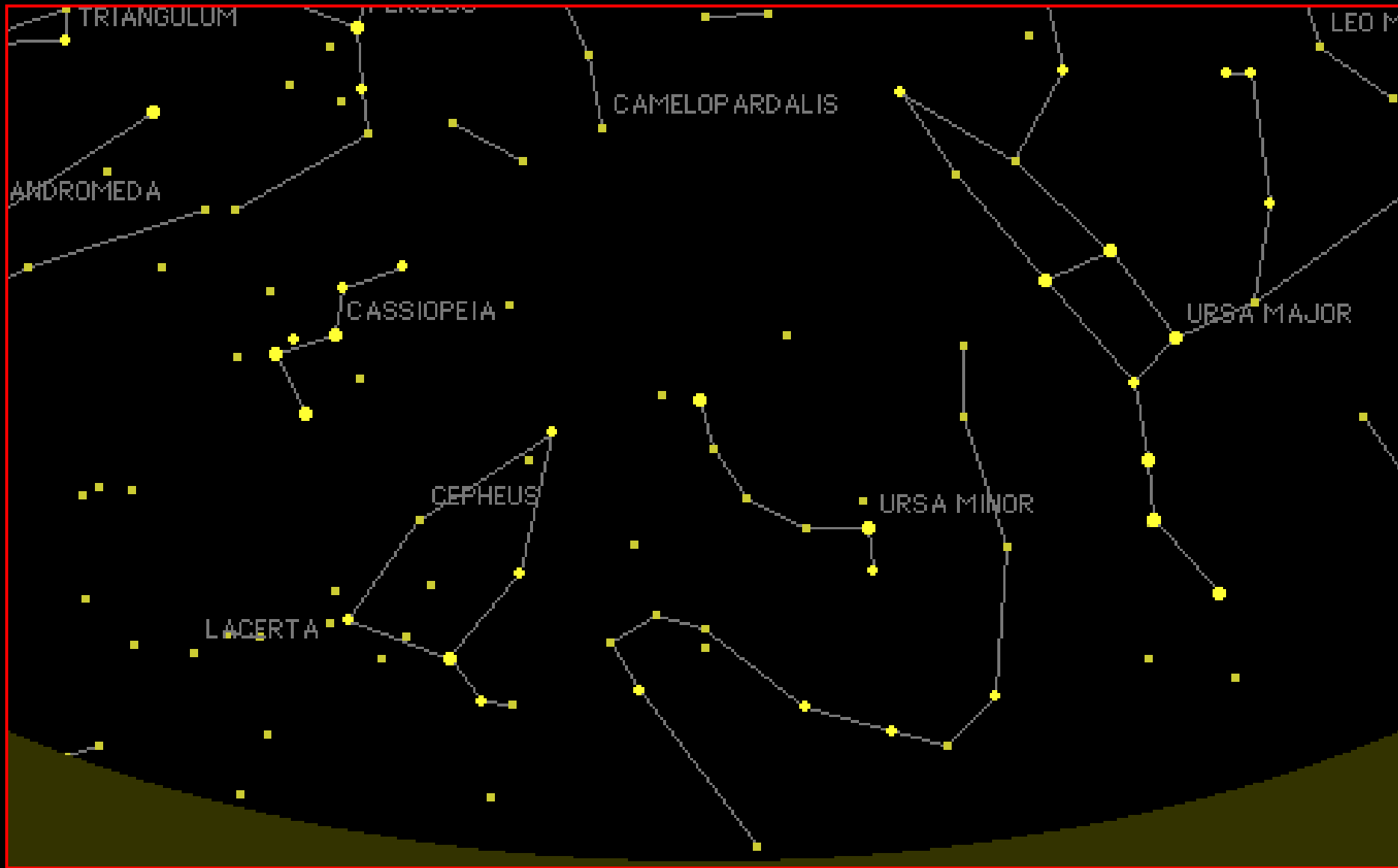


The Adult Learner: Science or Science Fiction

Ira Todd Cohen, M.D., M.Ed.
Professor of Anesthesiology and Pediatrics
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Department of Anesthesiology and Pain Medicine

