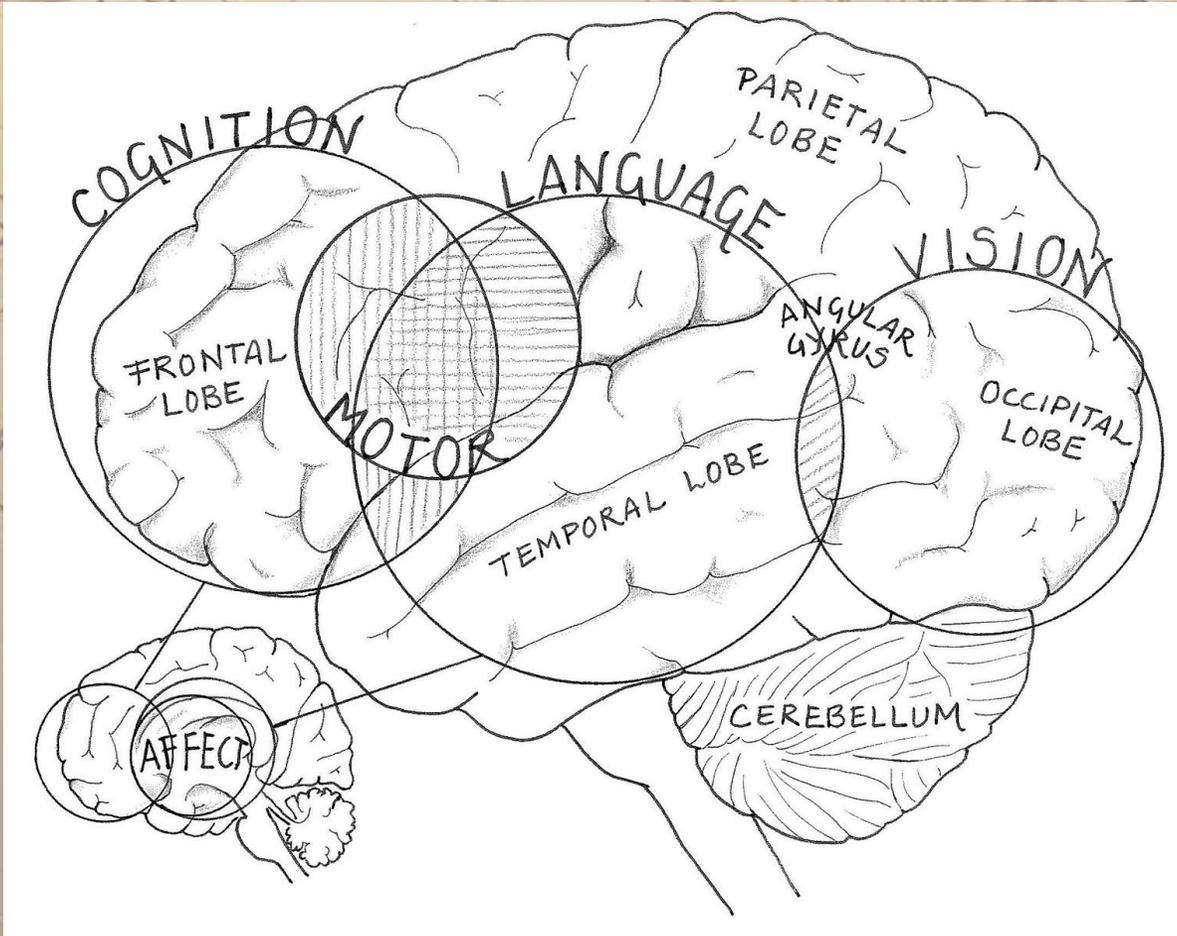
Why Neuroscience and Education?

“Parents and educators must have a better understanding of what reading changes in a child’s brain. I am convinced that increased knowledge of these circuits will greatly simplify the teacher’s task.”

