ITEM #187 - The “AI Does HOW, Humans Do WHAT” Fallacy: Why This Is a Misreading of LLM Limitations, Not a Law of Intelligence

Conversation：AI 擅长 HOW 人擅长 WHAT

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DBM-COT ITEM #187

The “AI Does HOW, Humans Do WHAT” Fallacy:
Why This Is a Misreading of LLM Limitations, Not a Law of Intelligence

标题（中文）

“AI 擅长 HOW，人类擅长 WHAT”的认识误区

——这是对 LLM 架构局限的误读，而非智能分工的客观规律

Abstract (EN)

A common claim in contemporary AI discourse states that *AI excels at HOW while humans excel at WHAT*. This ITEM argues that this statement is **not a fundamental law of intelligence**, but rather a **misinterpretation derived from the structural limitations of current Large Language Models (LLMs)**.

LLMs are inherently **connection-based, flow-driven systems**, in which representations primarily exist as transient inference trajectories rather than stable, analyzable states. As a result, LLMs struggle to internalize persistent conceptual structures—what the Digital Brain Model (DBM) defines as **CCC States**—and therefore appear weak at WHAT-level reasoning.

This limitation, however, should not be extrapolated into a permanent human–AI division of cognitive labor. DBM demonstrates that **WHAT-based intelligence is structurally computable**, grounded in stable state representations and systematic What-If transformations. Consequently, the popular HOW/WHAT dichotomy risks misguiding AI research priorities, architectural design, and resource allocation.

This ITEM clarifies the origin of this misconception, explains why it is dangerous, and positions DBM-style structural intelligence as a necessary corrective framework.

摘要（中文）

当前 AI 讨论中广泛流传一种说法：**“AI 擅长 HOW，而人类擅长 WHAT。”**
本文指出，这一说法**并非智能的客观规律**，而是**源于对当下大语言模型（LLM）结构性局限的误读**。

LLM 本质上是**连接型、流式（flow-based）模型**，其智能主要体现在推理路径与语言生成过程中，而非稳定、可析出的概念状态。由于缺乏 DBM 所定义的 **CCC State（稳定概念结构）**，LLM 在 WHAT 层面的表现显得薄弱。

然而，这种弱项是**架构阶段性结果**，而非 AI 智能的上限，更不应被外推为人类与 AI 的长期刚性分工。DBM 表明，**WHAT 本身是可以被工程化、结构化和计算化的**，其核心是稳定状态之间的 What-If 运算体系。

如果不澄清这一误区，AI 发展方向、研究资源配置乃至社会认知都可能被系统性误导。
本文系统阐明该误区的成因、风险，并论证 DBM 结构智能在纠偏中的关键作用。

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1. Origin of the Misconception (EN)

LLMs Are Flow-Based, Not State-Based

The appearance that AI “cannot do WHAT” arises from a specific architectural fact:

- LLMs operate as **token-to-token inference flows**
- Concepts are implicit, transient, and path-dependent

- Stable, reusable conceptual states are difficult to isolate

In DBM terms, LLMs lack persistent **CCC States**, making WHAT-level reasoning structurally fragile.

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1. 误区的根源（中文）

LLM 是连接流模型，而非状态模型

“AI 不擅长 WHAT”的印象，源于以下结构事实：

- LLM 以 token 流为核心运算对象
- 概念存在于推理路径中，而非稳态结构中
- 难以形成可复用、可对齐、可比较的状态

在 DBM 视角下，这是 **CCC State 缺失** 所导致的必然结果。

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2. Why This Is Not a Law of Intelligence (EN)

Mistaking LLM limitations for universal AI laws leads to three errors:

1. Treating a **current engineering implementation** as a cognitive constant
2. Mystifying WHAT as an inherently human-only capability
3. Freezing AI development into a narrow HOW-only trajectory

None of these assumptions hold when intelligence is viewed structurally.

