Three Reasons to Know Piaget

1. He was the *first*: the founder, the start!
2. He captured the *essence* of kids at different stages.
3. Gave us a *new view* on development. - Active Child!

What's going on in there?

Piaget watched his kids grow up. And he used these careful observations of his children to form some ideas about what's going on in a child's mind.

Stupid Kid Tricks

- Infants: Out of sight, out of mind.
- Toddlers are Egocentric! (mountain task)
- Toddlers don't conserve (centration)
- Children are terrible at hypotheticals.

Why is this? What is going on?

Child Scientist

- Metaphor of child as scientist.
  - Scientists have theories about how the world works.
  - Maybe kids do too! And just like scientists, sometimes they are wrong!
  - All about the evidence: we construct knowledge through action and observation **(constructivist)**.

Piaget's Daughter

"Jacqueline had a visit from a little boy who, in the course of the afternoon got into a terrible temper. He screamed and pushed at his playpen, stamping his feet. Jacqueline stood watching in amazement, never having witnessed such a scene. The next day, she herself screamed in her playpen and stamped her foot." (Piaget, 1951, p.63)

Schemes (or theories, categories, ideas, or plans)

- Schemes - "organize experience and knowledge."
  - Theories about why things are the way they are.
    - Why does mommy feed me?
    - Why do we have to learn this stuff?
  - Categories of things that go together
    - Things I can suck, used to play baseball, despise…

Schemes change

- Infant schemes based on actions.
  - Eat, suck, grasp, step on without falling.
- Toddler schemes based on functions.
  - Tools, pets, friends.
- Older children's schemes are based on concepts.
  - Addition, subtraction, Peace, love, war.
- How does this change occur?

Schemes change through Adaptation

- In ***assimilation***, new experiences are incorporated into existing schemes.
  - Mommy preparing a bottle...
- In ***accommodation***, existing schemes must be modified to incorporate new information.
  - Mommy drinks bottle herself. Huh?

Equilibration

- Usually things are in balance.
- Periodically, all schemes prove to be inadequate. Nothing makes sense (***disequilibrium - like Neo in Matrix***).
- Equilibration is the drive to a new state of balance.

7.2 Piaget's Four Stages of Cognitive Development

- The Sensorimotor Stage
- The Preoperational Stage
- The Concrete Operational Stage
- The Formal Operational Stage

The Sensorimotor Stage

- From birth to approximately 2 years.
- Concerned, as the name suggests, mostly with the senses and motor development.
- If you've ever seen a baby: you know this one.

Stage 1 Terms

- **Primary circular reactions (4mo)**
  - All about me! (e.g. thumb sucking).
- **Secondary circular reactions** (8 mo)
  - Objects can be fun too!
- **Tertiary circular reactions** (12mo)
  - Actions among objects.

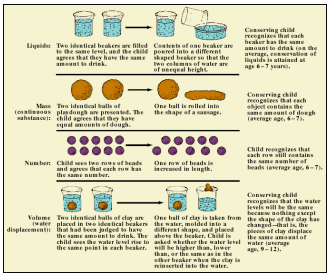
Stage 1 Terms

- Means-end: move it! I want that! (lasts till 12 months).
- Experimentation: Look out infant scientist on the loose! (up till 18mo)
  - Drop it! Does it break?
  - Pull it! Does it cry?

The Preoperational Stage

- Can use **Symbols** to solve problems!
- Lasts from approximately 2 to 7 years of age.
- Children can use language but are many weaknesses in their thinking

  >Egocentrism



Reversibility

Can I get it back together?

Helps solve Conservation Problem

Concrete Operational Stage

- From 7 to 11 years: Here and now.
- Thinking based on **mental operations** (logical, mathematical, spatial operations)
- Operations can be **reversed**. (solves conservation)
- Limit: focus on the real, not the abstract.

Concrete Limitations

- Art teacher: Draw me a picture of someone with 3 eyes.
- 9-year-old: How? Nobody has three eyes.

Formal Operational Stage

- Begins at about 11.
- Children now able to think **hypothetically** and **abstractly**.
- Can envision multiple realities.
  - "What would happen if?"
- Systematic in solving problems, use deductive reasoning.

Weaknesses of Piaget's Theory

> Infants are more competent that Piaget thought.

> More sensitive tasks indicate infants can do some of these things.

> Older kids often revert

> Mechanisms are vague

> Assimilation and accommodation?

More weaknesses

>Not really stagelike.

>Much variability across tasks

>Kids are not consistent performers

> training Piagetian concepts

>Can learn conservation.

>Undervalues sociocultural environment

>If ask once in conservation, they do it.

> Peers, teachers, parents all have effects.