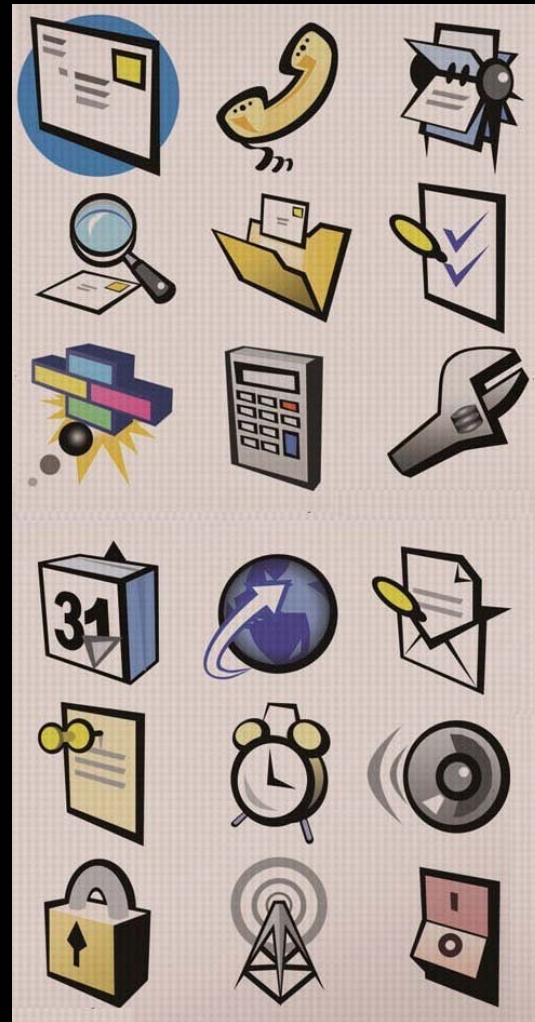
What is Learning?

- The Accumulation of Data
- The Acquisition of Information
- The Attainment of Knowledge
- The Achievement of Wisdom





Smart Phones



Learning = Change*

- Data – Random Bytes: names, numbers
- Information – Organized Data
- Knowledge – Valued Information
- Wisdom – Weighted Knowledge

* **Unlearning**

What is Teaching?

- Train - molds behavior by discipline or drill
- Instruct - provide with authoritative information
- Teach - impart knowledge
- Educate - develop mentally, morally, and/or aesthetically

Pedagogy

Teacher	Learner
Authority	Passive
Know -it- All	Know-Nothing
Content-Expert	Content-Sponge
Sets Curriculum	Gets Curriculum

Knowles Principles of Adult Learning

1	The Need to Know
2	Self Concept
3	Learner's Experience
4	Readiness to Learn
5	Orientation to Learning
6	Motivation

The Adult Learner

1	Need to Know	Feels the need to address own knowledge deficits
2	Self-Concept	Feels responsible for own decisions (self directed)
3	Past Experience	Has experiences, biases, and sense of self

The Adult Learner

4	Readiness to Learn	Needs to time learning with task or development
5	Orientation to Learning	Learns more effectively in real life context
6	Motivation	Feels internal pressure more than external

Pedagogy vs Andragogy

Authoritative	Cooperative
Teacher-Centered	Student-Centered
Passive-Learning	Active-Learning
Lesson Plan	Collaborative Effort
Content-Driven	Development

Are We Unique as Learners?

