On This day in History --- March 29:

- **1887** — George T. Ladd's book *Elements of Physiological Psychology* was published.
- **1946** — The organizing meeting of the Pennsylvania Psychological Association (PPA) was held.
- **1948** — Lithium was first used in a trial treatment of manic behavior. Australian John F. J. Cade gave lithium citrate to "a little wizened man of 51 who had been in a chronic state of excitement for five years." The treatment was surprisingly effective and the patient was discharged on July 9, 1948.
- **1951** — The drug Phenergan (promethazine; Wyeth) was approved for use by the U.S. Food and Drug Administration. Promethazine is a phenothiazine derivative and is used in clinical settings as an antianxiety agent and as a sedative. It also is prescribed as an antihistamine and motion sickness medication.
- **1977** — The first informal meeting of the President's Commission on Mental Health was held. President Jimmy Carter created the commission, carrying out a campaign promise of his wife, Rosalynn. Psychologists John Conger and Beverly Long served on the commission.
**Child development** is the scientific study of change and stability from conception through adolescence.

**Why do People Study Children?**

- Raising & Educating Children
- Understanding Human Nature and Development
  - Describe, Explain, Predict, Modify

**How Does Change Occur?**

- Change is:
  - Cumulative
  - Directional
  - Gradual?

- Is development **qualitative** (change is discontinuous & abrupt) or **quantitative** (change is gradual & sequential)?
Perspectives on origins of development

- **Biological perspective** (nature)
  - cause of development is genetically determined patterns of change

- **Learning perspective** (nurture)
  - major causes of developmental change are from the environment

- **Ecological perspective** (transactional)
  - emphasize the interplay among the various factors that influence development

**John Watson** [1878]

- “Give me a dozen healthy infants, well-formed, and my own specified world to bring them up in and I’ll guarantee to take any one at random and train him to become any type of specialist I might select – doctor, lawyer, artist, merchant-chief, and even yes, beggar man and thief, regardless of his talents, penchants, tendencies, abilities, vocations, and race of his ancestors.”

Time Line of Developmental Psychology

- John Locke 1632 (nature)
- Jean Rousseau 1712 (nurture)
- Stanley Hall 1844
- James Baldwin 1861
- Alfred Binet 1857
- Maria Montessori 1870
- John Watson 1878
- Werner 1890
- Freud 1900
- Piaget 1912
- Les Vgotsky 1896
- Erik Erikson 1902
- Gibson 1910
- Urie Bronfenbrenner 1917
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G. Stanley Hall (1844-1924)

- Coined the term “Adolescence”
- Questionnaires (The Child Study Movement)

James Mark Baldwin (1861-1934)

- Moved away from experimental psychology into developmental psychology
- Discussed how cognitive structures develop
  - Assimilations
  - Accommodation
  - Imitation
How do cognitive structures develop?

- **Assimilation**: The incorporation of new experiences into existing structures.
- **Accommodation**: The changing of old structures so that new experiences can be processed.

Why do we accommodate?

- Normally, the mind is in a state of equilibrium: existing structures are stable, and assimilation is mostly occurring.
- Discrepant experience can lead to disequilibrium or cognitive “instability”

Jean Piaget
Aug. 9, 1896—Born in Switzerland

1905—Published first scientific paper
1918—Doctor's degree with a thesis on mollusks of Valais
1919—started to study language development in children
1922—Met and married Valentine Châtenay in Geneva
1924—Published *The Language and Thought of the Child*
1925—First daughter born
1926—Published *The Child’s Conception of the World*
1927—Second daughter born
1927—Published *The Child’s Conception of Causality*
1928—Published *Judgment and Reasoning in the Child*
1931—First son born
1932—Published *The Moral Judgment of the Child*
1936—Published *The Origins of Intelligence in Children*
1951—Published *Play, Dreams, and Imitation in Children*
1958—Published *The Growth of Logical Thinking From 1970--1971—Published Biology and Knowledge
1972—Defined the four stages of intellectual development
1980—Died on September 17th
Piaget’s Theory of Cognitive Development

Assumptions:
1. Intelligence is successful adaptation
2. Child actively constructs understanding of the world using:
   - schemas – theories about how the world works
   - assimilation – acting on the world using existing schemas
   - accommodation – modification of schemas
3. All children pass through stages in same order

Development occurs in stages

- Children not simply slower, or less knowledgeable than adults; instead, they understand the world in a qualitatively different way.

