

AS Level Psychology

The Core Studies

The developmental approach

Developmental Psychology

- The Topic - Cognitive development
- The authors
- Samuel J & Bryant P (1984)

Samuel J & Bryant P (1984)

- Can young children CONSERVE or does asking the same question twice cause them to fail?



Jean PIAGET and his theory

Children's thought processes are **QUALITATIVELY** different to adult thought processes

Jean PIAGET

- Piaget is the most famous writer on children's cognitive development
- Piaget studied his own children and their friends

Jean PIAGET and his theory

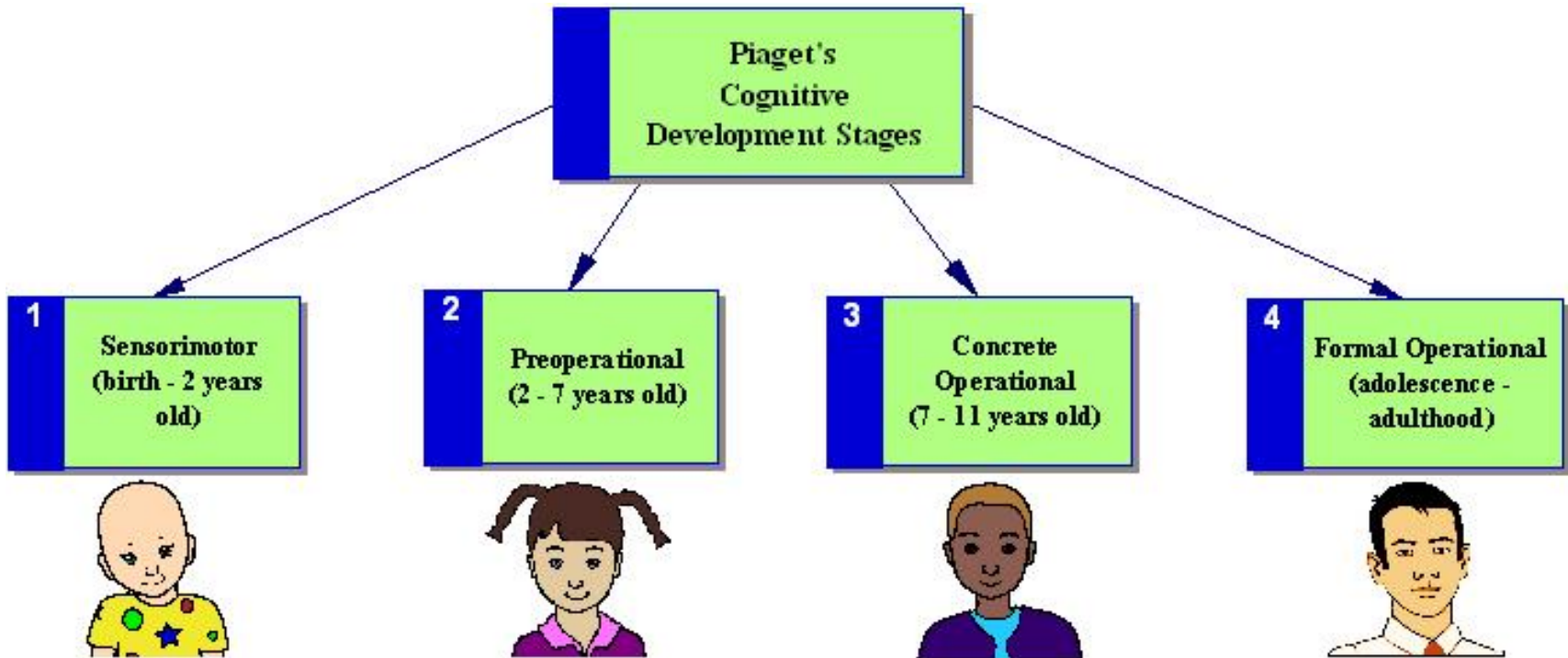
- Piaget proposed a maturational theory of cognitive development
- NATURE not NURTURE

