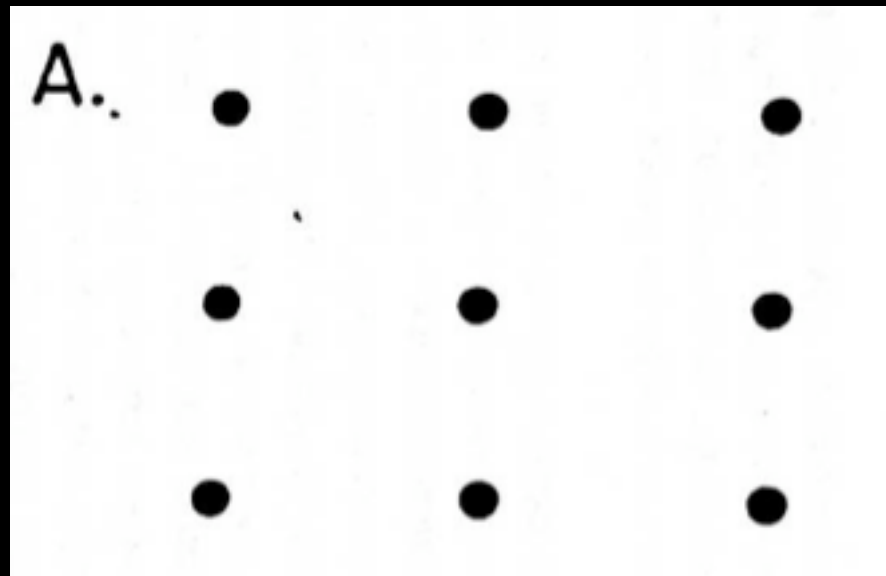


Demystification of Cognitive Insight:
Opportunistic Assimilation and the Prepared-
Mind Perspective
(Seifert et al., 1993)

Culture and Systems of Thought: Holistic
Versus Analytic Cognition
(Nisbett et al., 2001)

Insight

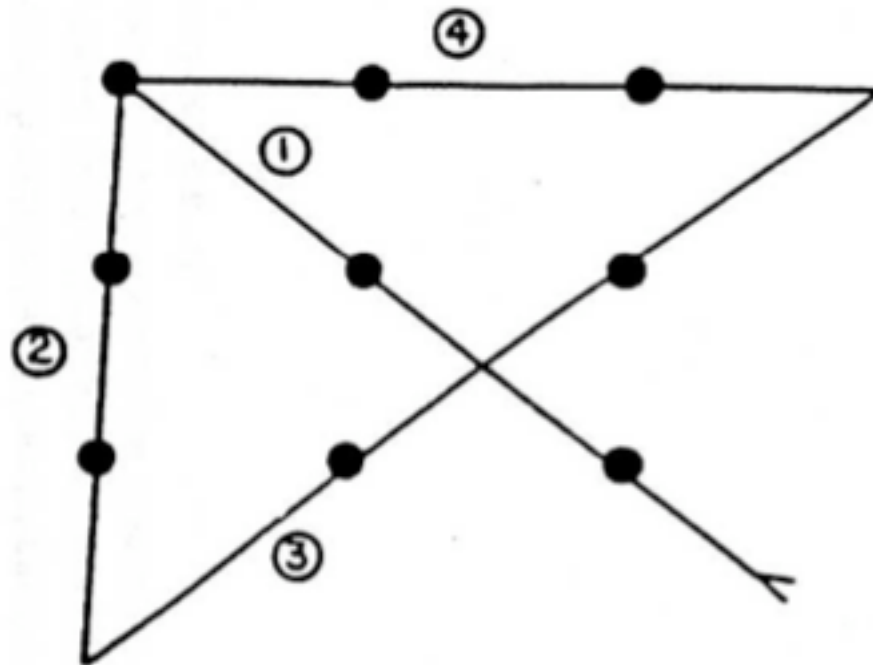
- “Seeing and understanding the inner nature of things clearly, especially by intuition.”
- Aha! moments
- Focus on subconscious nonanalytic processes



Connect all dots with 4 successive lines without lifting pencil from paper.

Aha!

B.



Previous Research on Insight

Prepared Mind



Business as Usual

- Normal mental processes
- Insight is unimportant
- Straightforward application of knowledge

Wizard Merlin

- Insight only occurs in a few
- Almost supernatural
 - Tied to genius
- Richard Feynman

Prepared Mind Perspective

- No supernatural powers but true insight occurs in some occasions
 - Researchable
- Phases:
 1. *Mental Preparation*
 2. *Incubation*
 3. Illumination
 4. Verification

Studying Preparation and Incubation

■ Preparation Phase

- Study failures
 - Ignore stored information
 - Information is not used correctly
- Role of memory organization?

