

Psychology of usability 2

User interfaces
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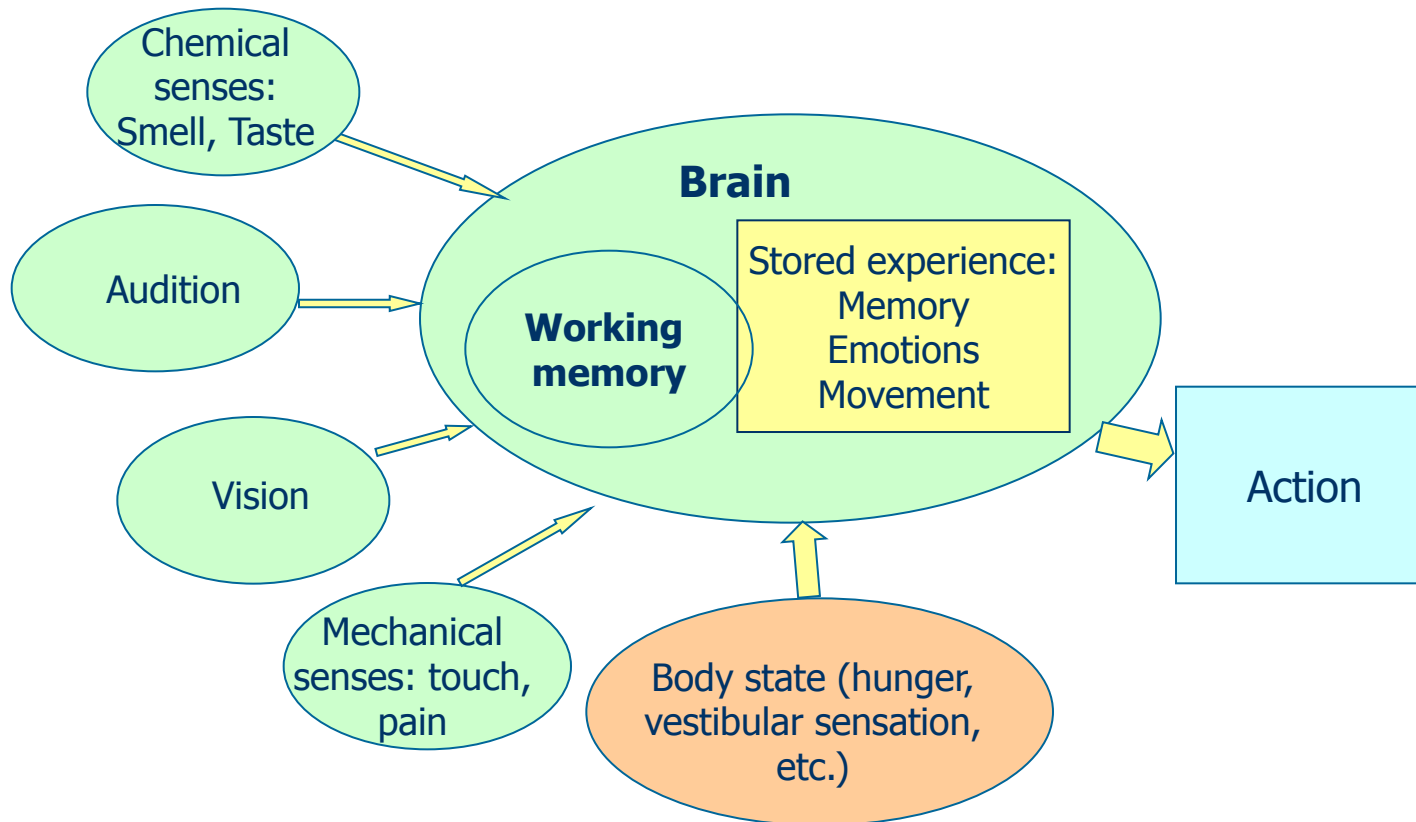
Cultural schemas

