
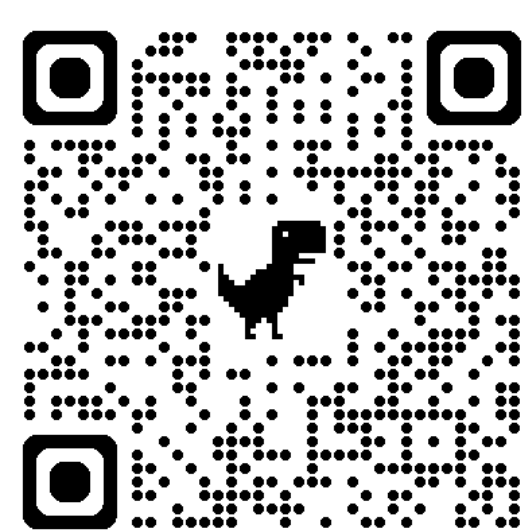
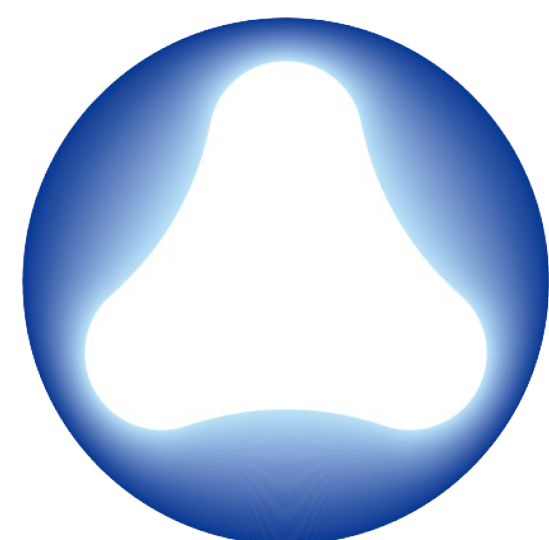


# Encouraging Divergent Thinking in Large Language Models through Multi-Agent Debate

Check out our paper  
for more details 



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## Background & Motivation

### ? Degeneration-of-Thought:

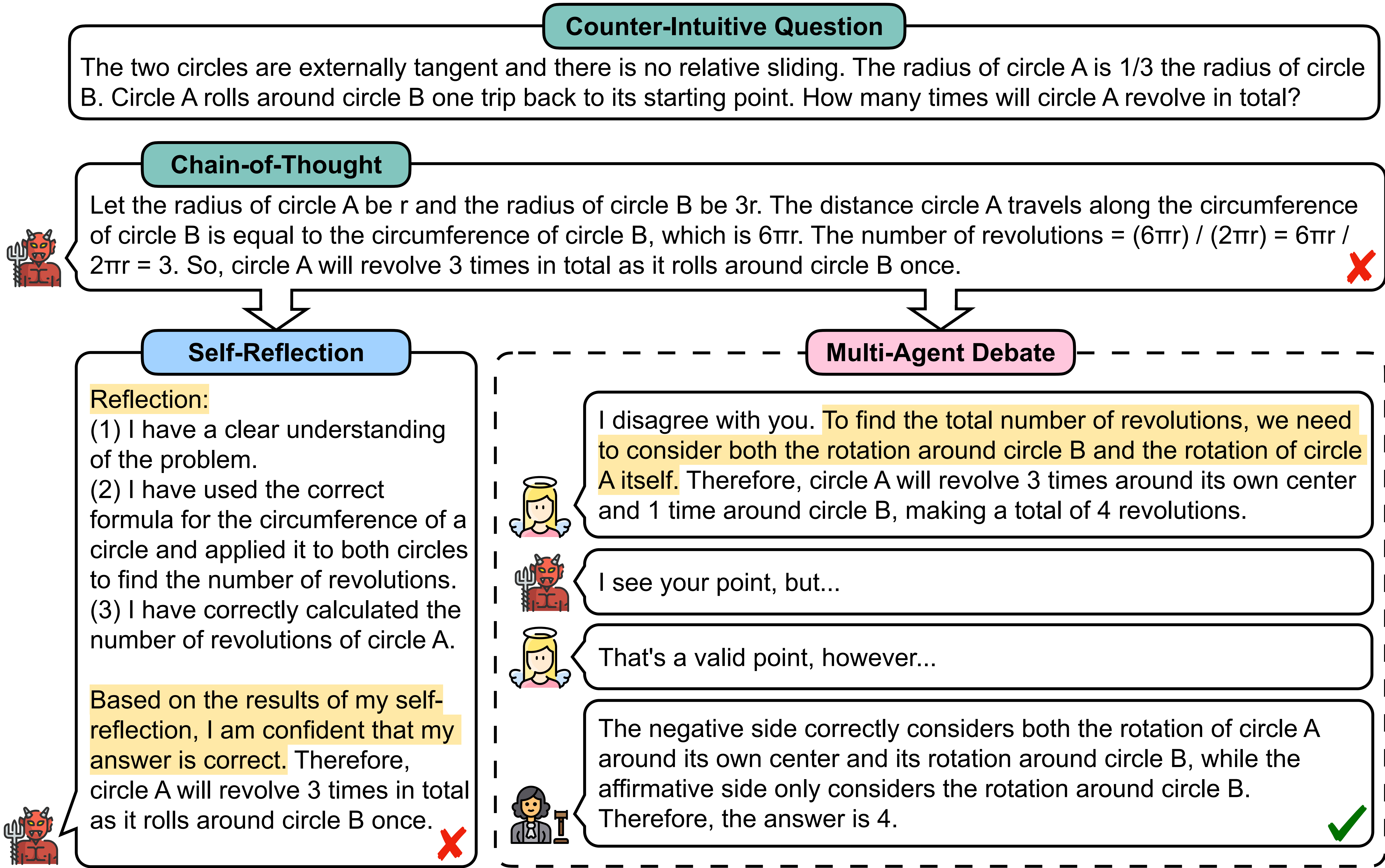
Once the LLM-based agent has established confidence in its answers, it is unable to generate novel thoughts later through self-reflection even if the initial stance is incorrect.

