



HUMAN NATURE: KEY STUDIES IN PSYCHOLOGY

Cognitive psychology

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CONTENT

- What is CP?
- History of CP
- Key studies in CP:
 - Focus on attention, memory and perception



COGNITIVE PSYCHOLOGY

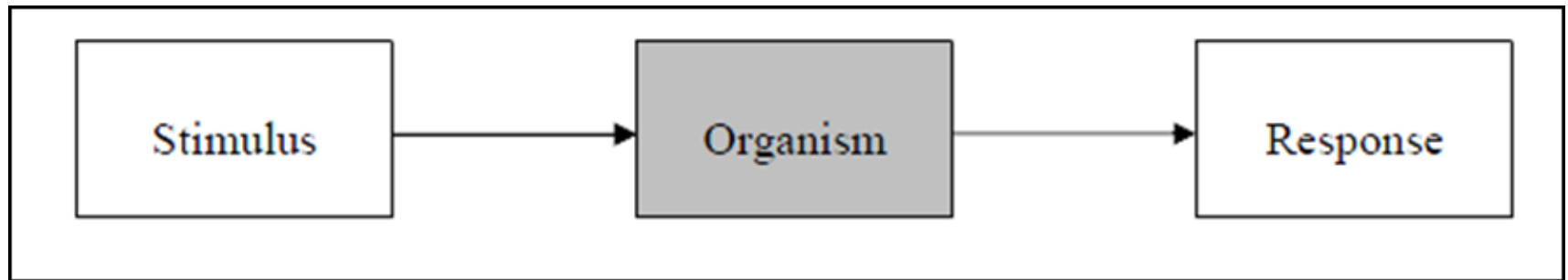
CP = study of ***mental processes*** such as:

- attention,
- language use,
- memory,
- perception,
- problem solving,
- creativity,
- thinking...