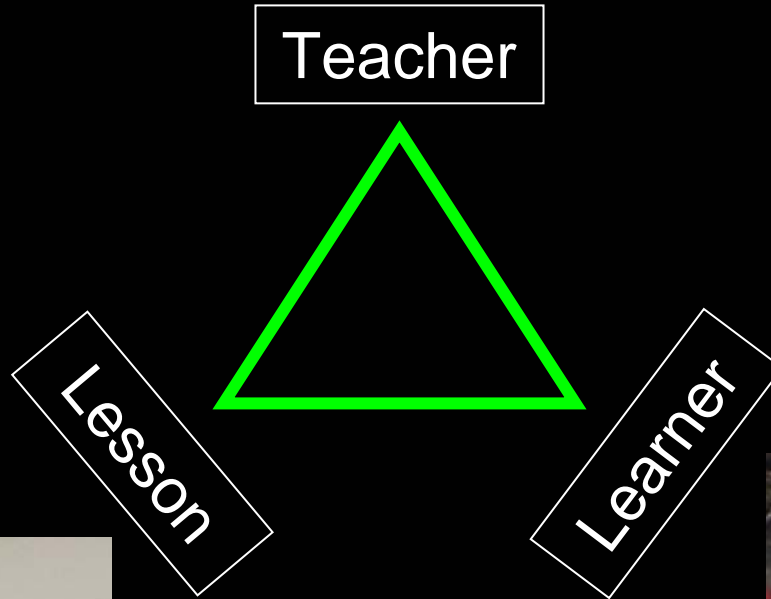


Humans vs Apes

- The “Triangle” Southgate et al. Child Dev. 2007.
- Meta -Thinkers Saxe R et al. Neuroimaging, 2003.
- Instinctual Learners and Teachers
- Impulse Control Rosati AG et al. Curr Biol. 2007
- Cultural Imbedding Herrmann E et al. Science. 2008