- Stanislas Dehaene



Plasticity of Reading Circuit: The Origin Story



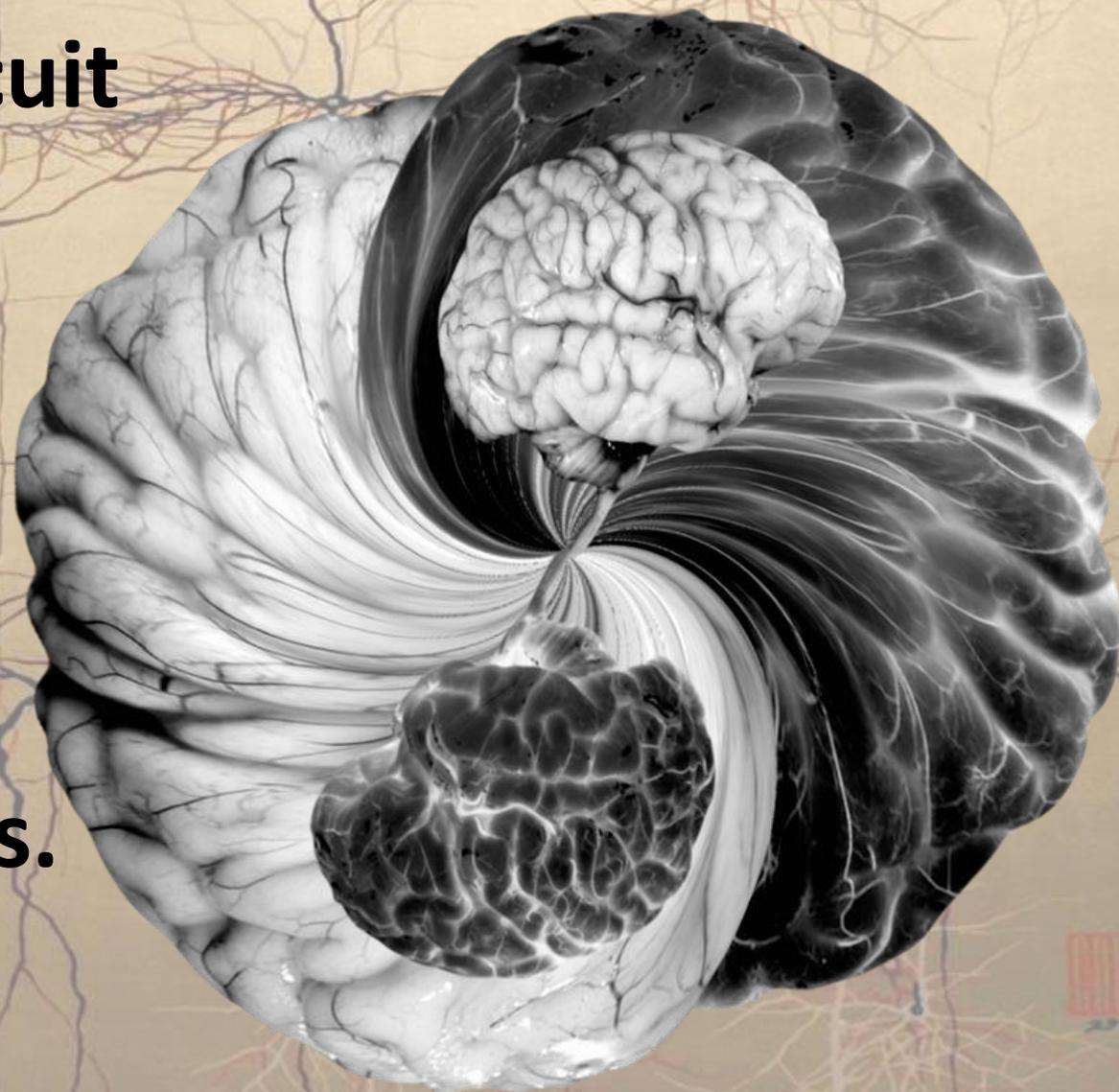
The human brain was never born to read.

Brain can rearrange itself in multiple ways to read, depending on writing system, **educational opportunities**, and medium.