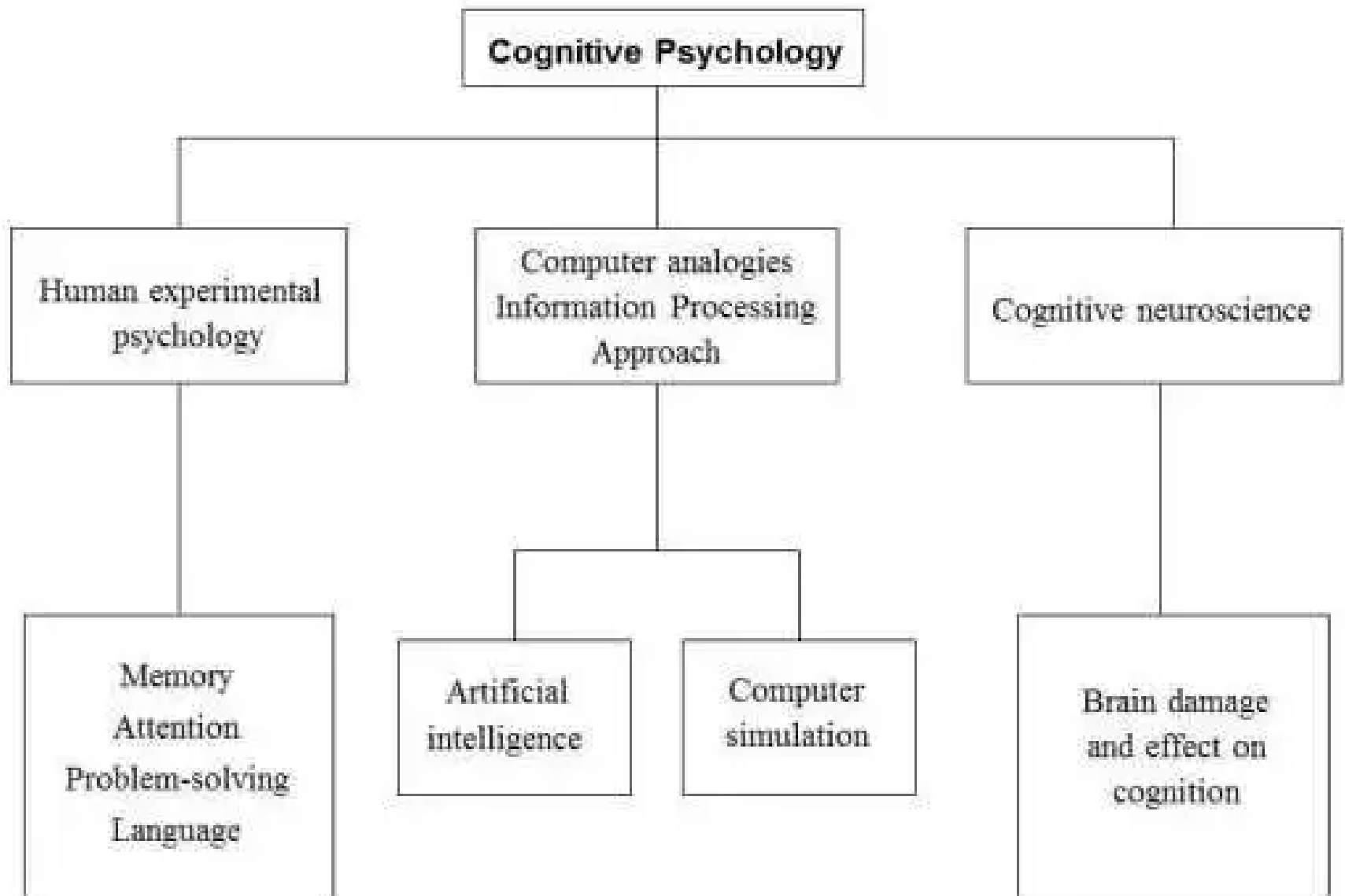


COGNITIVE PSYCHOLOGY

- **How humans process information**



COGNITIVE PSYCHOLOGY



COGNITIVE PSYCHOLOGY

Basic assumptions

- Cognitive psychology is a pure science, based mainly on **laboratory experiments**.
- Behavior can be largely explained in terms of how the mind operates, i.e. the **information processing approach**.
- The mind works in a way similar to a **computer**: inputting, storing and retrieving data.
- Mediation processes occur between stimulus and response.



COGNITIVE PSYCHOLOGY

Strengths:

- Scientific
- Highly applicable (e.g. therapy, EWT)
- Combines easily with other approaches:
behaviorism + Cog = Social Learning; Biology + Cog = Evolutionary Psychology
- Many empirical studies to support theories

Limitations:

- Ignores biology (e.g. testosterone)
- Experiments - low ecological validity
- Humanism - rejects scientific method
- Behaviorism - can't objectively study unobservable behavior
- Introspection is subjective
- Machine reductionism



HISTORY OF COGNITIVE PSYCHOLOGY



HISTORY

- Until 1950s:
 - Behaviorism as a dominant approach in US psychology
 - **Black box**
- 1950s: **Cognitive revolution:**
 - Better experimental methods
 - Comparison between human and computer processing of information (terminology)
- <https://www.youtube.com/watch?t=58&v=AeoyzqmyWug>

