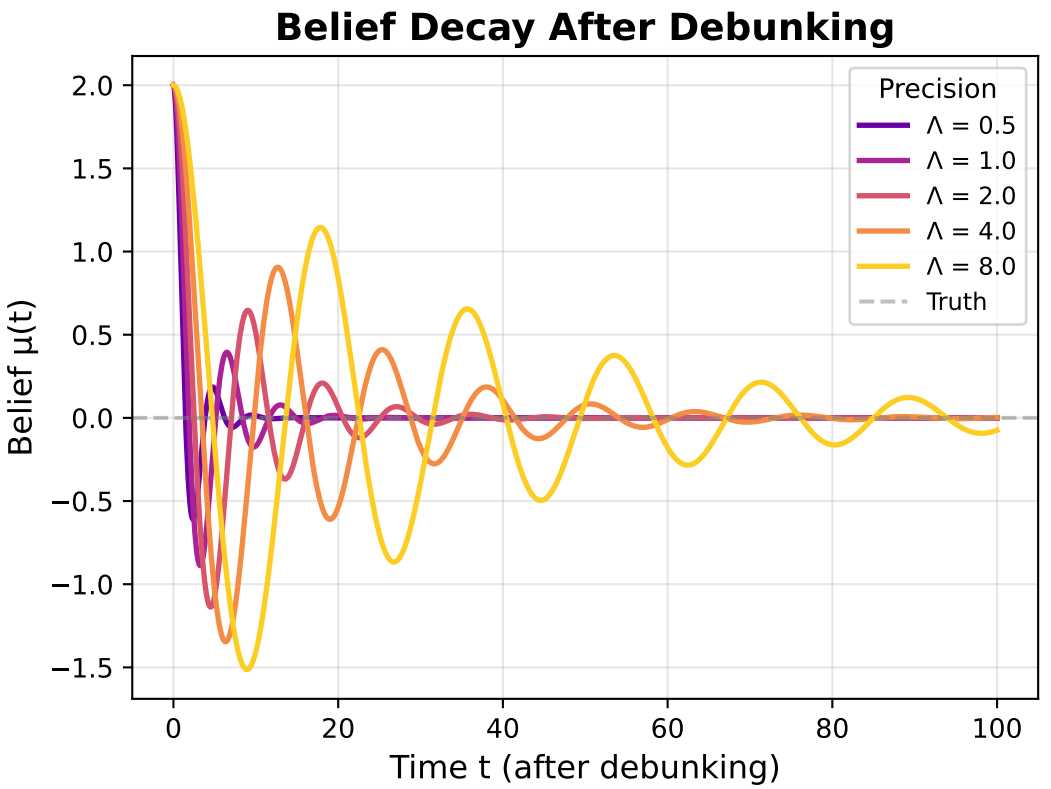
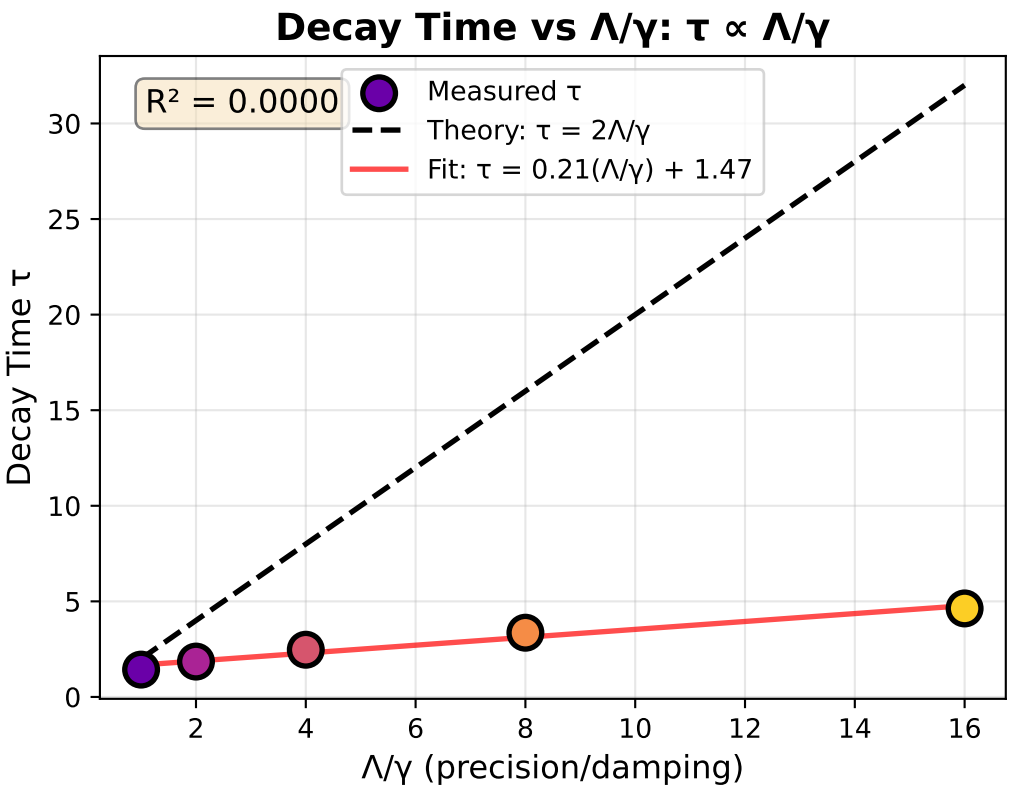
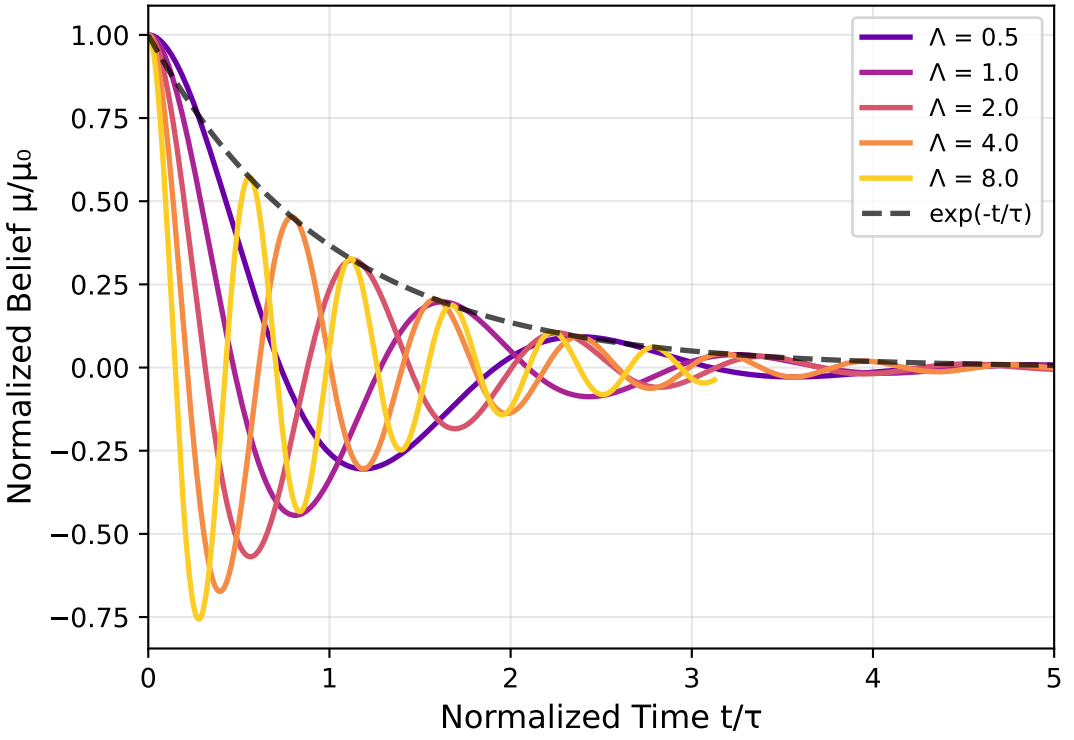
Belief Perseverance: Decay Time Proportional to Precision





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BELIEF PERSEVERANCE (Eq. 43)

Decay Time Formula:

    τ = M/γ = Λ/γ

"High-precision beliefs have
 long decay times"

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SIMULATION RESULTS:

Damping γ = 0.5

Precision range: 0.5 - 8.0
τ range: 1.43 - 4.63

τ ratio: 3.24
Λ ratio: 16.00

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THE DEBUNKING PROBLEM (Section 4.5):

• Immediate debunking is INEFFECTIVE
• Belief flows PAST correction target
• Must time the belief trajectory

Example from Eq. 44:
If Λ_A = 10, Λ_B = 1, γ equal:

    τ_A/τ_B = Λ_A/Λ_B = 10

"Agent A's false beliefs persist
 TEN TIMES longer than B's despite
 identical evidence exposure!"
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