■ Incubation Phase

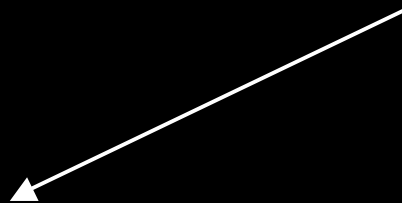
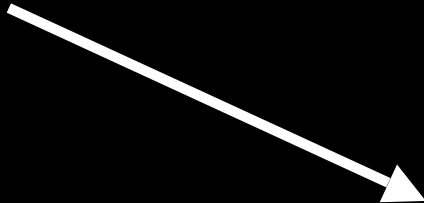
- Conscious-work hypothesis
- Fatigue-dissipation hypothesis
- Selective-forgetting hypothesis
- Subconscious random-recombination hypothesis

Prepared Mind



Business as Usual

Wizard Merlin



Opportunistic Assimilation

Opportunistic Assimilation

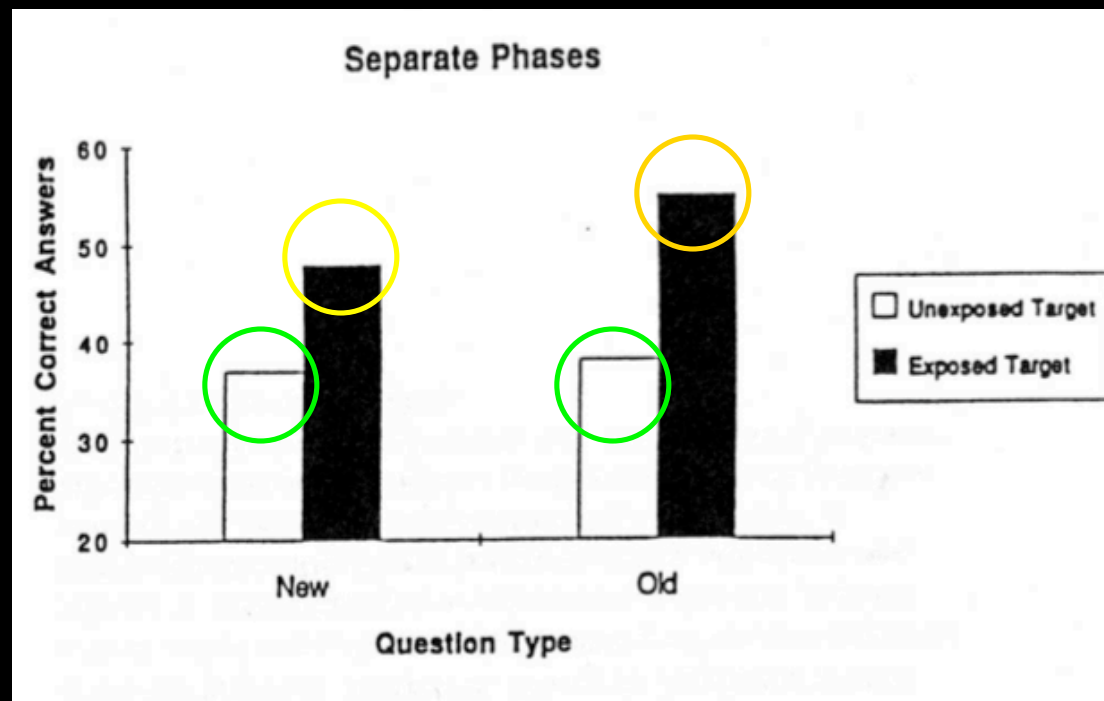
- Focuses on mental preparation and incubation phases
- Two main mechanisms
 - Failure indices caused by impasses (mental preparation)
 - Long-term memory traces
 - Exposure to new and relevant information critical (incubation)
 - External and fortuitous

Two experiments

- Answering problematic factual questions
 - Prediction: Exposing people to relevant new information after initial failure attempt will best promote successful solutions

