



Soar Technology
Thinking *inside* the box.

Cultural Cognitive Architecture (update)

Glenn Taylor
(glenn@soartech.com)

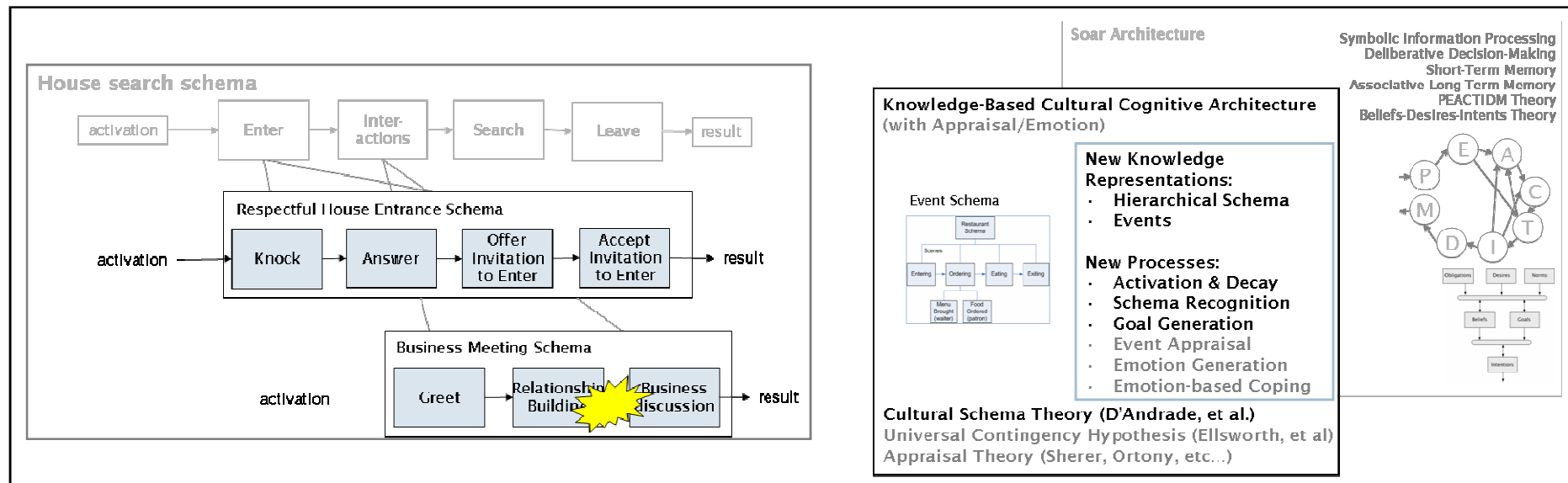
Modeling “Cultural Behaviors”

- Culture plays a large role in all aspects of perception, cognition and action
- Need to include cultural factors in mission planning and analysis
- **Scientific question:** How to build Human Behavior Models that include aspects of *existing human cultures* in behavior?



Approach: Cultural Cognitive Architecture

- **Theory basis:** cultural schema theory, memory activation, appraisal theory
- **Implementation:** Extended Soar Architecture
 - representations, processes, constraints
- **Purpose:** Explicitly represent cultural behavior as part of cognitive behavior



Cultural Cognitive Architecture DARPA/ARL Seedling

Example Application: Training Cultural Awareness

- “Knock and Talk” Training Scenario
- Choose-your-own-adventure style interface
- Multi-actor – trainee, head of household (agent), wife (agent)
- Interactive cognitive avatars built within cultural cognitive architecture



Cultural Behavior Generation Army/ARI Ph1 SBIR
3D avatars courtesy VCom3D

Nuggets and Coal

- Nuggets:
 - Working architecture, a few models
 - Integrated into 3D avatar environment
 - Some continued funding
- Coal:
 - Struggle to find data for “cultures of interest”
 - Hard to find money to work on “pure architecture”