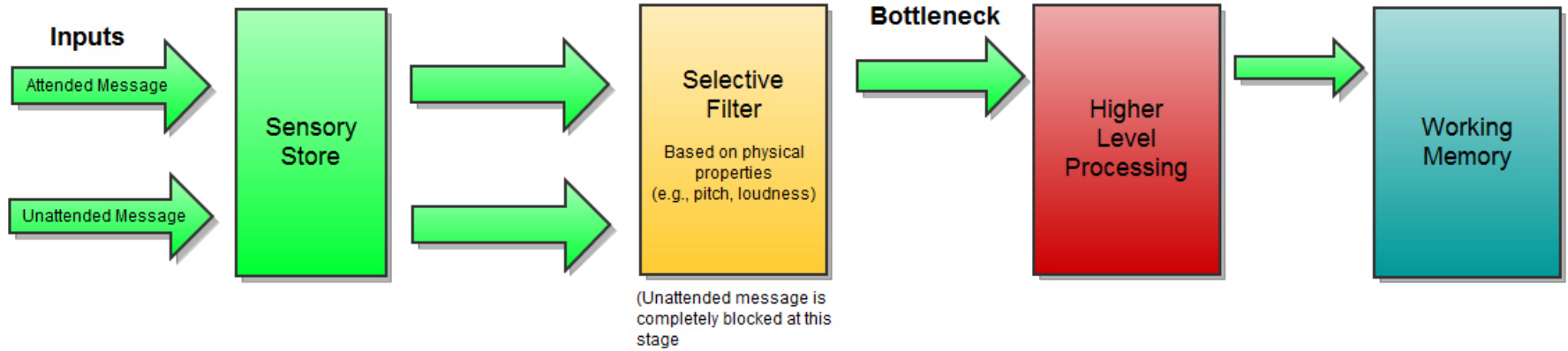


ATTENTION, MEMORY AND ITS NATURE



ATTENTION

Broadbent's Filter Model



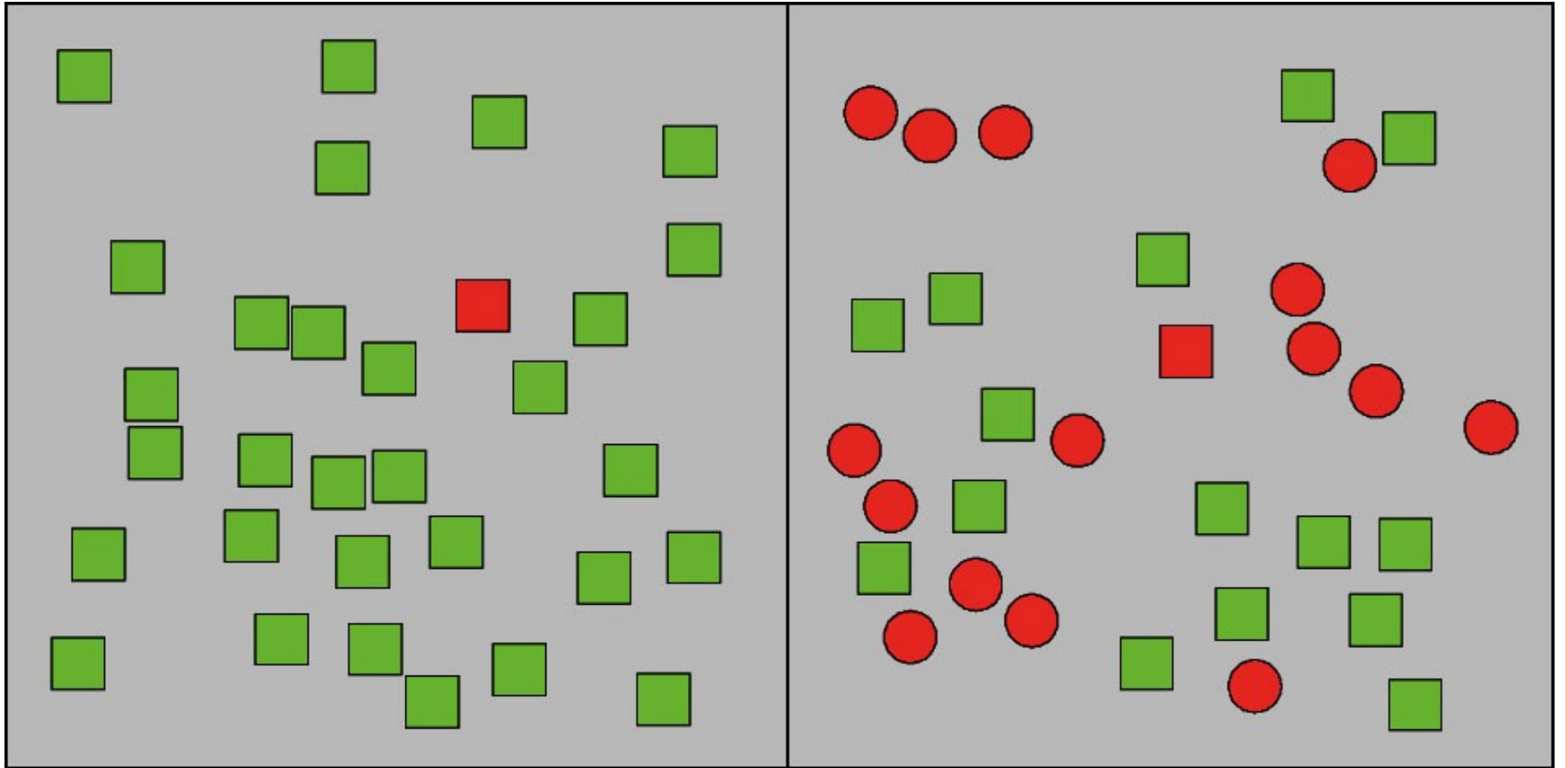
- Attention as a spotlight



EXPERIMENTAL TESTING OF ATTENTION...