The Triangle

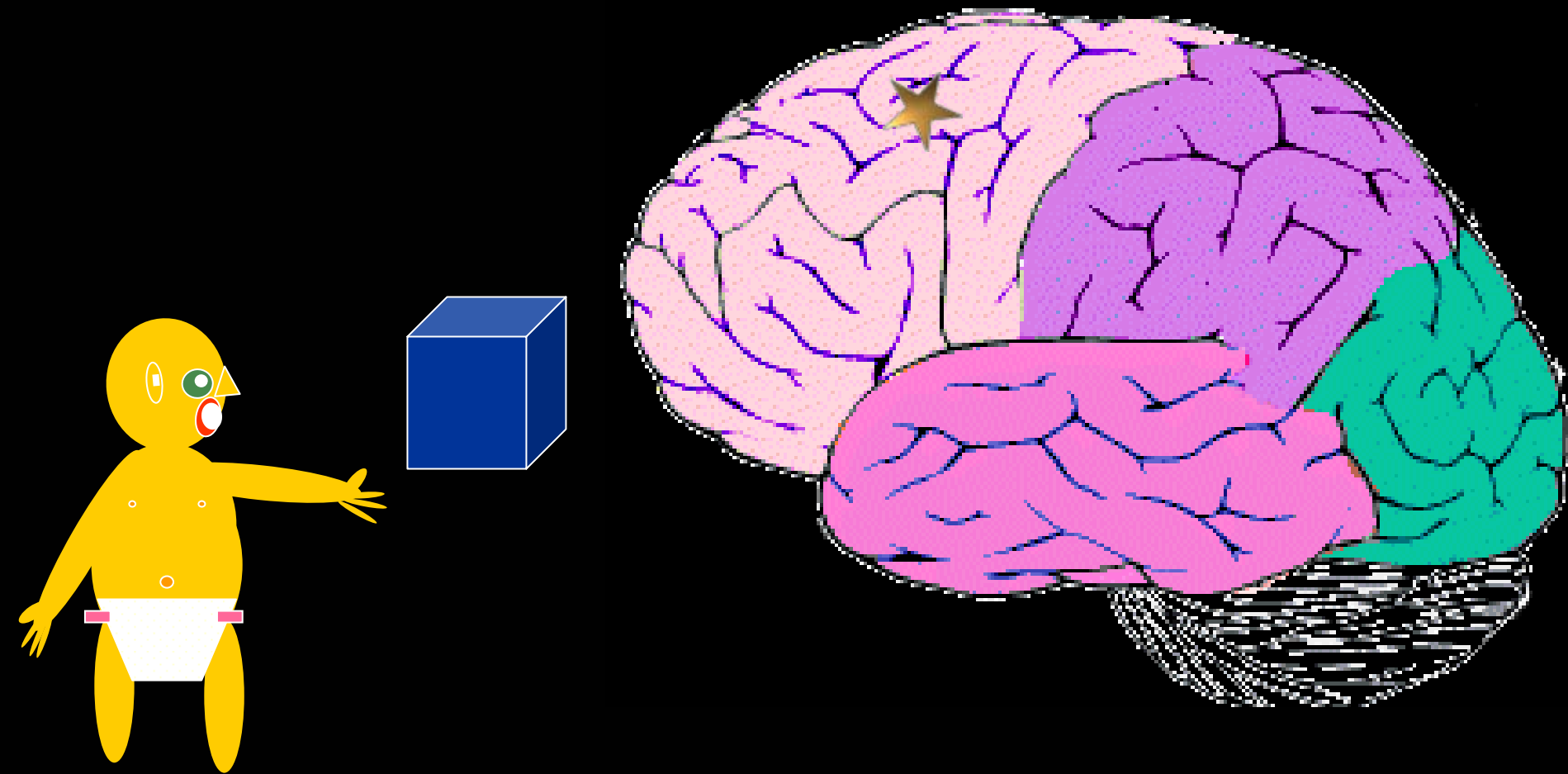


Joint
Intention

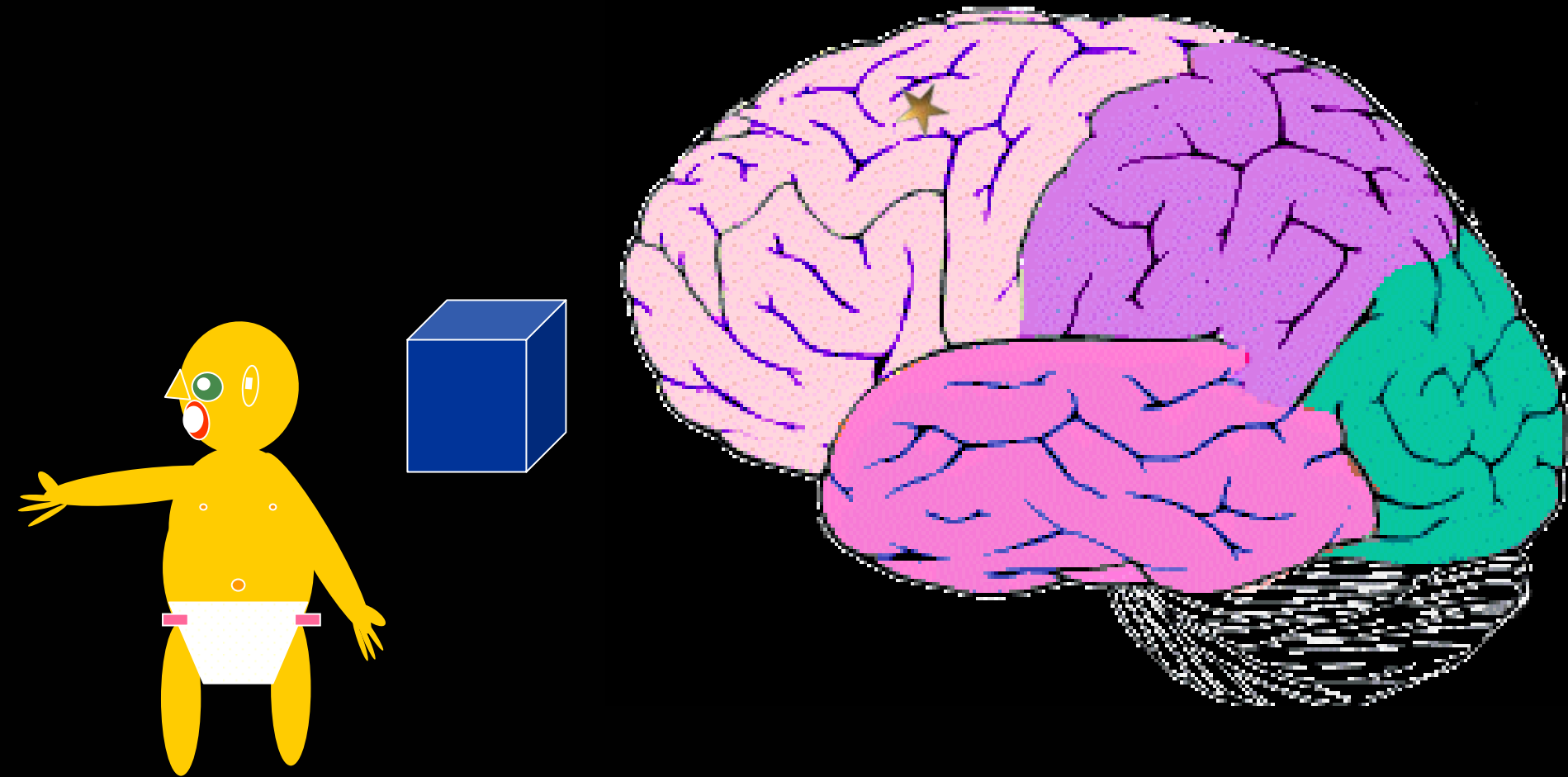




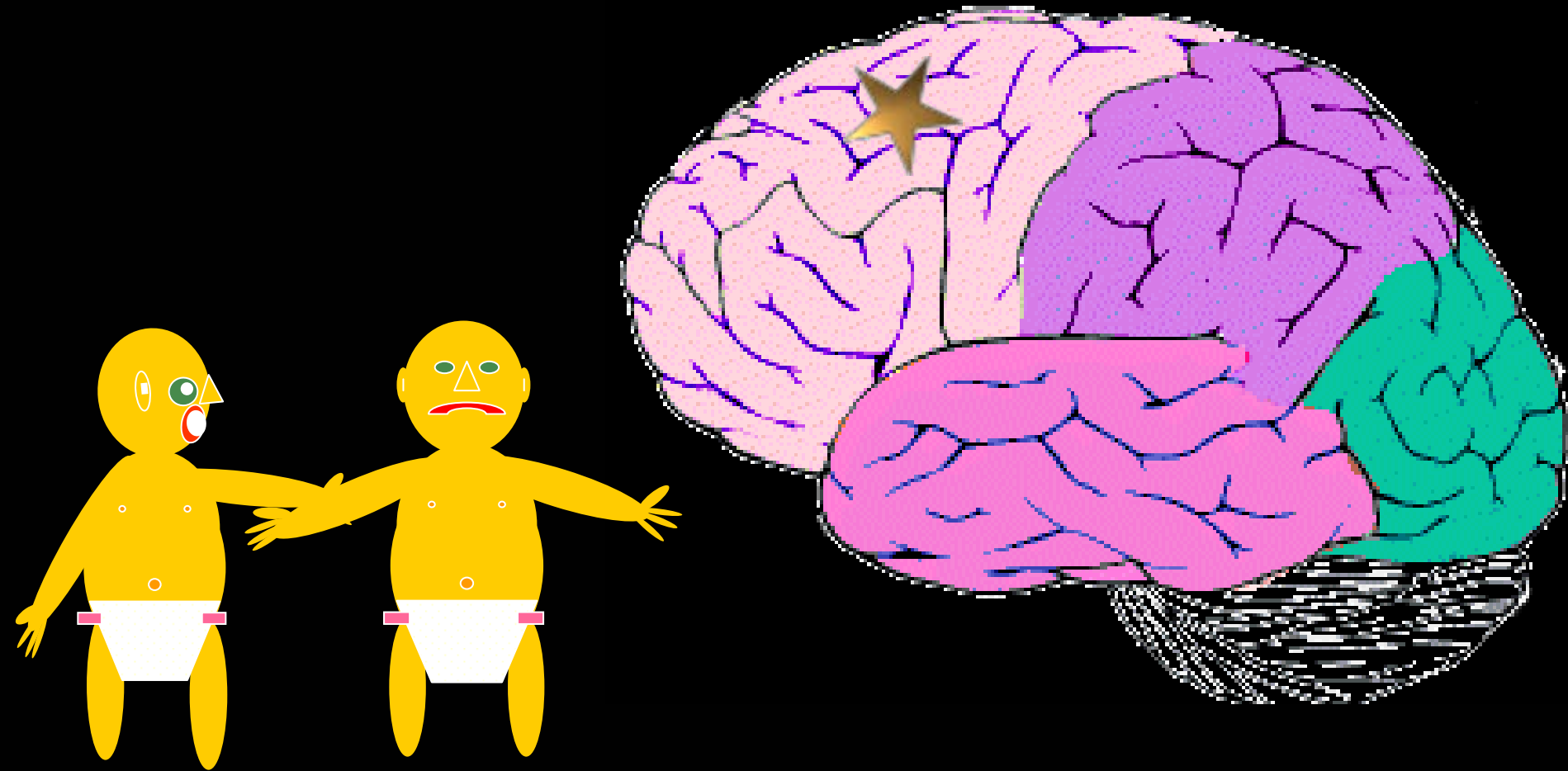