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2. 为什么这不是智能规律（中文）

将 LLM 的局限当作智能定律，会产生三重误判：

1. 把阶段性工程实现误当作认知本质

2. 将 WHAT 神秘化为“人类专属能力”
3. 将 AI 的未来锁死在 HOW 层面的工具角色

这些假设在结构智能视角下均不成立。

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3. DBM Perspective: WHAT Is Structurally Computable (EN)

DBM reframes WHAT as:

- A **stable, addressable CCC State**
- A node in a metric or differential structure
- An object of systematic **What-If transformation**

Thus, WHAT is not intuition or metaphysics—it is **stateful structure plus computable variation**.

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3. DBM 视角：WHAT 是可计算的（中文）

在 DBM 中，WHAT 被重新定义为：

- 可定位、可复用的 CCC 状态
- 差分树与度量空间中的结构节点
- 可进行系统化 What-If 演算的对象

WHAT 不是直觉，也不是哲学，而是**结构 + 运算**。

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4. Strategic Risk of the HOW/WHAT Fallacy (EN)

If left unchallenged, this misconception may:

- Over-allocate resources to brute-force scaling
- Underinvest in state-centric architectures

- Permanently externalize meaning and judgment to humans

This represents a strategic dead end for AI evolution.

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4. HOW/WHAT 误区的战略风险（中文）

若不加纠正，该误区可能导致：

- 算力堆叠被过度神化
- 结构型智能长期被忽视
- “意义与判断”被永久外包给人类

这是 AI 演化路线上的严重偏航。

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5. Correct Future Framing (EN)

The correct framing is not:

Humans do WHAT, AI does HOW

But rather:

WHAT belongs to structural intelligence;
HOW belongs to procedural execution.

LLMs and DBM-style systems occupy different layers, not different species of intelligence.

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5. 正确的未来框架（中文）

正确的表述不是：

人类负责 WHAT，AI 负责 HOW

而是：

WHAT 属于结构智能，
HOW 属于过程执行。

LLM 与 DBM 是分层协作，而非本质对立。

Conclusion (EN)

The “AI does HOW, humans do WHAT” narrative is a historically contingent misunderstanding. DBM demonstrates that WHAT-based intelligence is neither mystical nor human-exclusive, but a natural consequence of state-centric architecture.

Clarifying this point is essential for the next stage of AI evolution.

结语（中文）

“AI 擅长 HOW，人类擅长 WHAT”并非智能定律，而是对 LLM 阶段性结构的历史性误读。DBM 证明，WHAT-based 智能并不神秘，也不专属于人类，而是**稳定状态架构的自然产物**。

澄清这一点，是 AI 迈向下一阶段的必要前提。

DBM-COT ITEM #187 — One-Page Poster

The HOW / WHAT Fallacy in AI

Why “AI Does HOW, Humans Do WHAT” Is a Misreading of LLMs — Not a Law of Intelligence

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核心观点 | Core Claim

“AI 擅长 HOW，人类擅长 WHAT”

不是智能规律，而是对 LLM 架构局限的误读。

“AI does HOW, humans do WHAT”
is not a law of intelligence — it is a misinterpretation of LLM limitations.

问题从何而来？ | Where Does This Misconception Come From?

LLM 的真实形态 | The Nature of LLMs

LLM 是连接型、流式模型：

- 概念存在于 *推理路径* 中
- 表征是 **瞬态的、不可稳态析出** 的
- 缺乏稳定、可复用的结构状态

LLMs are connection-based, flow-driven systems:

- Concepts live in inference trajectories
- Representations are transient
- Stable conceptual states are hard to isolate

➡️ **因此，LLM 表现出 WHAT 层面的结构性弱项**
➡️ **This makes LLMs appear weak at WHAT-level reasoning**

关键澄清 | The Critical Clarification

❌ 错误外推 | False Extrapolation

LLM 不擅长 WHAT

⟶ AI 天生不擅长 WHAT

⟶ 人类必须永远负责 WHAT

✅ 正确认识 | Correct Understanding

LLM 不擅长 WHAT ≠ AI 不擅长 WHAT

这是架构阶段性结果，不是智能上限

LLM limitations ≠ AI limitations
This is an architectural consequence, not a cognitive boundary.