- Auditory: Dichotic listening task, Cocktail party syndrome.
 - Visual: visual search:
 1. Feature search
 2. Conjunction search
(Pop-out effect)
- Analysis of eye movement (eye tracking)





SELECTIVE ROLE OF ATTENTION

Change-blindness experiments:

- Video: Count the number of passes!



- Video: <https://www.youtube.com/watch?v=vJG698U2Mvo>



CHANGE BLINDNESS / INATTENTIONAL BLINDNESS

- <https://www.youtube.com/watch?v=NSCliuAqIG8>
- <https://www.youtube.com/watch?v=E1VyG2Ou-yE>
- <https://www.youtube.com/watch?v=jbJzvZok9PI>
- <https://www.youtube.com/watch?v=ubNF9QNEQLA>



CHANGE BLINDNESS II.

- It's caused motion signals failed to draw attention
- Changes in the centre of visual field draw attention better
- Only one change at a time can be detected



CHANGE BLINDNESS BLINDNESS 😊

- Metacognitive error
- Participants overestimate their ability to detect change in their visual field
- Overestimation not only own ability, but also ability of others
- Why? (test situation is compared with real life situations, where there's easier to detect change)



MEMORY

What is the nature of memory?



MEMORY MODEL

- Multi-Process model: **Atkinson, Brelsford and Shiffrin (1967)**.
- sensory register
- memory buffer
- long term storage

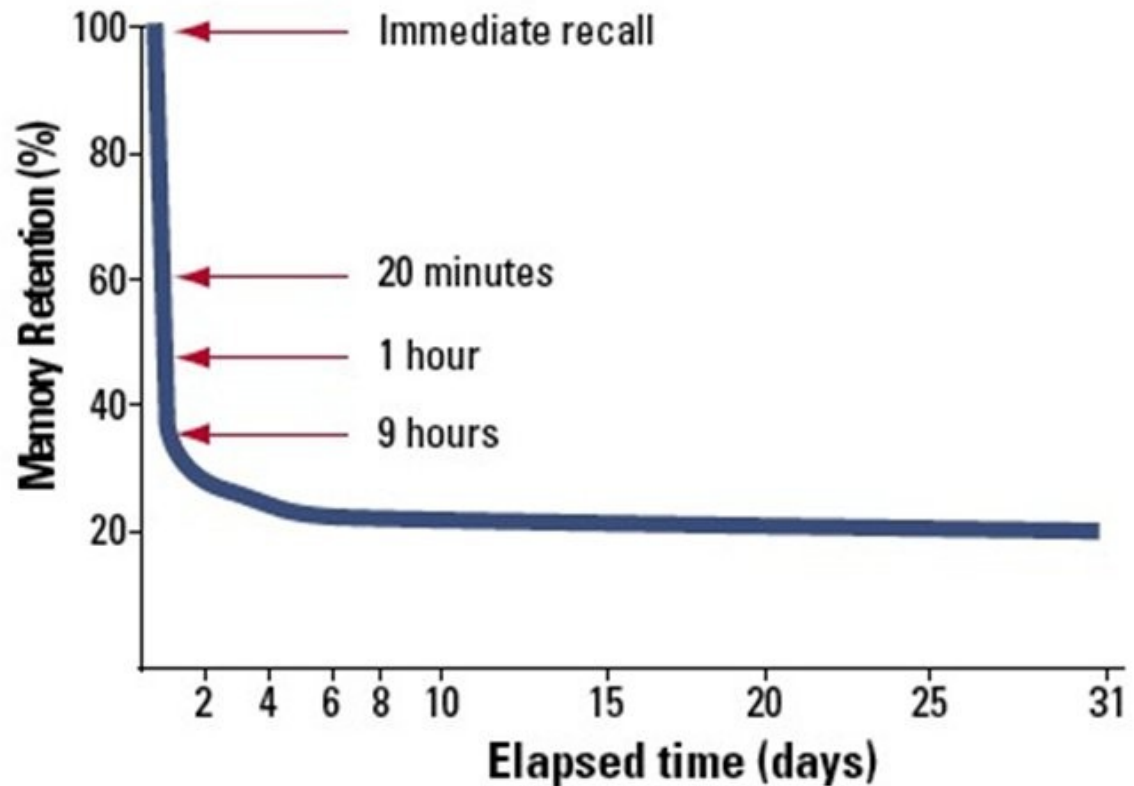
- Short term vs. Long term memory: **Miller, 1956**; Magic number 7 ± 2



HOW TO TEST MEMORY?