Jean PIAGET and his theory

- cognitive development:
- the transformation of initial inborn schema by the twin processes of
- Assimilation = practise
- Accommodation = modification

Jean PIAGET and his theory

Cognitive development takes place through FOUR fixed age related stages



Jean PIAGET and his theory

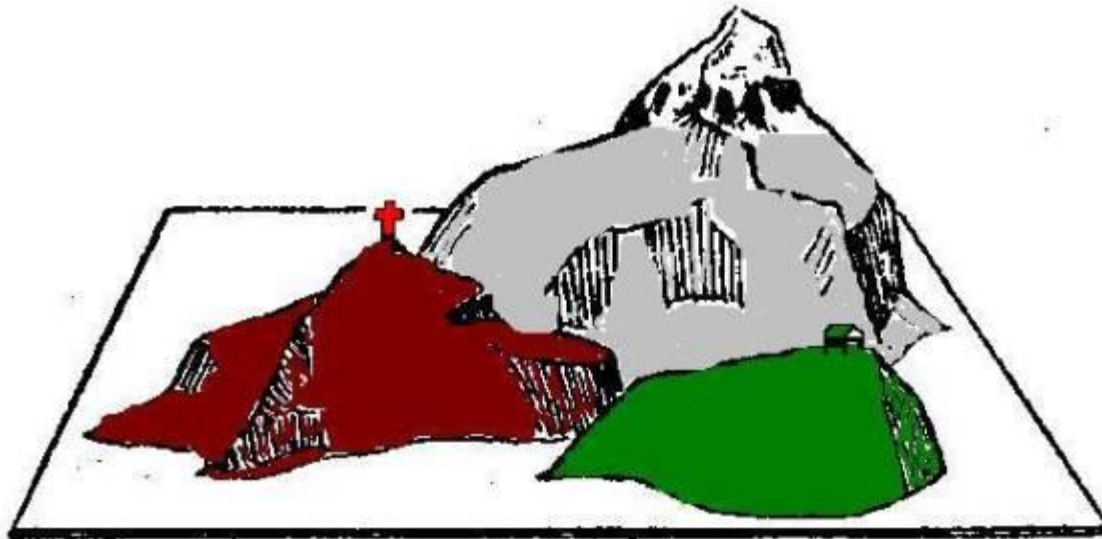
- Stage 1- the sensorimotor stage
- **birth to 2 years**
- child learns from interaction with environment
- only at about 6 months does OBJECT permanence occur

Jean PIAGET and his theory

- Stage 2 - pre-operational stage
- **2 to 7 years**
- Child is egocentric - unable to understand the world from another's perspective

Jean PIAGET and his theory

- Example of egocentric child
- Three mountains task



Jean PIAGET and his theory

- In preoperational stage child cannot **conserve**
- What does CONSERVE mean?
- Children can CONSERVE when they understand that quantity does not change when appearance changes

Jean PIAGET and his theory

- Stage 2 - pre-operational stage
- classical conservation test **stage 1**



- are there the same number of counters in each row?

Jean PIAGET and his theory

- Stage 2 - pre-operational stage
- classical conservation test **stage 2**



- are there the same number of counters in each row?

Jean PIAGET and his theory

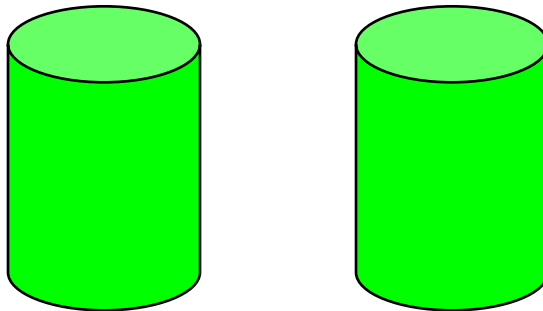
- Stage 2 - pre-operational stage
- conservation test



- **the child who says NO cannot conserve number**

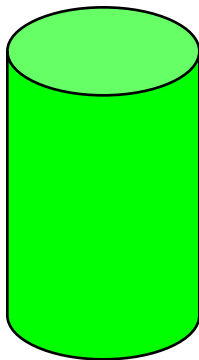
Jean PIAGET and his theory

- Stage 2 - pre-operational stage
- **conservation of mass**
- 2 rolls of plasticine - is there the same amount in each?