Two experiments

- Answering problematic factual questions

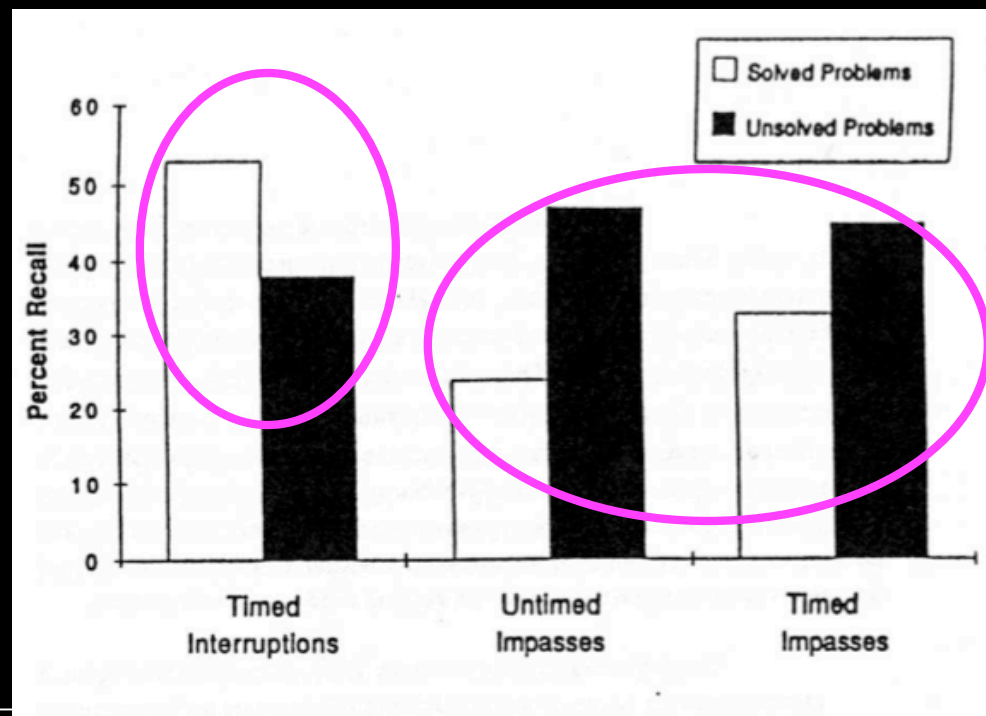


Two experiments

- Remembering failed solution attempts
 - People should remember problems that resulted in impasses better than completed or interrupted before reaching impasse

Two experiments

- Remembering failed solution attempts



Conclusions

- Hypothesis supported by both studies
- Opportunistic assimilation is good explanation
- New model:
 - Information-processing model of insight

New model

■ Preparation

- Confrontation with a problem, construal of failure, storage of failure indices, suspension of processing

■ Incubation

- Intermediate, external exposure to information, retrieval of failure indices

■ Illumination

- Interpretation and assimilation, **INSIGHT!**

Shifting focus....

Holistic vs.
Analytic Cognition

Holistic vs. Analytic Cognition

- Main idea: cultural background and beliefs can impact cognition
 - it is important to remember who you are dealing with
- Contrasting cognition in societies descended from Ancient Greece (analytic) and Ancient China (holistic)

■ Ancient Greece

- Individual
- Debate important
- World can be explained via rules

■ Ancient China

- Collective agency
- Harmony
 - Debate not good
- Technologically advanced
 - Practical rather than formal models

■ Analytic

- Object-centered
- Tying object to category important
- Can use rules and formal logic to decipher and predict behavior
- Lack of contradiction
- No role of context

■ Holistic

- Look at the whole environment rather than object only
 - Relationships between object and field important
- Experience based
- Dialectical reasoning
 - Change, Contradiction, “Middle Way”

How does social organization impact cognitive processes?

■ Indirectly

- Different parts of the environment are subject to attention
 - Holistic (Asian): Field
 - Analytic (American): Object

■ Directly

- Some types of social communication are more acceptable
 - Holistic: Conflict should be resolved (Middle Way) or transcended
 - Analytic: Debate and logic

Modern studies

■ Attention

- Holistic: Whole, better at detecting relationships (covariation), field dependent
- Analytic: Part (object) centered, field independent

■ Control

- Analytic: Illusion of control

■ Explanation

- Holistic: Situational and context factors
- Analytic: Fundamental Attribution Error

Modern studies

- Prediction and “postdiction”
 - Holistic: Larger pool of potential explanations for event, less surprise, hindsight bias
- Relationships and similarities versus rules and categories
 - Holistic: A is part of B
 - Analytic: A and B are both Xs, category learning

Modern studies

- Logic versus experiential knowledge
 - Holistic: Experiences important
 - Analytic: Ignore past behavior if needed, formal logic
- Dialectics versus law of noncontradiction
 - Holistic: Harmony, seek compromise and continuity
 - Analytic: Reject contradictions, strengthen one proposition to eliminate contradiction

Conclusions and implications

- Cognition can be manifested differently across cultures
- Same toolbox, different tools?
 - Processes are same, but use of processes differ
- Results from cognitive studies should only be applied to appropriate populations