Triangle: Joint Intention



No Joint Intention



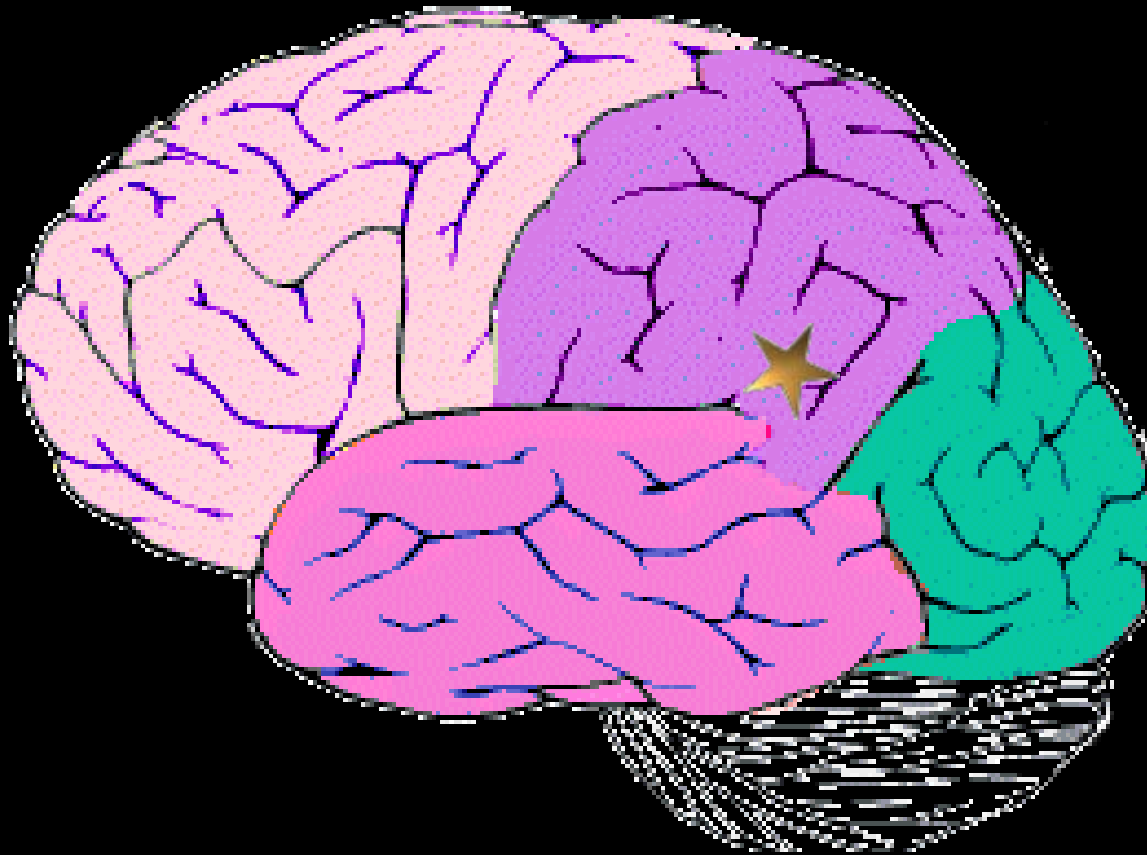
Collaboration



Human vs Apes

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People Thinking about People Thinking



Adult Learning Theory

- Not a hypothesis or theory
- No control group
- No statistics
- Derived from empirical observations

