

Peer Review

Review of: "Multiscale Entropic Ethics: A Non-Scalar, Auditable Grammar for Decision-Making Under Irreversibility"

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The MEE paradigm exemplifies a thorough and intellectually demanding effort to align ethics with the intricacies of contemporary, nonlinear, and multiscale systems. Theoretical maturity and conceptual consistency are apparent in its layered structure, which incorporates rights-based feasibility, pluralistic review, anti-manipulation measures, and the mitigation of ethical blindness. The empirical application to the Dakota Access Pipeline case validates its analytical and predictive advantages compared to conventional cost-benefit and environmental assessment methodologies. MEE creates an auditable framework that precisely detects systemic ethical degradation, beyond traditional moral or governance frameworks. The principal problem at this juncture is no longer theoretical coherence but actual execution. Translating MEE into institutional and computational contexts is still somewhat utopian and needs more advancement with specific methodological tools. The phrase “non-scalar” ought to be substituted with “non-compensatory” to enhance semantic accuracy and conform to the literature in multi-criteria decision analysis. This term more explicitly articulates the fundamental ethical premise that a significant failure in one area, such as a rights infringement or environmental damage, cannot be compensated by advancements in another sector. Future research should progress in several directions.

The first objective is to create a computationally functional model, a digital instrument capable of implementing MEE’s layered logic in real-time for public decision-making processes. The second is broadening empirical validation across diverse areas, such as biotechnology, digital infrastructure, and natural resource governance, to assess the resilience of multiple assessments in many circumstances.

The third strategy should emphasize the development of an adaptable, modular variant. MEE-Lite, provisionally named, is intended for institutions necessitating streamlined ethical audits while maintaining normative rigor. The fourth goal must entail institutional integration via partnership with

international organizations, enabling the practical testing of the framework's validation protocols and the assessment of their impact on conflict reduction, distributive equity, and systemic resilience. MEE establishes a fundamental framework for a novel ethics of planetary governance that associates thermodynamic irreversibility with normative accountability. It represents a stringent pluralism that circumvents both utilitarian aggregation and procedural relativism. This framework, characterized by sophisticated terminology, a more defined operational roadmap, and extensive empirical application, has the capacity to serve as a reference model for ethics in planetary governance, AI alignment, and decision-making under irreversible circumstances.

Declarations

Potential competing interests: No potential competing interests to declare.