- Social scripts and cultural communication patterns dominate behavior
- schemas are adapted when growing up:
 - understanding of situations
 - shared and common in a culture
 - local > < global influence
 - internalized schemas, individual variety
 - unconscious, self-evident

Human perception: seeing patterns

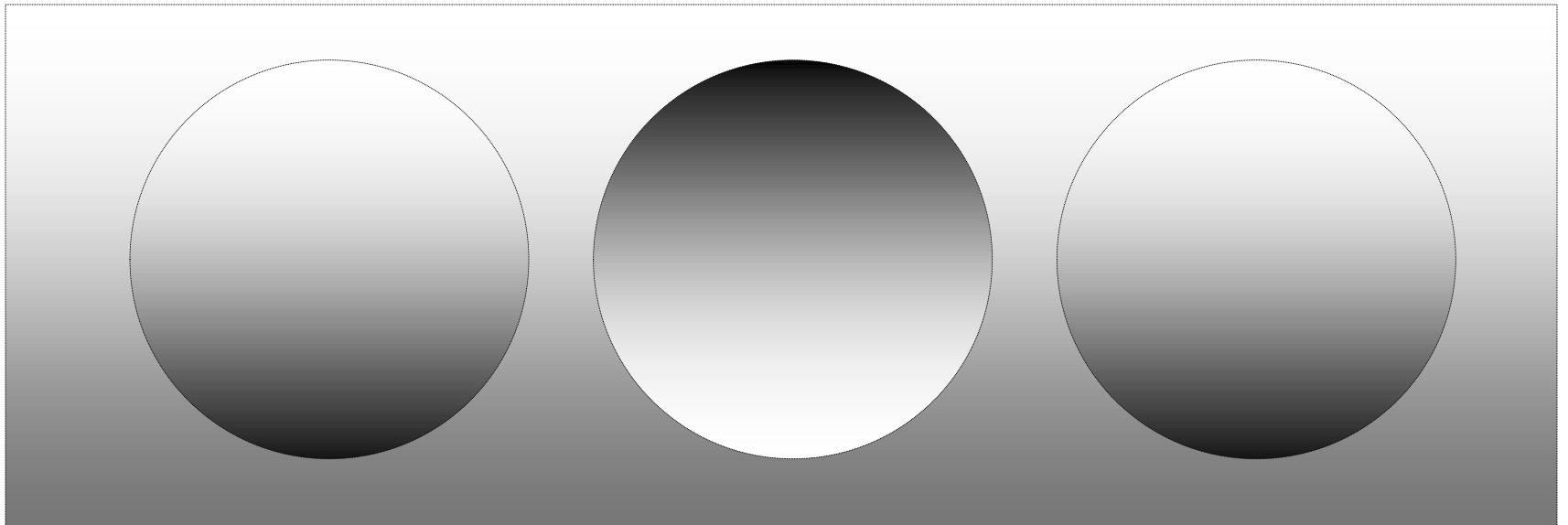
- People can discriminate color and lighting
- Object and background
- Borders and continuity
- Shapes and interpretations
- People remember even large chunks
- Football teams: colored shirts