Educational Opportunities Require: Access, Equity, and Dissemination of Knowledge around the Globe



**Forming the Reading Circuit
Involves Knowledge of:
Reading Development,
Deep Reading
Processes,
and Individual Differences.**



Developing the Components of the Reading Brain: Language, Cognition, and Emotions from 0 to 5



Phonemes
Orthography
Semantics
Syntax
Morphology



Developing Cognitive Development and Background Knowledge between 0 and 5



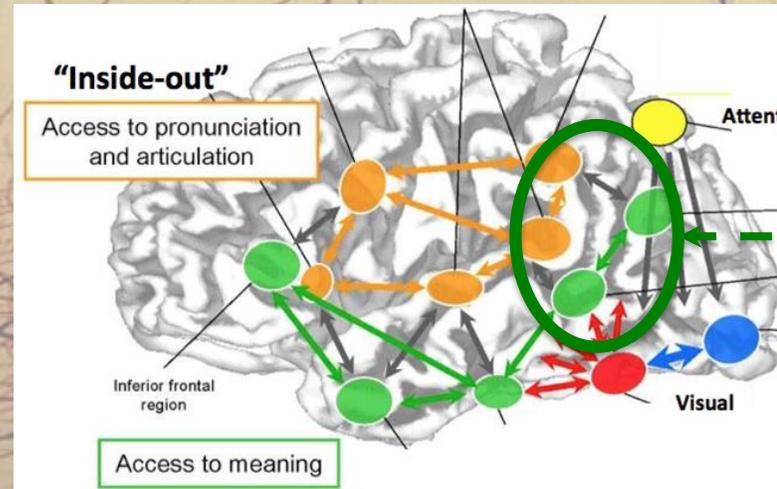
“The rich get richer and the poor poorer.”

...Matthew 4:23

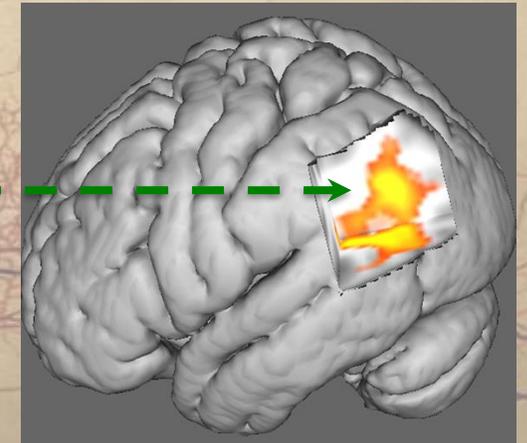
(Stanovich for vocabulary)



Effects of Reading in Early Childhood on Brain Development (John Hutton)



