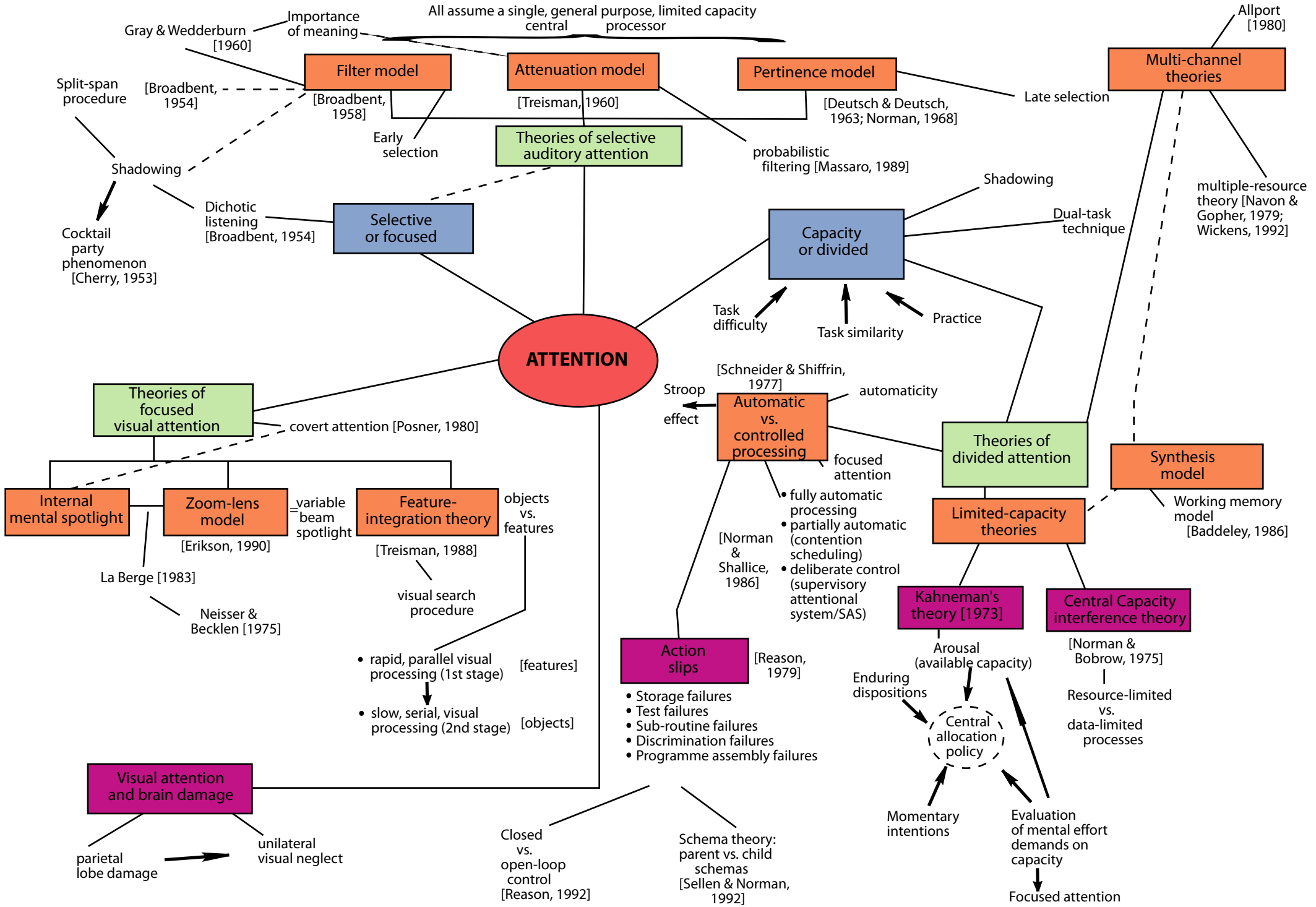
ATTENTION
Theories of selective auditory attention
All assume a single, general purpose, limited capacity central processor
Filter model
[Broadbent, 1958]
Gray & Wedderburn [1960]
Importance of meaning
Attenuation model
[Treisman, 1960]
Pertinence model
[Deutsch & Deutsch, 1963; Norman, 1968]
Late selection
Multi-channel theories
Allport [1980]
Split-span procedure
[Broadbent, 1954]
Early selection
probabilistic filtering [Massaro, 1989]
Shadowing
Cocktail party phenomenon [Cherry, 1953]
Dichotic listening [Broadbent, 1954]
Selective or focused
Capacity or divided
Shadowing
Dual-task technique
multiple-resource theory [Navon & Gopher, 1979; Wickens, 1992]
Task difficulty
Task similarity
Practice
Theories of focused visual attention
covert attention [Posner, 1980]
Internal mental spotlight
Zoom-lens model
[Erikson, 1990]
=variable beam spotlight
Feature-integration theory
[Treisman, 1988]
objects vs. features
La Berge [1983]
Neisser & Becklen [1975]
visual search procedure
• rapid, parallel visual processing (1st stage) [features]
• slow, serial, visual processing (2nd stage) [objects]
[Schneider & Shiffrin, 1977]
Stroop effect
Automatic vs. controlled processing
automaticity
focused attention
• fully automatic processing
• partially automatic (contention scheduling)
• deliberate control (supervisory attentional system/SAS)
[Norman & Shallice, 1986]
Theories of divided attention
Synthesis model
Working memory model [Baddeley, 1986]
Limited-capacity theories
Kahneman's theory [1973]
Central Capacity interference theory
[Norman & Bobrow, 1975]
Resource-limited vs. data-limited processes
Arousal (available capacity)
Enduring dispositions
Central allocation policy
Momentary intentions
Evaluation of mental effort demands on capacity
Focused attention
Action slips
[Reason, 1979]
• Storage failures
• Test failures
• Sub-routine failures
• Discrimination failures
• Programme assembly failures
Closed vs. open-loop control [Reason, 1992]
Schema theory: parent vs. child schemas [Sellen & Norman, 1992]
Visual attention and brain damage
parietal lobe damage
unilateral visual neglect