Modalities: perception

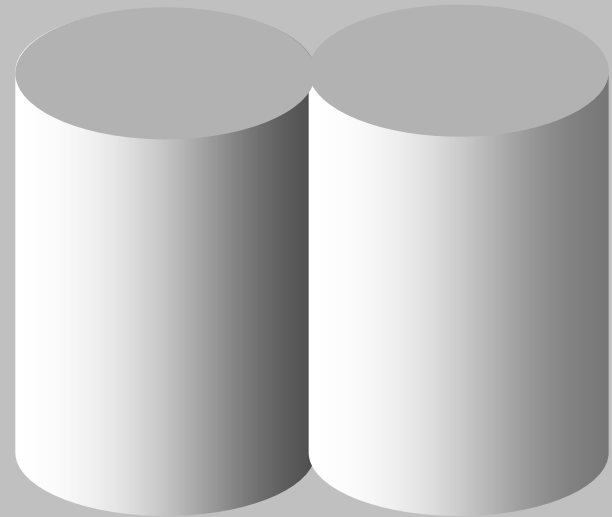
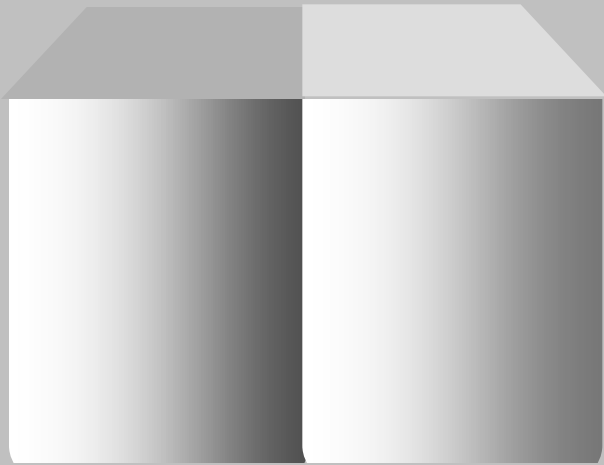


