

# Future of ACT-R?



Ideas for ACT-R 7.0?



Could be done with 6.0?

## ■ Theory

- memory context, memory stuffing?
- instruction following?
- episodic memory, ... ?

## ■ Software

- versions of ACT-R?
- higher-level tools?

## ■ Scale & Integration

- large knowledge bases?
- reusable models?

## ■ Neuroscience

- neural models? MEG?

## ■ Beyond Rational (Emotion)

- in or out? :)
- arousal & valence?

## ■ External Interaction

- an experiment robot?
- models with serious environments? (X-Plane, SF)

## ■ Teaching ACT-R

- to students? researchers?

# In the Long Run, Only the Paranoid Survive

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- 2000s were the decade of *convergence* in Cog Arch
  - No architecture has *proven* good at everything (AI, CogSci)
- Stable state suggests *maturity* and reaching asymptote
  - *Premature* convergence? Could this be a local minimum?
- Fit measures and test suites for *incremental progress*
  - Running all existing models in new architecture *doesn't work*
  - We have never done that for past major changes (3.0, 5.0)
  - Existing models and parameters optimized for old system
  - Modifying all models has *high costs and little benefits*
  - Past success is growing *drag* on architecture changes
  - Best that can be achieved is conceptual “should still work”
  - Incentives present *breadth/depth tradeoff* against integration

# Evolve from isolated task-specific models?

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- Several people brought up the issue of reusing models, or creating libraries
- Ties in to long-term learning and interaction: have a model that runs of longer periods of time carrying out different tasks
- Can this be the new goal to converge to (in the sense of Dario's graphs)?