Scripts Reprise

• Scripts: Sequence of actions w/info about ACTORS, ACTIONS, and GOALS
• Fill in missing info by assuming events occurred as they typically do
• Explain unanticipated events
• Used for planning
  – Gives list of actions
  – Causal info helps us to adapt

Trouble in Script Land

• Scripts are inflexible
• People don’t seem to need scripts for goal-directed action
• Empirical evidence (Bower)
  – People confused events in a story about a doctor visit w/those in a story about a dentist visit
  – But doctor-visit & dentist-visit 2 different scripts and so shouldn’t be confusable. Hmm…

MOPs, TOPs, & TAUs

• Memory Organization Packets (MOPs)
  – MOPs made up of scenes
  – Scenes – collection of high-level components of scripts
  – Examples
    • Scene: Doctor’s Waiting Room
    • MOP: Waiting Rooms
    • MOP: Health-Professional-Visit

MOP Features

• Makes System Flexible
  – Mix and match scenes
  – Store different specific scenes (viz. Doctor vs. Dentist Visit) in same place
• Empirical support (Abbot, Black, & Smith)
  – General goal
    • Eating at a restaurant
  – Intermediate goal
    • Entering, Ordering, etc.
  – Actions
    • Order Fish

TOPs

• Thematic Organization Points
  – Mutual goal pursuit against outside opposition
• Abstract commonalities
  – Magnificent Seven
  – Seven Samurai
TAUs

- Thematic Abstraction Units (Dyer, 1983)
  - ‘A stitch in time saves nine’
- Seifert & Black (1983)
  - Given stories with a common TAU, subjects were able to produce their own story with the same TAU
- Seifert et al. 1986
  - Verification times for test sentence from one story was faster when preceded by story with similar TAU
- Keane (1987, 1988)
  - Problem solving TAUs

Problems with Schema Theories

- Vague
- Unprincipled
- Ad Hoc

Possible Solutions

- Specify content of MOPs, TOPs, etc.
  - CYC project
- Account for Acquisition

Inferred Information

- There was a refrigerator.
- John opened the refrigerator to get the Coke.
- The kitchen had a ceiling.
- The kitchen had walls.
- Etc., etc., etc.

How do people use partial information to infer other information that isn’t specified?
John went to the kitchen and got a Coke.

Connectionist Approach to Schemas

- Schemas emerge from interaction of parallel processing units
- Schemas not explicitly stored representations
- Schema = Activation Pattern
- Training network produces tendency for particular units to be co-activated given similar input
- Yields schema-like behavior

The Forty Room Descriptors

- ceiling
- large
telephone
books
sofa
drapes
cupboard
sink
toilet

- walls
- medium
- bed
- desk-chair
- easy-chair
- coffee-cup
- stove
- dresser
- scale
- oven
- scale
- door
- small
typewriter
clock
coffee-cup
coffeepot
dresser

- windows
- very-small
- bookshelf
desk

- very-large
carpet

- desk
- bookshelf
- fireplace

- computer
- television

- bathtub
- ashtray
- coffeepot
- toaster
- cupboard
- bath
- scale
- floor-lamp
- coffeepot
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Connectionist Models

- Provide mechanism for integrating multiple sources of information
- Addresses ‘unprincipled’ nature of schema theories
  – Specific mechanism for schema acquisition

Shortcomings of Schema Theories

By the time Mary had had her 14th child she’d finally run out of names to call her husband.

(not scripts, not MOPs and TOPs, and not even neural network models!)

Why schemas not adequate…

- Need mini-theory about consequences of many kids
- Knowledge recruited for dynamic simulation (mental model)
  – Not just activated
- Deciding which aspects of childbirth knowledge do get recruited and which don’t is a difficult problem
  – Solution possible (presumably) but does not currently exist

Socio-Cultural Side of Frames

- Frames structure experience
- Choice of frame matters
- Erving Goffman FRAME ANALYSIS
  – Frames are chosen, not just activated
  – Frames are socially negotiated
  – People’s choice of frames results in their co-construction of social reality

Mutual Activation of Shared Schemas

- Schema=Glasses

Frame Analysis

- Goffman: best way to ‘see’ frames is to find instances when they are violated
  – Psychotic in department store
  – Fainting nuns
    • People cooperate to activate frames
    • Frame-appropriate behavior is socially conditioned
Good Samaritan Study

- Subjects – unwitting seminary students at Princeton Theological Seminary
- Late Ministers: 1/10 stopped for groaning man
- On-Time Ministers: 6/10 stopped for groaning man

Good Samaritan Study

- Situation definition influences both perception and behavior
- Comprehension is not passive, but an active process that depends heavily on socio-cultural factors