Shades

- source of light
- concave and convex

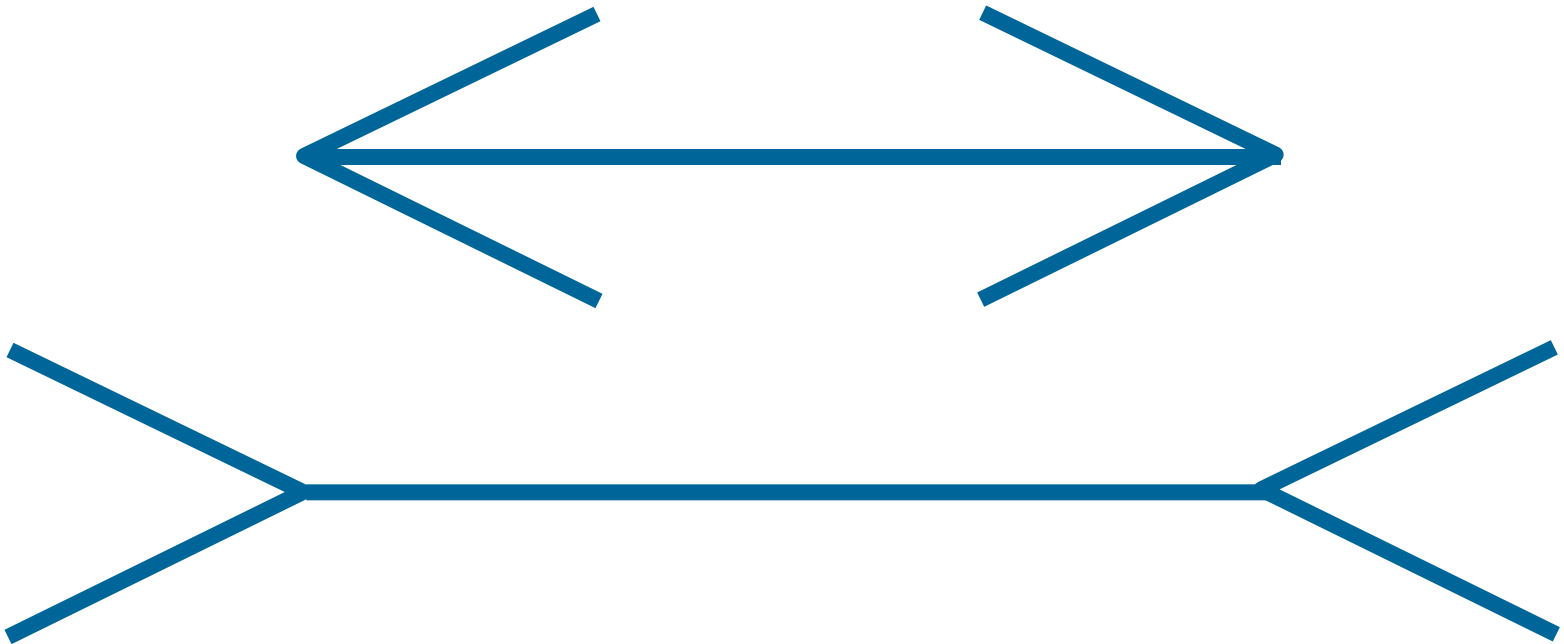


Interpretation 1/2



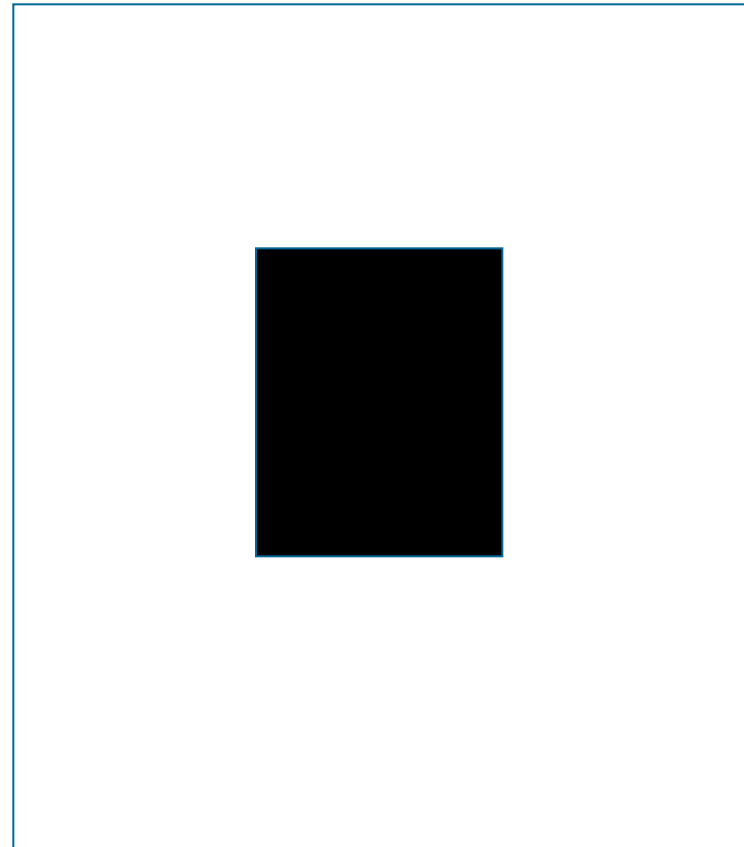
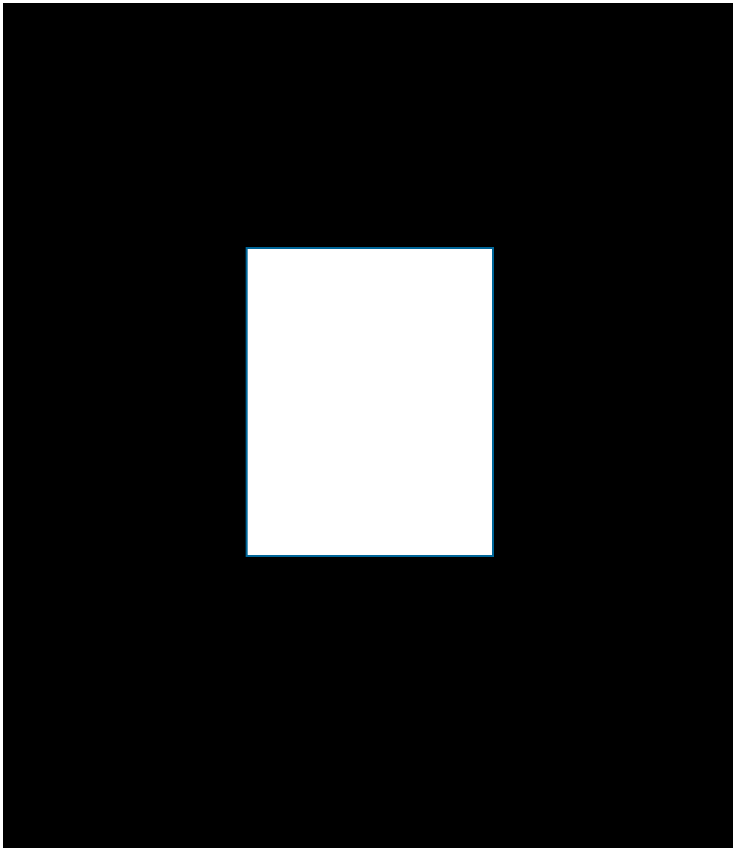
Interpretation 2/2