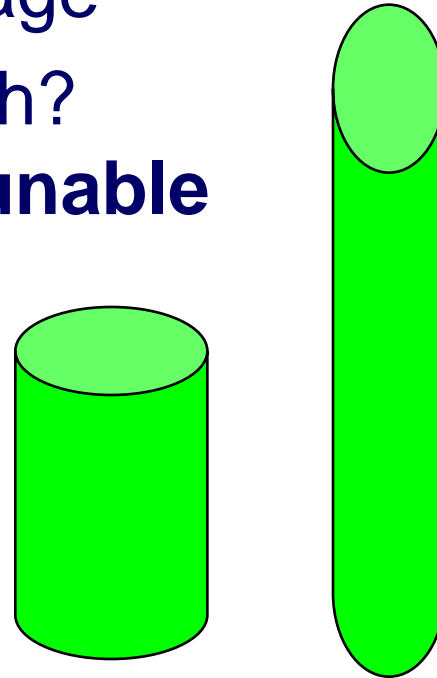
Jean PIAGET and his theory

- Stage 2 - pre-operational stage
- roll one out while child watches



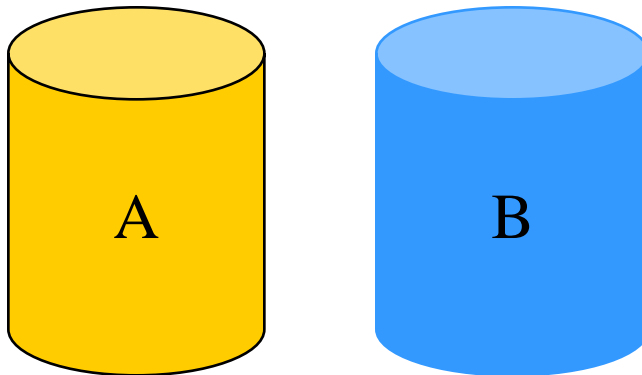
Jean PIAGET and his theory

- Stage 2 - pre-operational stage
- still the same amount in each?
the child who says NO is unable to conserve MASS



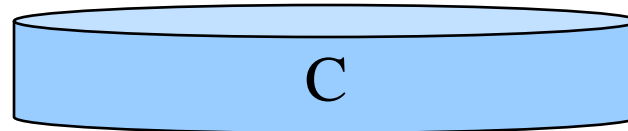
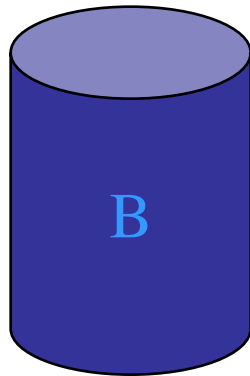
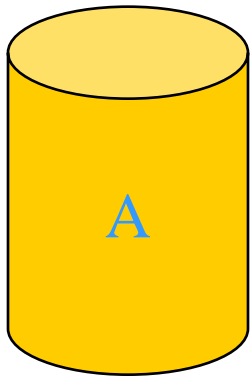
Jean PIAGET and his theory

- Stage 2 - pre-operational stage
- **conservation of volume**
- 2 containers of liquid - same amount in A as in B?