What develops?

- Cognitive structures – schemas – are the means by which experience is interpreted and organized
- Early on, cognitive structures are quite basic, and consist of reflexes like sucking and grasping.
The Sensorimotor Period
(0-2 years)

- Only some basic motor reflexes → grasping, sucking, eye movements, orientation to sound
- By exercising and coordinating these basic reflexes, infant develops intentionality and an understanding of object permanence.

The Sensorimotor Period
(0-2 years)

- Intentionality refers to the ability to act in a goal-directed manner → in other words, to do one thing in order that something else occurs.
- Object permanence refers to the understanding that objects continue to exist even when no longer in view.
Summary

- Sensori-motor period culminates in the emergence of symbolic representation.
- Object permanence understood.
- Basic means-ends skills have emerged.
The pre-operational period  
(2 yrs to 7 yrs)

- Symbolic thought without operations.
- Thinking is governed more by appearance than logical necessity.
- Limited by Egocentrism & Animism

Pre-operational thinking and problems of conservation

Conservation of liquid
Pre-operational thinking and problems of conservation
Why do pre-operational children fail problems of conservation?

- Because their thinking is not governed by principles of reversibility, compensation and identity.
Pre-operational thinking and problems of conservation

Compensation: A decrease in the height of the new container is compensated by an increase in its width.

Identity: No amount of liquid has been added or taken away.

Preoperational Thought's Characteristics

- More symbolic than sensorimotor thought
- Inability to engage in operations; can't mentally reverse actions; lacks conservation skills
- Egocentric (inability to distinguish between own perspective and someone else's)
- Intuitive rather than logical
Concrete operational thinking
(7-11 years)

- Physical operations now internalized and have become cognitive
- Qualitatively different reasoning in conservation problems. Reversibility & Awareness of transformations.
- Logical Reasoning
- Still, logic directed at physical or concrete problems & thought is not yet abstract

Horizontal Decalage

- Different conservation problems solved at different ages. Can’t transfer knowledge
- Some claim it is a threat to Piaget’s domain general view of cognitive development
- Number (first to develop) vs. volume (last to develop)
Formal operations (11 – 15 years…)

- Thought no longer applied strictly to concrete problems.
- Directed inward: thought becomes the object of thought.
- Advances in use of deductive and inductive logic
- Thinking goes beyond experience, more abstract
- “If we could eliminate injustice, would the world live in peace?”

Adolescent limits

- Adolescent Egocentrism is heightened self-consciousness of adolescents, reflected in adolescents’ beliefs that others are as interested in them as they are in themselves.
- Imaginary Audience refers to the heightened self-consciousness of adolescents. They feel as though they are “on stage” at all times.
- Personal Fable involves a sense of uniqueness that makes adolescents feel that no one can really understand them.

Characteristics of Formal Operational Thought

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<tr>
<th>Abstract</th>
<th>Idealistic</th>
<th>Logical</th>
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<td>Adolescents think more abstractly than children. Formal operational thinkers can solve abstract algebraic equations, for example.</td>
<td>Adolescents often think about what is possible. They think about ideal characteristics of themselves, others, and the world.</td>
<td>Adolescents begin to think more like scientists, devising plans to solve problems and systematically testing solutions. Piaget called this type of logical thinking hypothetico-deductive reasoning.</td>
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Evaluating Piaget

- Difficult- An enormous theory, Covers many ages and issues in development.
- Stage like progression only observed if one assumes a bird-eye view. Closer inspection reveals more continuous changes.