- Müller-Lyer -illusion



Culture specific?

Background 1/2



See more optical illusions at:

<http://opticalillusion4u.webs.com/>

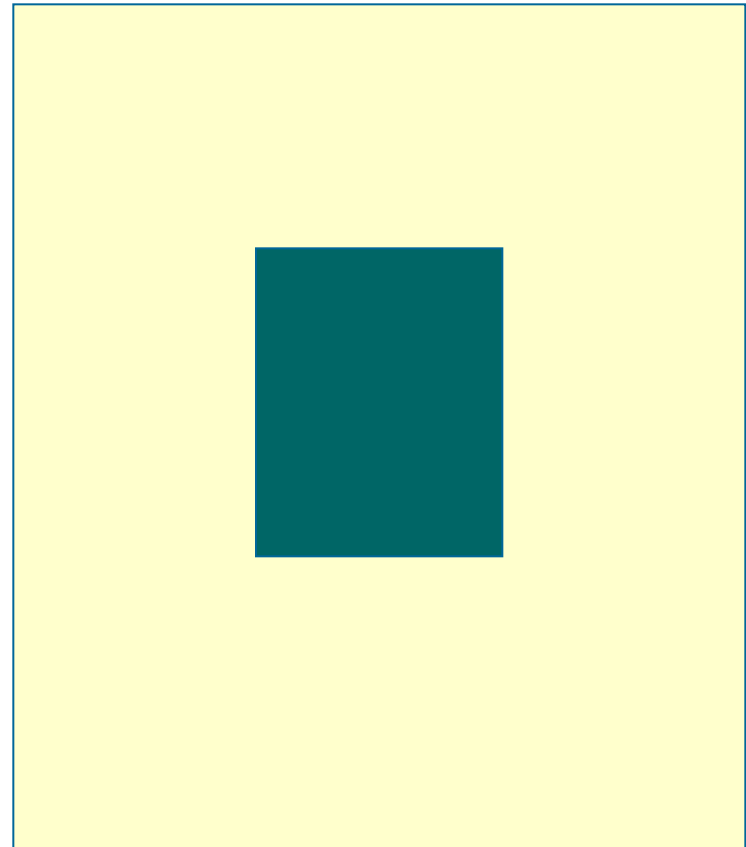
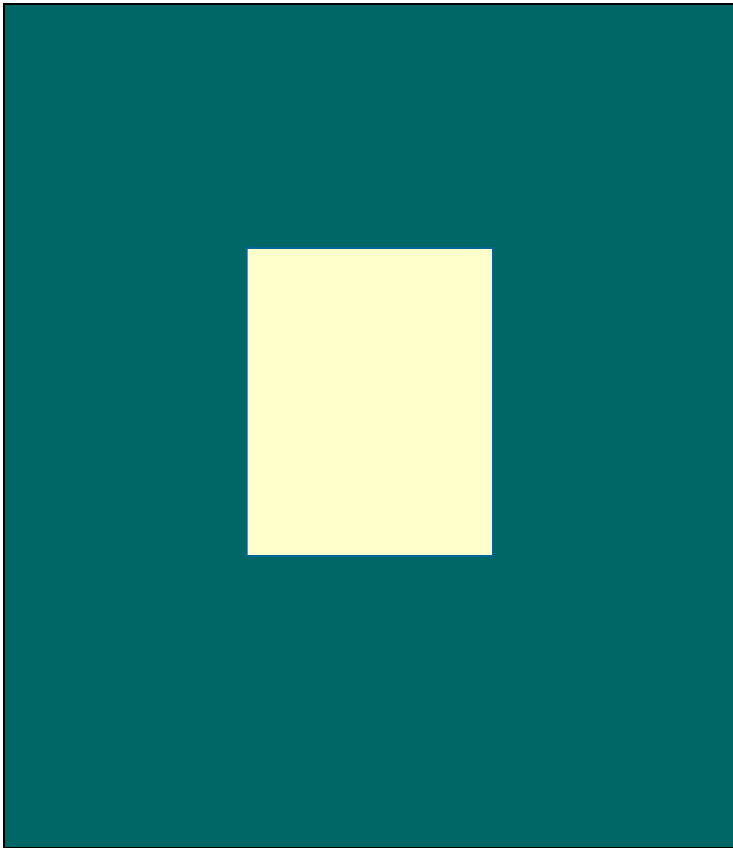
<http://buratto.org/optica/Geo47.html>