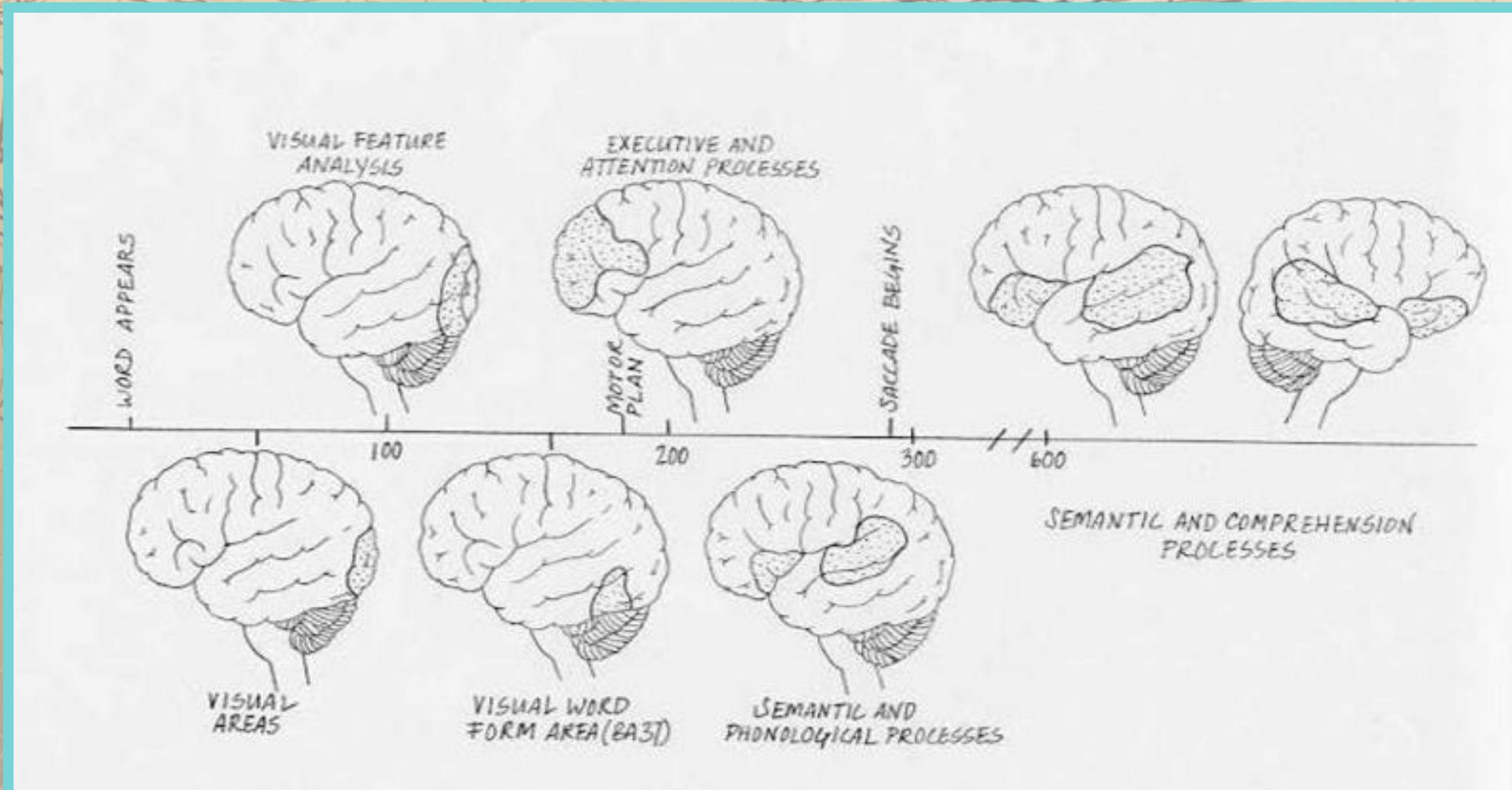
Left Hemisphere



- Semantic Processing (Understanding)
- Visual Imagery
- Controlled for household income



The First Circuit: A Typical Decoding Brain



Deep Reading Development: Agent of Change and Progress

Background Knowledge

Perspective Taking/Empathy

Critical Analysis

Novel Thought

**Inference,
Deduction/Induction,
Analogical Thinking**

Imagery

Insight & Reflection

**Going beyond the
wisdom of the
author.**





Empathy as the “Moral Laboratory” For Compassion

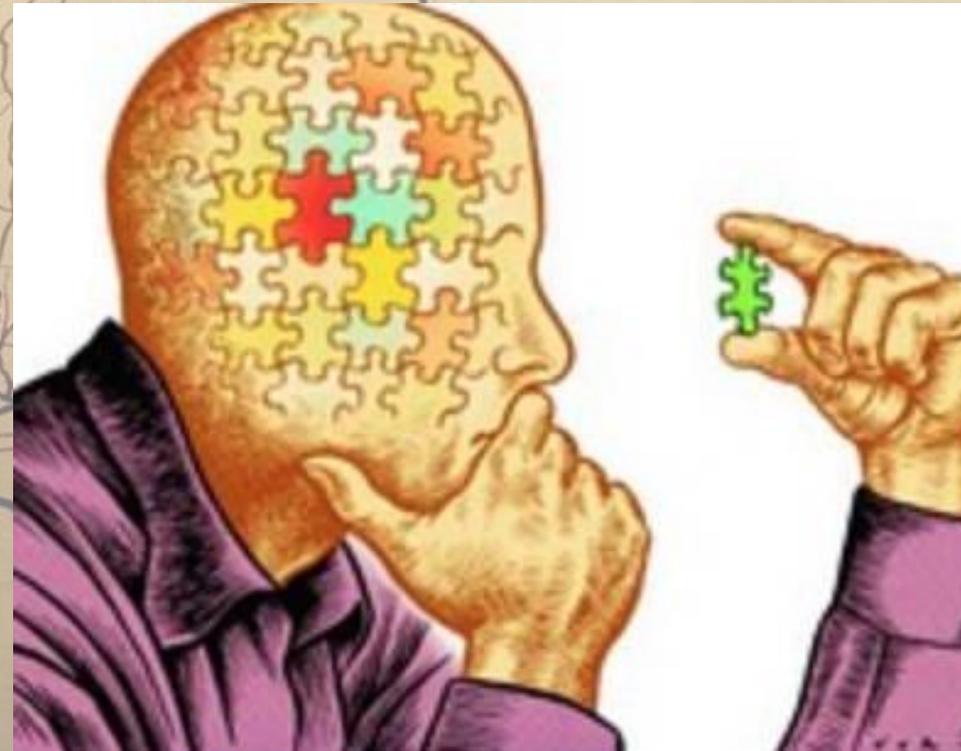
(Hakemulder , 2018)

“Compassion protects,
increases our sensitivities,
gives life, and heals.”