### ✓ Three factors of DoT:

- 1. Bias and Distorted Perception
- 2. Rigidity and Resistance to Change
- 3. Limited External Feedback

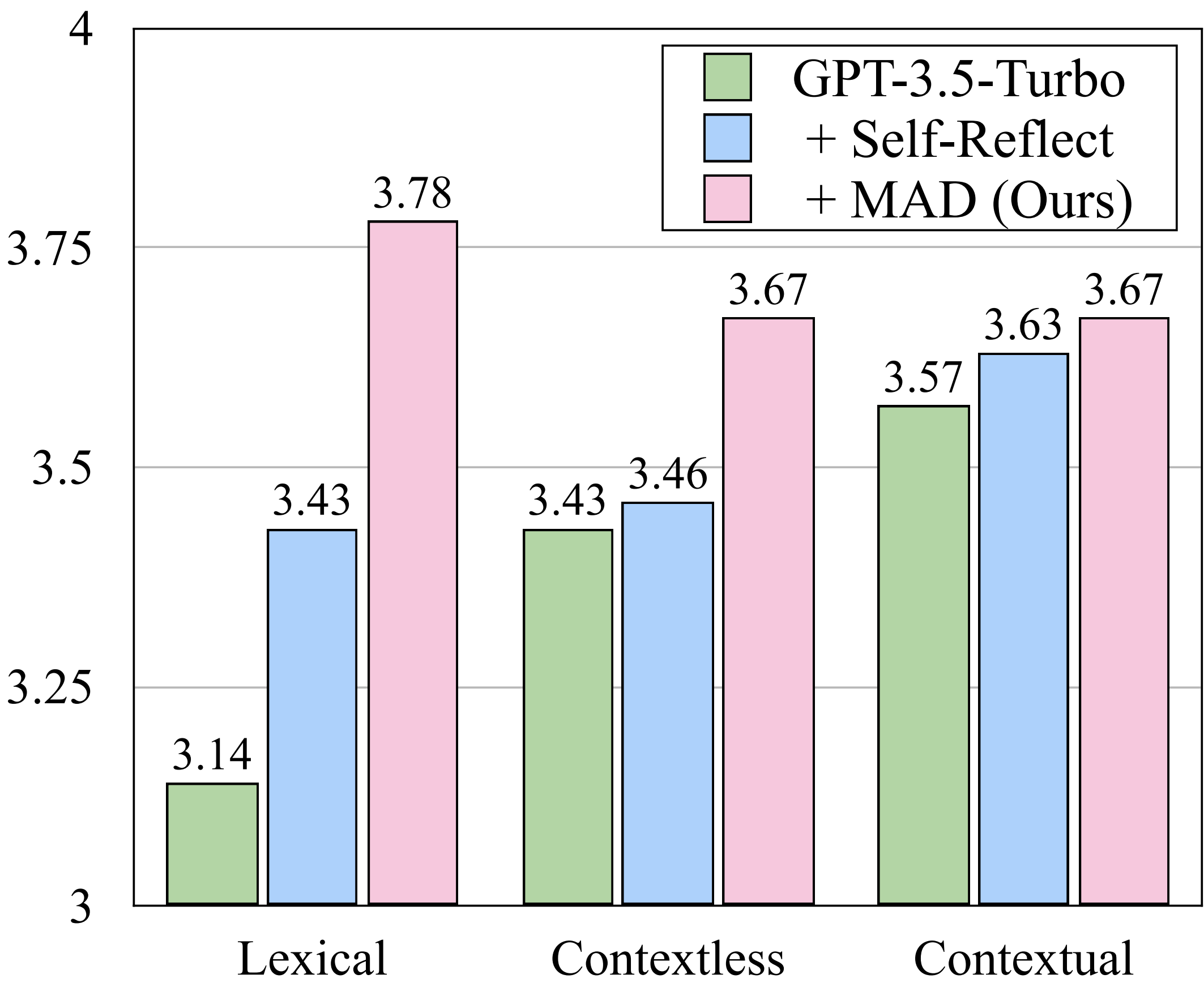
“Truth emerges from the clash of adverse ideas.”

## MAD: Multi-Agent Debate



## Experimental Results & Analysis

### ✓ Commonsense Machine Translation



### ✓ Counter-Intuitive Arithmetic Reasoning

| Method             | ACC (%) |
|--------------------|---------|
| GPT-4              | 51.0    |
| GPT-3.5-Turbo      | 26.0    |
| + CoT              | 28.0    |
| + Self-Consistency | 29.5    |
| + Self-Reflect     | 27.5    |
| + MAD              | 37.0    |