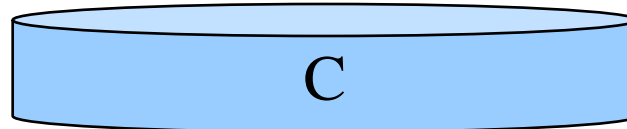
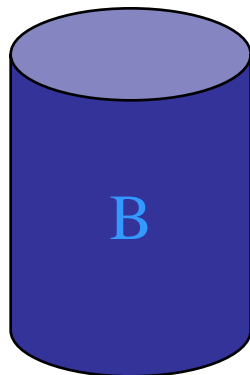
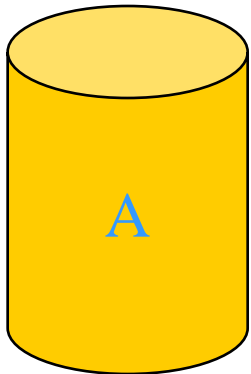
Jean PIAGET and his theory

- Stage 2 - pre-operational stage
- Watch while pour B into C
- Same amount in A as in C?



Jean PIAGET and his theory

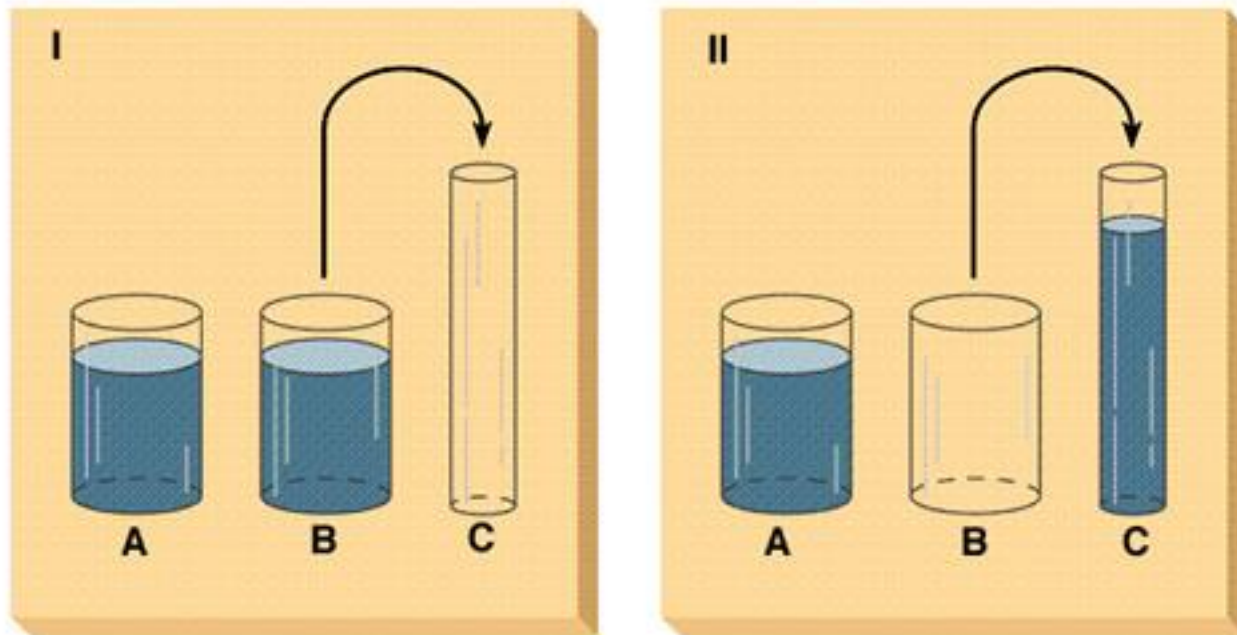
- Stage 2 - pre-operational stage
- same amount in A as in C?
- **the child who says NO unable to conserve VOLUME**



Jean PIAGET and his theory

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Piaget's Conservation Task



Jean PIAGET and his theory

- According to Piaget - **in all these cases the child can only take into consideration ONE aspect of the physical world at a time (what it looks like)**
- **THUS if it LOOKS different it MUST BE different!**

