The Meta-Theory of Everything and The Retreat into Mysticism: A Critique of Faizal & Collaborators

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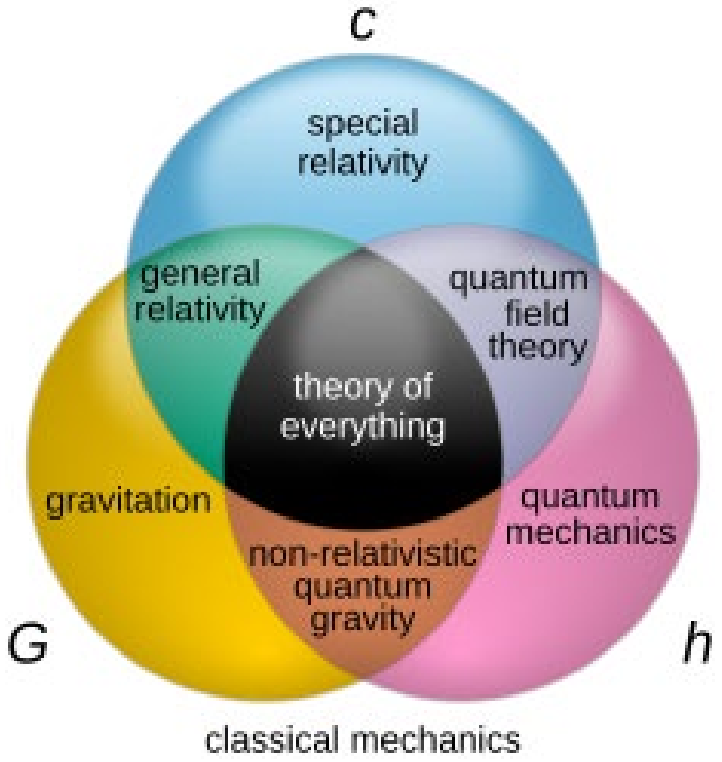

(Wikipedia, 2026)

In a paper published in the *Journal of Holography Applications in Physics* (2025), Mir Faizal and collaborators offer a provocative diagnosis of the limits facing any future Theory of Everything (ToE). They argue, with considerable formal sophistication, that neither classical "its" (spacetime, fields, particles) nor Wheeler's "bits" (information as the fundamental substrate) can suffice. Drawing on Gödel's incompleteness theorems, Tarski's undefinability theorem, and Chaitin's results on algorithmic information, they conclude that any fully algorithmic quantum gravity will be undecidable in crucial respects. True statements about the universe—perhaps the exact microstate count of a black hole, or the consistency of the theory itself—will lie forever beyond proof within the system.

So far, so good. The diagnosis is sharp, and the formal obstacles are real. Physics has long lived with effective theories that are incomplete yet spectacularly successful; acknowledging deeper undecidability is honest intellectual hygiene.

But then comes the proposed cure, and here the paper takes a turn that professional philosophy has taught us to recognise all too well: the retreat into the ineffable.

The authors announce the need for a "Meta-Theory of Everything" (M-ToE) that augments the algorithmic rules $R_{alg}$of quantum gravity with non-algorithmic inference rules R_{nonalg} and an external truth predicate. Reality, they claim in the closing paragraph, requires "a deeper description, expressed not in terms of information but in terms of non-algorithmic understanding."

And there the argument stops. What is this non-algorithmic understanding? How does it operate? By what means do we access it? Is it consciousness, intuition, Platonic insight, divine revelation, or something else entirely? The reader is left staring at a blank space where the hardest work should begin.

This is not physics bravely confronting its limits; it is physics declaring defeat and handing the problem to an undefined Other. After stripping away "its" and "bits," almost nothing concrete remains in the ontology of modern physics. To then posit that the residue must be carried by "non-algorithmic understanding" is to perform a classic philosophical manoeuvre: when the going gets tough, invoke a faculty or mode of apprehension that conveniently lies beyond scrutiny.

Professional academic philosophy has a long history of such moves. When vitalism could no longer explain life, it retreated to the *élan vital*. When behaviorism could not account for mind, it posited qualia as simple, ineffable properties. When computational theories of mind hit Gödelian obstacles, Penrose famously appealed to non-computable physical processes grounded in quantum gravity—processes that, decades later, remain as unspecified as they were in 1989.

Faizal and collaborators are, in effect, executing the same pattern. They rigorously demonstrate that a certain class of theories (finite, consistent, algorithmic) cannot be complete. Fair enough. But instead of concluding that physics must live with partial, effective, open-ended theories—as it always has—they insist that completeness is mandatory and can only be restored by something trans-algorithmic. And rather than offering even the sketch of a mechanism, they rest content with a gesture toward "understanding."

This is not a solution; it is a promissory note issued against an unidentified bank. It shifts the burden from physics to a mysterious cognitive or ontological capacity that no experiment can probe and no equation can capture. In practice, it risks immunising the quest for a ToE against falsification: whenever an algorithmic approach fails, one can always declare the missing piece to be non-algorithmic and thus beyond critique.

A more parsimonious response—one that stays within the empirical spirit of physics—would be to accept undecidability as a permanent feature of sufficiently powerful theories and get on with building the best approximations we can. Black hole microstates may indeed be undecidable in principle; that does not oblige us to posit a new mode of understanding. It simply means that some questions have no answer within the theory, just as the exact position and momentum of a particle have no joint answer in quantum mechanics.

Physics has never needed mystical faculties to make progress. It has advanced by embracing limits—renormalisation, effective field theories, the cosmological constant problem—and refusing to fill the gaps with undefined primitives. The moment we declare that the ultimate description lies in "non-algorithmic understanding," we cease doing physics and begin doing something closer to theology or poetry.

Faizal and collaborators have usefully reminded us how deep the undecidability results cut. But their proposed Meta-Theory of Everything, with its appeal to an opaque trans-algorithmic realm, illustrates precisely why physics should remain wary of professional academic philosophy's oldest temptation: when reason reaches its boundary, to step across it and call the far side "deeper understanding." It's not.

REFERENCES

(Faizal et al., 2025). Faizal, M., Krauss, L. M., Shabir, A., and Marino, F. "Consequences of Undecidability in Physics on the Theory of Everything." *Journal of Holography Applications in Physics* 5, 2: 10-21.

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