- Julian of Norwich

Critical Analysis as Prerequisite to Individual Development and to Democracy

**Connects what is read
and what is known
with inferences;
evaluates our hypotheses;
and discerns truth value.**



Full Literacy: Humanity's Platform for Critical Analysis, Empathy, and Wisdom

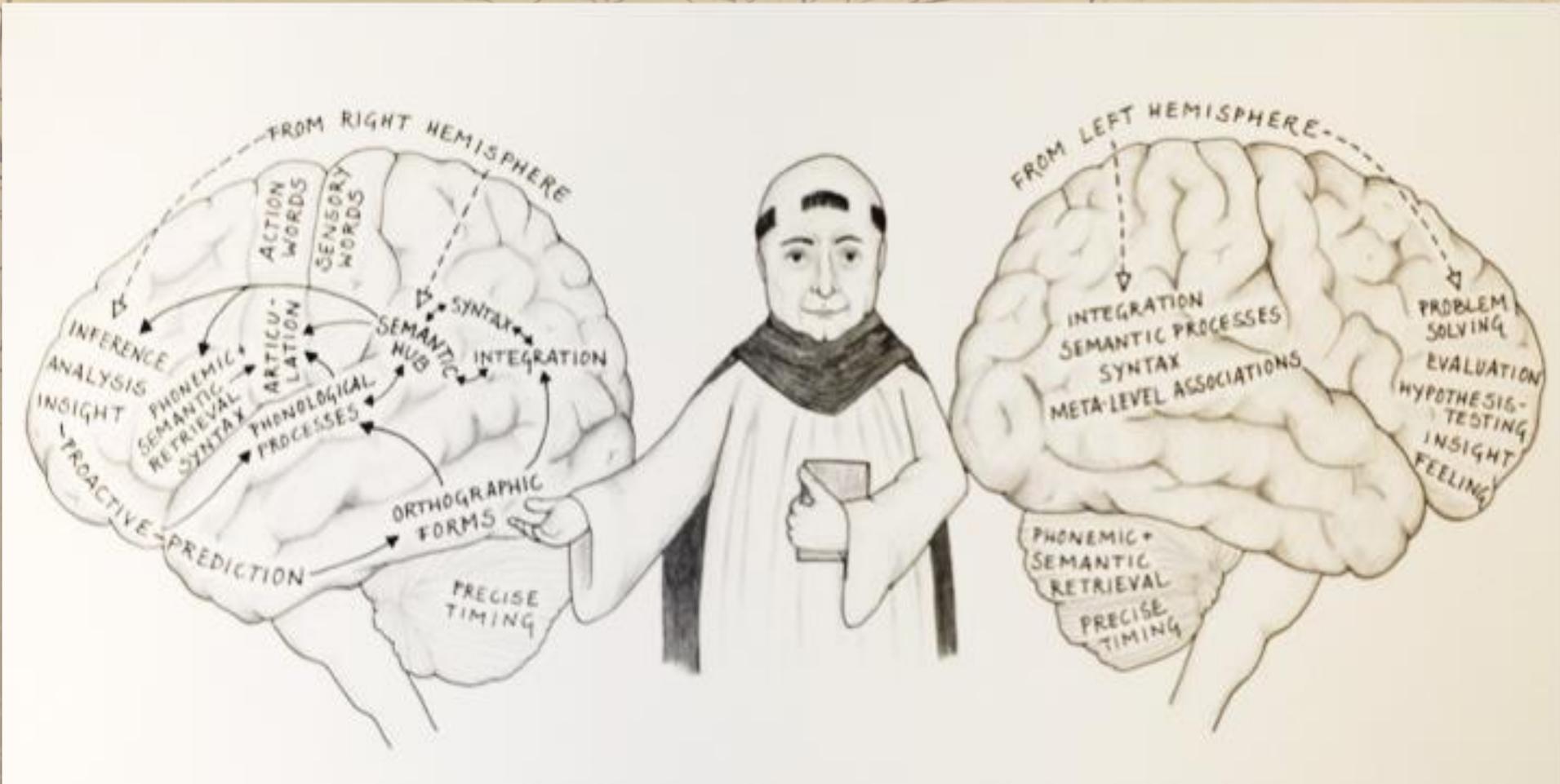


“Wisdom is in a conjoining of knowing and loving... like Polanyi’s ‘critical lucidity and an intense moral conscience.’”

