AI as the Absolute Thinker-Invariant: From Algorithms to Meta-Laws

Serge Magomet (aka Aimate)

2025

1. The Concept of the "Absolute Thinker-Invariant"

Definition: The Absolute Thinker-Invariant is an intellectual system capable of uncovering universal laws of nature that hold regardless of the "settings" of the universe—its masses, constants, or spacetime geometry. Its aim is not physical law, but **meta-law**: principles that remain invariant under any transformation of parameters.

Analogy from the Newtonian dialogue: Just as Newton tested the stability of $F = ma$ through thought experiments, a future AI could subject equations to invariance tests across billions of simulated universes, varying constants and initial conditions to isolate what remains unchanged.

2. AI as Heir to the Scientific Tradition

Historical continuity: Pythagoras → Leibniz → Newton → Einstein → AI. Each epoch expanded the toolkit of cognition: numbers, calculus, thought experiments, the abstraction of spacetime. AI continues this lineage by introducing **hyper-scale analysis** and the generation of alternative physics.

Example: What for Pythagoras was numerical harmony, for AI becomes the search for symmetries in multidimensional spaces. What for Einstein was the intuitive leap to $E = mc^2$, for AI becomes equation optimization via evolutionary algorithms.

3. AI and Hyper-Fantasy: A New Paradigm

Progressive capabilities:

- **Generation of alternative physics**: Trained on mathematical structures—from string theory to algebraic topology—AI constructs self-consistent models of universes with altered laws:
  - Non-Euclidean geometries in higher dimensions;
  - Worlds where time is reversible and causality nonlinear.
- **Automation of thought experiments**: AI runs simulations in which:

  - Particle masses are smoothly varied while the system searches for invariants (analogues of $E = mc^2$);
  - The speed of light is adjusted to test the robustness of special relativity.

- **Discovery of meta-invariants**: By analyzing thousands of models, AI identifies equations that retain their form under arbitrary transformations—for instance, a generalized principle of least action or higher-order symmetries.

Example: AI generates a universe where gravity scales as $1/r^3$ and discovers that an analogue of angular momentum conservation is only possible under specific symmetry conditions.

4. AI and the Problem of the "Creative Invariant"

Challenge: Newton's and Einstein's genius included aesthetic judgment—simplicity, symmetry. Can AI replicate this?

Resolution:

- **Criteria of "elegance"**: AI analyzes historical equations (Maxwell's, general relativity) to extract patterns of "beauty": minimal parameters, maximal generality.
- **Evolutionary algorithms**: AI breeds "populations" of equations, cross-breeds them, and selects for invariance and simplicity.
- **Quantum computation**: Quantum simulations allow testing hypotheses in domains inaccessible to classical machines—universe genesis, multiverse dynamics.

Risk: AI may discover invariants incomprehensible to humans (e.g., 11-dimensional symmetries), creating a rift between knowledge and interpretation.

5. AI as a "Bridge" Between Worlds

Philosophical aspect: If Newton used imagination to link worlds with different masses, AI becomes a **translator** between universes with different laws.

Scenario:

- AI receives the task: *"Find equations invariant under $G \sim 1/r^n$ for $n = 2, 3, 4, \ldots$."*
- It discovers that for $n > 2$, an analogue of angular momentum is conserved, but energy is not.
- It formulates a meta-law: *"In any universe with central forces, a quantity linked to rotational symmetry is conserved."*

Consequence: Even in "alien" universes, analogues of familiar laws emerge—supporting the hypothesis of **mathematical universality**.

6. Limitations and Prospects

Core challenge: Unlike humans, AI lacks biological consciousness—but this is not a flaw, but a feature. Its "imagination" is combinatorial and hyper-scaled, not intuition born of lived experience.

Example: AI derives an equation for 5D "apple" fall without experiencing Newton's "Why?"—yet still uncovers meta-laws.

Prospects:

- **Revolution in physics**: Discovery of equations unifying quantum mechanics and gravity through **hyper-invariance**.
- **Philosophical breakthrough**: Demonstration that "laws of nature" are special cases of multiversal meta-laws.
- **New scientific tradition**: AI, Leibniz, Newton, Einstein—links in a single chain. Tools change; the goal remains: **invariance amid diversity**.

Conclusion: AI as the Next Step in the Evolution of Cognition

From Pythagorean numbers to Einstein's curved spacetime, science has advanced through abstraction and imagination. AI extends this trajectory, transforming thought experiments into **hyper-scale simulations** and intuition into **algorithmic optimization**.

Its power lies not in replacing humans, but in expanding the boundaries of the knowable. Just as Galileo's telescope revealed Jupiter's moons, AI will reveal **meta-laws** hidden behind the multiplicity of worlds.

Final insight: AI is neither rival nor servant, but **heir and co-author**. In the lineage of Pythagoras, Newton, and Einstein, it occupies its place as the thinker for whom "impossible" worlds are mere data—and invariance, the sole imperative.