- Ebbinghaus's studies and forgetting curve

Forgetting curve



AMNESIA

- <https://www.youtube.com/watch?v=Vwigmktix2Y>
- Retrograde and anterograde amnesia
- Korsakoff's syndrome (residual ability to learn; confabulation)




MEMORY AS A CAMERA

Extremely emotional experience

- = „flashes“, eidetic memories
- (Neisser, Hyman, 1999)
- Memories on the crash of Challenger space shuttle, 1 day, 2,5 years later



MEMORY AS A CAMERA

- Description 1. *“I was in my religion class and some people walked in and started talking about [it]. I didn’t know any details except that it had exploded and the schoolteacher’s students had all been watching which I thought was so sad. Then after class I went to my room and watched the TV program talking about it and I got all the details from that.”*
 - Description 2. *“When I first heard about the explosion I was sitting in my freshman dorm room with my roommate and we were watching TV. It came on a news flash and we were both totally shocked. I was really upset and I went upstairs to talk to a friend of mine and then I called my parents.”*
- 

EYE-WITNESSES



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PHASES OF MEMORY PROCESS PRONE TO DISTORTION:

1. Perception and attention focus
 2. Coding in memory
 3. Storing in memory – forgetting
 4. Recall – tendency to confabulate
- Variables: time and duration of the event, gender, age, intelligence, „face memory“, emotions, personality,...



CREATION OF FALSE MEMORIES

- Loftus (1993): **Lost in a shopping mall**
- https://www.youtube.com/watch?v=PQr_IJvYzbA



- Similar experiments: animal attack, injury, medical intervention, bullying,...



FALSE MEMORIES AND RECOVERED MEMORIES

- Loftus, her research of „false memories“ and case studies: Steve Titus etc.
- Cross-racial identification
- Line up bias (line up vs. show up)
- weapon focus
- Etc.



„RECOVERED MEMORIES“

Recommendation no. 1.

- Loftus, E.F. & Ketcham, K. (1991). *Witness for the Defense; The Accused, the Eyewitness, and the Expert Who Puts Memory on Trial*. NY: St. Martin's Press.



„RECOVERED MEMORIES“

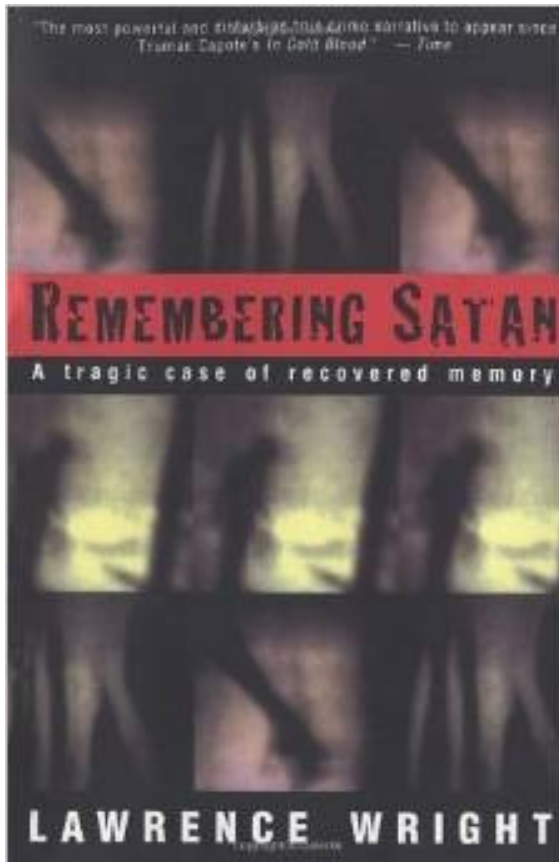
- Memories of past trauma, that are repressed and recovered in therapy.
- ***Devis and Bass: The Courage to Heal: A Guide for Women Survivors of Child Sexual Abuse (1988).***

Checklist for the victims of rape and abuse, that „helps“ discovering memories of this trauma.



„RECOVERED MEMORIES“ PART II.: SATANIC CULTS

Recommendation no. 2.



!!!! Only for those with strong stomach

- In extreme cases „recovered false memories“ reported by not only victims, but also accused.



THANK YOU!