Colors

- Help in recognition
- Have emotional values and symbolic meanings - warning
- Warmth



Background 2/2



Aging and poor eyesight

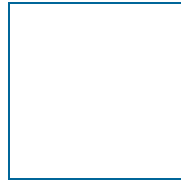
- People over 40 start having difficulty with small fonts and seeing near
- Color blindness common
- Sans serif fonts better (Arial)
- Italics hard to read
- Use strong contrast

3D-navigation

- control devices usually in 2D
- *3-D ability?*
 - *possibly requires more practice*
 - *human abilities in spatial skills differ strongly*
 - *taxi drivers have a well-developed navigation ability*
- Mac, Windows 7, etc?

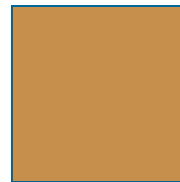
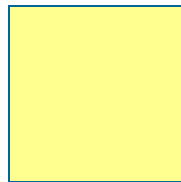
Cultural feeling of colors

cold, pure, innocence,
empty, death,
age, West, misfortune



neural, independent

happiness, creativity, sun;
earth, center;
envy



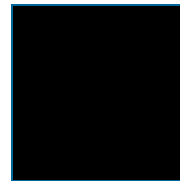
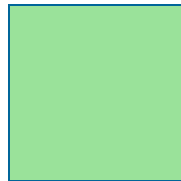
safety, warmth, dirt