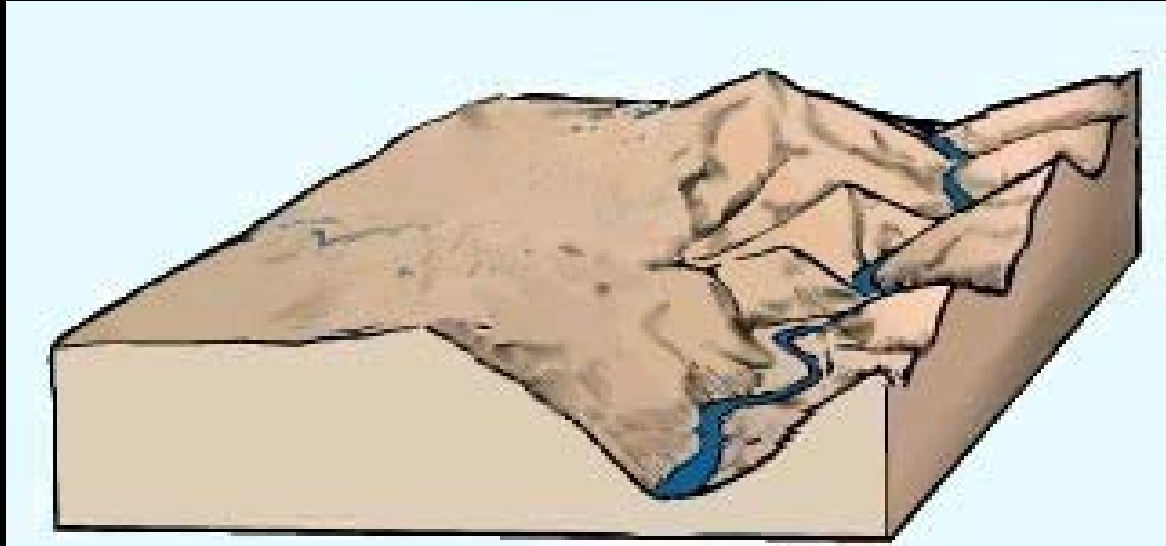
Adult Learning Theory

- Not a developmental phenomenon
- Adults in work/life context not school
- Not a goal
- Not a given

Experience as a Teacher

- We tend to internalize good experiences
- We tend to ignore contradictions to them
- We tend to externalize bad experiences
- We tend to avoid repeating them
- We are our the sum of our experiences

Neuro-Pathways and Experience



Motivation

- Intrinsically linked to Value System
- Value Systems are developmental
- Still developing in young adults
- Not everyone gets there

Perry's Model of Development

Dualism	Absolute right or wrong (facts) Authority has the answer
Multiplicity	Opinions: all are equal Authority have their preference
Relativism	Opinions have different value Context, patterns (evidence, logic)
Commitment	Internal compass Evolving phenomenon

Smart Phones



Students and Residents

- Are they different from Knowles's Adult Learners?
 - Knowledge needed is predetermined
 - Past experiences are variable
 - Time course preset and limited
 - Some learning must precede doing?
 - External motivators very strong
 - Grades, Employment, Money

Learner's Role in Adult Learning

1	Need to Know	Recognizes own deficiencies or knowledge deficits
2	Self Directed	Establishes and commits to own goals
3	Past Experience	Builds on upon a matrix of past experiences

Learner's Role in Adult Learning

4	Readiness to Learn	Finds a safe, productive learning environment
5	Relevance of Learning	Identifies learning needs in the context of own life
6	Motivation	Has a sense of one's own progress

Teacher's Role in Adult Learning

1	Need to Know	Elucidates what is not known and why it needs to be
2	Self Directed	Partner's in the formation of learning objectives
3	Past Experience	Helps learner use and make connections to experiences

Teacher's Role in Adult Learning

4	Readiness to Learn	Creates mutual trust & respect and highlights development
5	Relevance of Learning	Includes student in learning decisions and timing
6	Motivation	Supplies feedback and evaluation instruments

How to Teach the Semi-Adult Learner

1	Need to Know	Find out what they know ASK THEM!
2	Self Directed	Learning Contracts Collaborate
3	Past Experience	What have they experienced Build bridges, use similes

How to Teach the Semi-Adult Learner

4	Readiness to Learn	Set agreed upon expectations What & When
5	Relevance of Learning	Time learning with tasks and development
6	Motivation	Feedback - timely, specific, and observable behaviors Evaluation – set sp. criteria