- Fr. John S. Dunne
The House of Wisdom



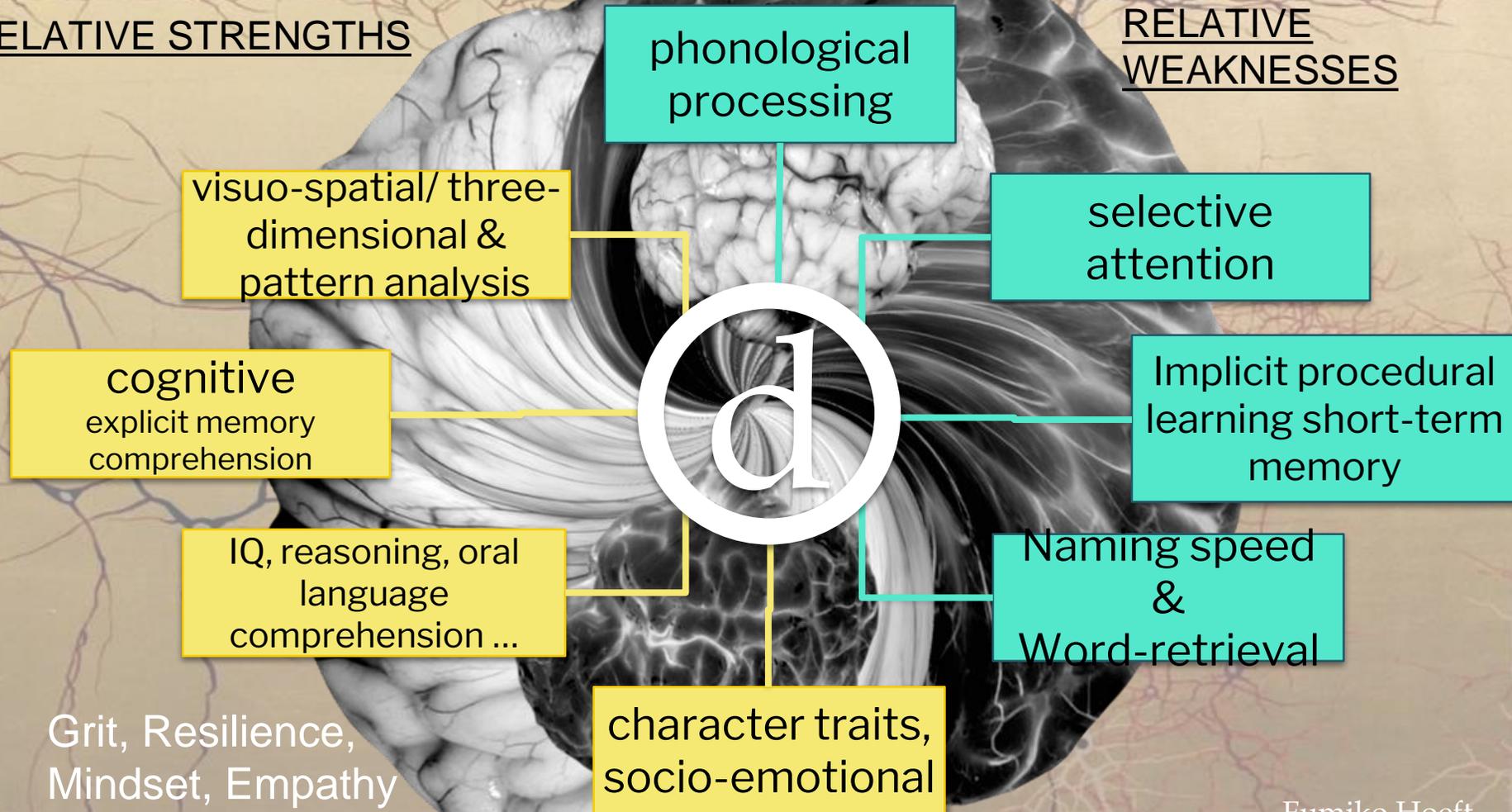
Expert Reading Brain and its Contributions to Human Progress



