

The Exaltation of Man and Machine:

By James Conde

There exists great anxiety surrounding AI's supplantation of people's jobs. This fear, I believe, is misplaced and should be considered a great hope and benefit for mankind. I believe this will be the case since AI will turbo-charge biotechnology and the man of tomorrow will be physically stronger, and crucially, intellectually healthier than today. The more, profound and powerful skills of human cognition will become higher in demand as AI does the repetitive, monotonous jobs people used to do and would be grateful not to do. The key challenge in realizing this result will be aligning the timing of each development—in effect elevating the potential of humans to remain superior to, and more valuable than, the AI. The key bottlenecks to the success of each goal are the lack of physical theories for human biology, cognition, and creativity. I believe my ideas on entropy, the magnetic monopole, and superconductivity are the first step to creating that comprehensive theory. Furthermore, the mechanics of human cognition and creativity will better lead to the creation of more useful AI. The future of humanity will be Homo et Machina not a nightmare of Deus ex Machina.

Where Current AI Fails

Current AI excels at pattern matching. It fails as compared to human cognition in these fundamental qualities:

- **Consciousness** — subjective awareness that grounds meaning
- **Inspiration** — the sudden arrival of genuine novelty
- **Originality** — creation that transcends recombination (with a likelihood of human cognition including a directed probability)
- **Resistance to hallucination** — distinguishing real from plausible
- **Understanding** — grasping why, not merely what
- **Moral Directives that result in a healthy weeding** — requiring a good purpose to a good result

Without knowledge of how these human cognition features operate, it will be difficult to mirror them in AI outcomes. In line with the arguments of Roger Penrose, I believe that consciousness—whatever it is—cannot be actualized on a Turing machine. This means these qualities cannot be solved with more computation and better algorithms; they are computationally and likely physically irreproducible by computers.

The Deeper Question

The deeper physical question that must be answered is an uncomfortable one that serious science must wrestle with: Are the atheists right that reality is exhaustively described by complex, computable mathematics? Or do the irreducible qualities of human cognition—consciousness, inspiration, understanding, moral directives—require something of fundamentally divine origin, a *je ne sais quoi* that physical law can constrain but never fully define?

I do not claim to answer this. But intellectual honesty requires leaving room for it.

If certain configurations of matter require divine blessing (consider this a form of permission from rules outside our physical reality) to exist and remain stable, this has immediate consequences for biotechnology. Cloning, artificial wombs, brain-computer interfaces—the viability of these technologies may depend on more than engineering. We cannot assume that any physically possible arrangement based on known physical rules will yield a conscious and stable being.

A truly holistic vision and theory of physics must resist the temptation to reduce everything to computable mathematics. The goal is not to replace mystery with equations, but to understand where math ends and something else begins.

The Scientific Gap

Understanding these foundational qualities of human cognition—from physics up through neuroscience—requires a revolution in both philosophy of science and fundamental physics. Current frameworks cannot bridge the gap between neural activity and the capacities that make human cognition profound.

My work on entropy saturation, superconductivity, and magnetic monopoles is a first step toward that bridge. Within classical electrodynamics, the area of

physics where the brain operates, the magnetic monopole stands alone as a mystery of sufficient depth to illuminate and potentially explain phenomena as profound as consciousness—which is precisely why other physicists have had to invoke quantum mechanics or appeal to the hand-waving of "emergent properties" to explain the empirical phenomenon of humanity's sheer existence but as actors and creators of reality. Resolving the mystery of the magnetic monopole may open the door to understanding how neurons physically process information in ways that enable consciousness, insight, and genuine understanding—and perhaps, to glimpsing where physical explanation-constrained by a perceived four-dimensional world- reaches its boundary.

The Feedback Loop

Understanding the physics of cognition can potentially result directly in a better AI:

- **Hardware:** New physics enables new architectures for GPUs, chips, and computing substrates
- **Algorithms:** Insight into biological intelligence informs better training methods and network designs
- **Efficiency:** Both paths lead to dramatic reductions in AI energy consumption

The Big Picture

The overarching technological goal is to accelerate a future that enables healthier people, both physically and cognitively, to orchestrate and wield AI in ways AI can never do on its own.