action, danger, excitement;
blood, life, fire, love;
good fortune

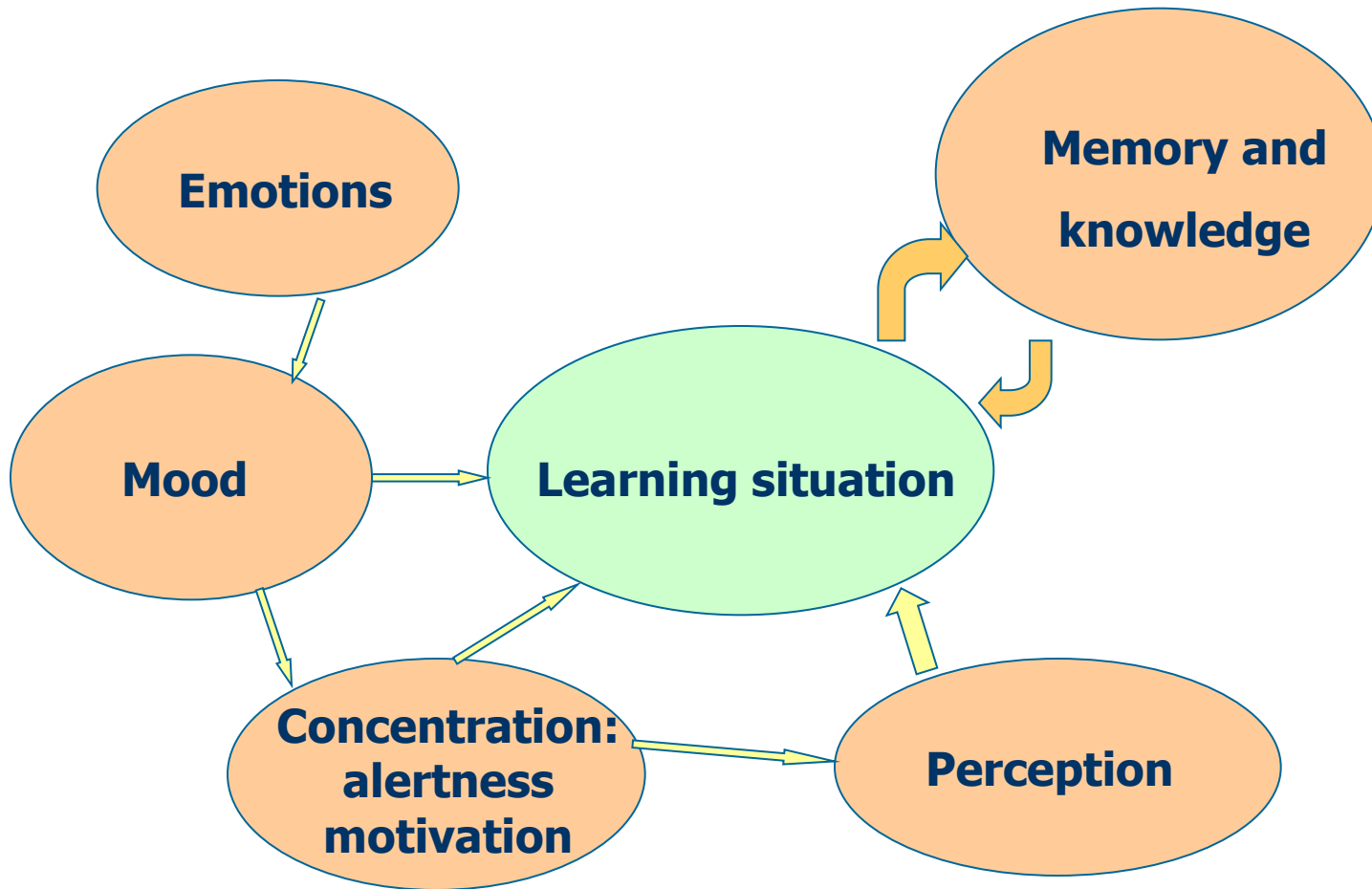


hygienic, cold, calm;
intellect, low emotion;
bad fortune

calm, natural;
growth, vitality

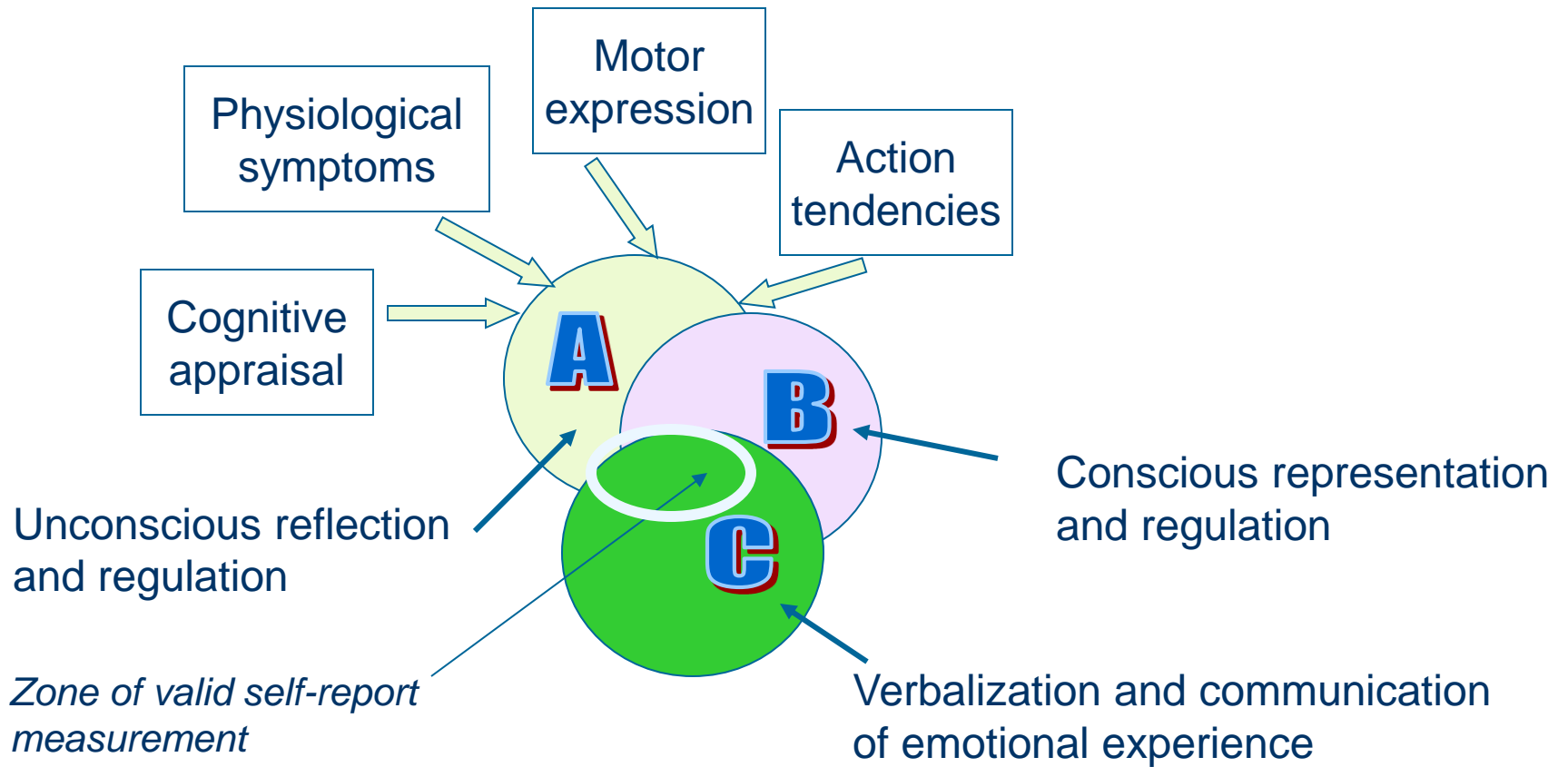


modern, death, darkness



Human cognitive capacity 1

- Based on patterns and schemas
- Chess masters remember nearly all pieces in a game
- Affordances: visual object is perceived through intended action; perception depends on context
- Auditive and visual input separate



Venn diagram of three hypothetical types of central representation of component processes

Human cognitive capacity 2

- Attention: selective perception
- Object and background: discrimination, exceptional features
- Attention is directed to one object
- Memory registers also unconscious perception
- Automatic actions (bicycle riding) do not need attention; but then action becomes fixed, difficult to modify (changes in interface)