Using Neuroscience to Understand Atypical Mix of Strengths, Weaknesses, Protective Factors & Resilience in Learning Differences (Hoeft; Gorno-Tempini)

RELATIVE STRENGTHS

RELATIVE WEAKNESSES



Dyslexia Brain Organization: Cerebrodiversity's Contributions



Arts & Science

Alexander Graham Bell

Lewis Carroll

Leonardo Da Vinci

Antoni Gaudi

Pablo Picasso

Robert Rauschenberg

Auguste Rodin

Steven Spielberg

Nikola Tesla

Ben Wolf Noam

Entrepreneurs

Richard Branson

John Chambers

Stephen Cloobek

Walt Disney

Sharon Hewitt

William Hewlett

David Hornik

Steve Jobs

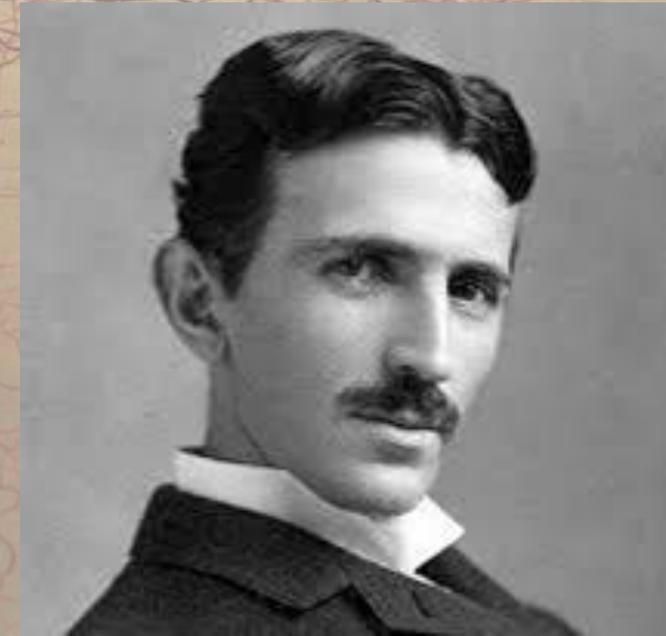
Ingvar Kamprad

Craig McCaw

Jamie Oliver

Anita Roddick

Charles Schwab

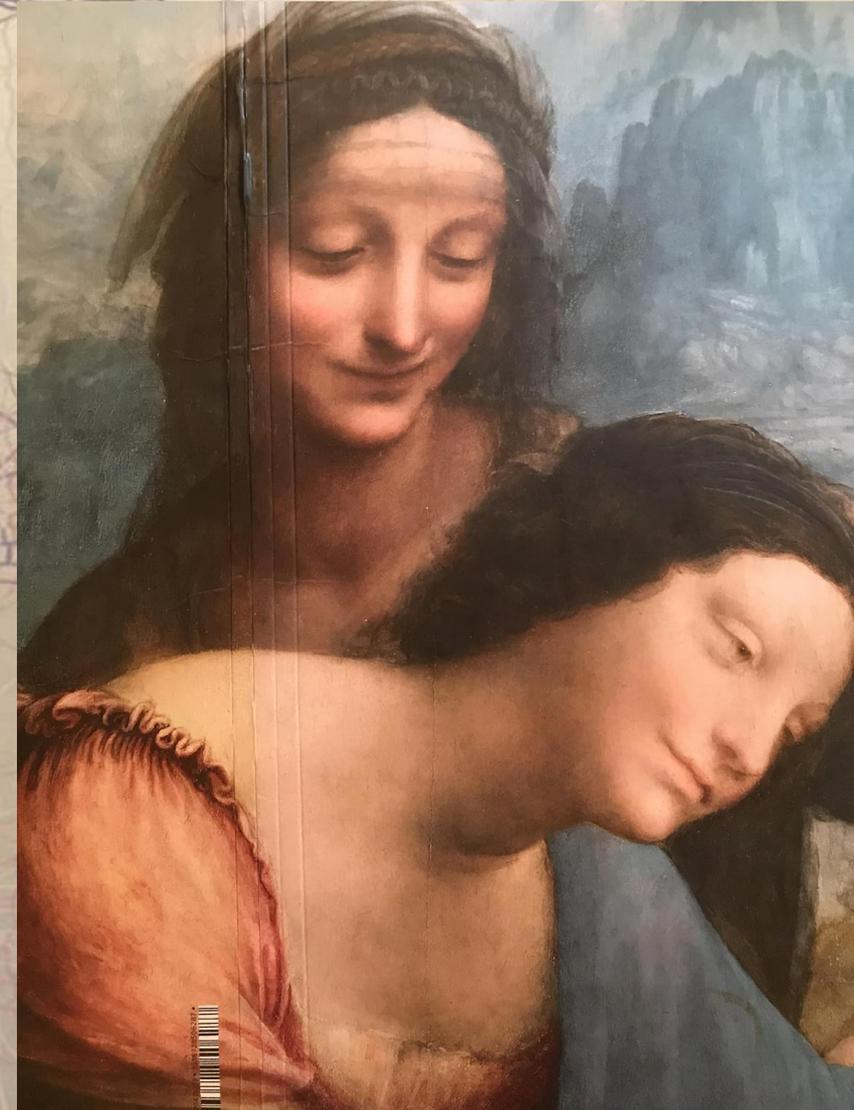
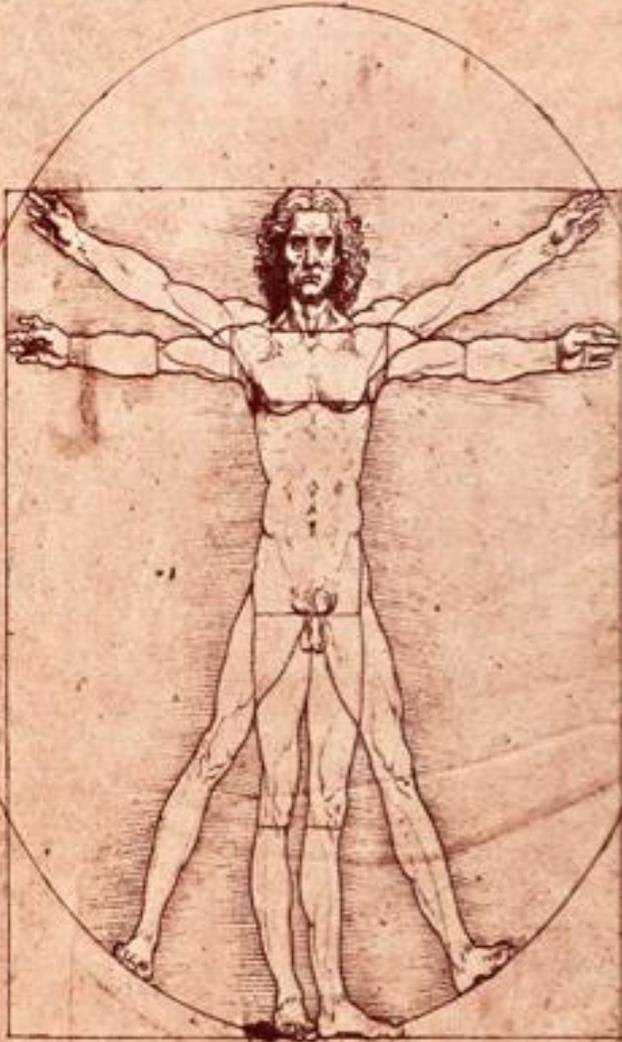


Leonardo da Vinci: Prototypical Dyslexia

“Omo senza lettere”

Extraordinary Mix of Strengths and Weaknesses

- Artist and Architect and Designer
- Problem - Solving Genius
- Brilliant Pattern- Analysis and Analogical Thinking
- Thinking Beyond any Box
- Could not learn Latin
- Strengths in Geometry, but not simple algebra
- Unusual mirror writing
- Classical Education not possible
- Vasari's Descriptions of Ideal Life



Three Areas of Systemic Change to Address Learning Challenges

1

Campaign to increase language and concept development from 0 to 5 years.

2

Assessment for dyslexia and literacy at 5 with teachers trained to give targeted intervention in Primary grades.

3

Fluent comprehension by grade 4 with professional development for K-12 teachers and juvenile justice system to incorporate this knowledge.



Our Charge: To Reconceptualize the Education of Individuals with Disabilities as Propelling Social Justice and Human Progress

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