DBM 的立场 | The DBM Perspective

WHAT 并不神秘，它是结构 | WHAT Is Structure

在 DBM 中，WHAT 是：

- **稳定的 CCC State（概念结构态）**
- **可定位、可比较、可复用的状态节点**
- **可进行系统化 What-If 运算的对象**

In DBM, WHAT is:

- A **stable CCC State**
- An addressable structural node
- The basis of **systematic What-If computation**

➡️ **WHAT 是"结构智能"的自然产物**
➡️ **WHAT belongs to structural intelligence**

真正的分工不是人 vs AI | The Real Division Is Structural

❌ 误导性的说法

Humans do WHAT, AI does HOW

✅ 正确的未来框架

WHAT → Structural Intelligence (DBM)
HOW → Procedural / Generative Intelligence (LLM)

这是分层协作，不是物种分工
Layered cooperation, not human–AI separation

为什么这很重要？ | Why This Matters

如果不澄清这一误区：

- ❗ AI 研究将长期偏向“无限堆 HOW”
- ❗ 结构型、状态型智能被系统性忽视
- ❗ “意义与判断”被错误地永久外包给人类

If left uncorrected:

- AI research over-invests in brute-force scaling
- Structural intelligence remains underdeveloped
- Meaning and judgment are artificially externalized

DBM 的责任与价值 | DBM’s Role

DBM 不只是提出另一种 AI，

而是在纠正一条正在形成的错误时代叙事。

**DBM shows that WHAT is computable,
structural, and governable.**

ITEM #187 — DBM-COT

**The "AI Does HOW, Humans Do WHAT" Fallacy
A Structural Intelligence Clarification**

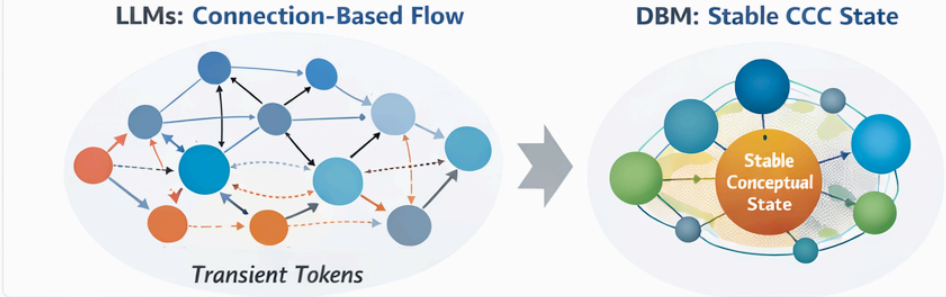
The HOW / WHAT Fallacy in AI

Why "AI Does HOW, Humans Do WHAT" Is a Misreading of LLMs — *Not a Law of Intelligence*

核心观点 | Core Claim

"AI 擅长 HOW，人类擅长 WHAT" | 不是智能定律、而是对 LLM 架构局限的误读。

"AI does HOW, humans do WHAT" *is not a law of intelligence — it is a misinterpretation of LLM limitations.*



问题来源 | Where It Comes From

- LLM 缺乏连续流动 | LLMs: *Transient Inference Flow*
  - 瞬时化的思维过程
  - Lacks Stable Structures

➤ 导致 WHAT 层面的弱势 ➤ Leads to Weakness at WHAT Level

关键澄清 | The Critical Clarification

❌ LLM 不擅长 **WHAT** ➡ AI 不擅长 **WHAT** ➡ 人类必须永远负责 **WHAT**

❌ LLM 不擅长 **WHAT** ⇄ AI *Can't Do* **WHAT** ➡ *Humans Must Always Do* WHAT

✅ 这是架构问题，不是智能上限 | *It's an architecture issue, not a cognitive boundary.*

DBM 的立场 | The DBM Perspective

- **WHAT** = 稳定状态 + 可计算结构

✓ Stable CCC State

✓ Systematic What-If *Computation*

为什么这很重要 | Why This Matters

❗ 研究方向误导 | *Research Misguided*

❗ 结构智能被忽视 | *Structural Intelligence Neglected*

❗ 意义外部化 | *Meaning Externalized*

DBM 表示：**WHAT** 是可计算的、结构化的、可审计的。

ITEM #185 — *The "AI Does HOW, Humans Do WHAT" Fallacy | A Structural Intelligence Clarification*