Jean PIAGET and his theory

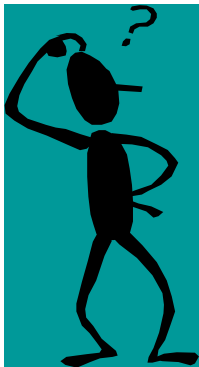
- Stage 3 -
- **CONCRETE operational stage**
- 7 - approx 11 years
- child now able to conserve and can perform quite complex operations
- but only if 'real' objects are 'at hand'

Jean PIAGET and his theory

- the child cannot perform mental operations (transformations)
- **If Bill is taller than Jim and shorter than John who is the tallest?**
- Without real figures to manipulate the child cannot answer

Jean PIAGET and his theory

- If Bill is taller than Jim and shorter than John who is the tallest?
- BILL



Jean PIAGET and his theory

- Stage 4
- **Aged 11+ ‘Formal Operations’**
- ***is this where the 11+ came from!***
- The child can now perform logical operations and abstract reasoning
- **According to Piaget not all achieve the stage of FORMAL OPERATIONS**

Jean PIAGET and his theory

- **Samuel & Bryant** criticized Piaget
- they did not agree that young children were unable to conserve
- they thought children answered the way they did because of the way the experiment was carried out
- **Rose & Blank (1974)**: Asked only one question using 6 year olds. Conservation of number only.

Jean PIAGET and his theory

- **IN SUM**
- **Samuel & Bryant** criticised Piaget
- thought that the experimental method and the repeated questions were **DEMAND CHARACTERISTICS**

Standard conservation test

- Question 1 Are there the same number of counters in row A & B?

A 

B 

child answers YES

Standard conservation test Stage 2

- Child watches the transformation

A 

B 

Standard conservation test

Stage 3

- Question 2 Are there the same number of counters in row A & B?

A 

B 

child answers NO

failing to conserve

Samuel & Bryant (1984)

Set up an experiment to try to demonstrate that

asking the same question twice causes children to make errors in the standard conservation test

Samuel & Bryant (1984)

- The participants - 252 boys & girls
- aged 5 to 8.5 years
- four groups of 63
- mean ages
 - 5 yrs 3 mths
 - 6 yrs 3 mths
 - 7 yrs 3 mths
 - 8 yrs 3 mths

Samuel & Bryant (1984)

- There is a naturalistic IV = age
- Then groups divided into 3 sub groups (21 in each sub group)
- **(1) Standard Group**
- Traditional conservation task
- asked two questions

Samuel & Bryant (1984)

- (2) **One Judgement Group**
- Only one question asked
- AFTER the transformation

- (3) **Fixed Array**
- Saw only ONE display - the post transformation one

Samuel & Bryant (1984)

- Procedure
 - each child given 12 separate trials
 - 4 mass (plasticine)
 - 4 number (counters)
 - 4 volume (liquid)

Samuel & Bryant (1984)

In this experiment

- What are the IVs
- What is the DV
- How did S & B measure the ability to conserve (operationalise the DV)
- Why did S & B include an unequal condition in the pre transformation

Samuel & Bryant (1984)

mean errors for each group

age	standard	1 question	fixed array
5	8	7	9
6	6	4	6
7	3	3	5
8	2	1	3

Samuel & Bryant (1984)

age	standard	1 question	fixed array
5	8	7	9
6	6	4	6
7	3	3	5
8	2	1	3

- How did performance differ by age ?
- How did performance differ between experimental groups ?
- Do these results support Piaget?

Samuel & Bryant (1984)

Methodology ?

naturalistic experiment (IV = age)

cross sectional

experimental (IV = condition)

Independent measures (Condition used)

repeated measures (tasks)

Ecological validity ?

Participant bias - was there any?

Ethical concerns - are there any ?

Samuel & Bryant (1984)

Children's ability to conserve

Situation vs dispositional explanation

Nature vs Nurture

What do you think?