

Analytic metaphysics versus naturalized metaphysics: The relevance of applied ontology (extended abstract)

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Abstract

This is an extended abstract of Le Bihan, B., Barton, A. Analytic Metaphysics Versus Naturalized Metaphysics: The Relevance of Applied Ontology. *Erkenntnis* 86, 21–37 (2021).

Ladyman and Ross argued against analytic metaphysics, claiming it squanders intellectual resources by lacking empirical grounding and relying on intuitions, which they suggest are culturally influenced and not universally shared. They contend that unlike mathematics and science, analytic metaphysics has not produced anything of comparable value. French and McKenzie objected by exposing its heuristic role in philosophy of physics. They assert that despite doubts about its intrinsic truth value, analytic metaphysics remains valuable for its tools and methods that have been extensively used in philosophy of physics.

We expand on this heuristic role of analytic metaphysics, beyond philosophy of physics, highlighting its relevance in applied ontology within information science. Applied ontologies serve to unify terminologies for semantic interoperability, crucial in various domains like biomedicine, industry or geography. They formalize categories of entities and relations, aiding data sharing. Analytic metaphysics, while potentially at odds with physics, proves very useful here. Applied ontologies require rigorous foundations and those can be provided by analytic metaphysics. Thus, analytic metaphysics offers significant heuristic value in applied ontology.

Applied ontologies often draw on metaphysical principles distinct from contemporary physics, aligning with common sense or classical physics. Examples of upper level ontologies like DOLCE aim to formalize human conceptualizations, while others, like BFO, are especially applied on special sciences such as biomedicine. Analytic metaphysical tools and theories that have been used in applied ontology include the distinction between continuants/endurants and occurrents/perdurants, universals, dispositions, variable and rigid embodiment, modal realism or mereotopology, to just name a few.

BFO, while not addressing metaphysical challenges from contemporary physics like quantum field theory, aligns with classical views on material objects and space-time, fitting well with biomedical science. Though its classical framework may contrast with modern physics, BFO adapts gradually to incorporate scientific advancements. Despite their origin in analytic metaphysics, these theories prove instrumental across various domains in applied ontology.

Analytic metaphysical views offer higher heuristic value for biomedical applied ontology than those grounded in contemporary physics for two key reasons. Firstly, simpler metaphysical principles

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ensure computational tractability, vital for practical ontology use. Analytic metaphysics facilitates user-friendly ontologies compared to complex physical descriptions. Secondly, reductionist approaches of special sciences on fundamental physics remain tentative: without a unified fundamental theory of physics, basing biomedicine ontology on contemporary physics is premature. Analytic metaphysics provides tools for independent ontological development, crucial for practical application. Thus, the heuristic value of analytic metaphysics extends beyond philosophy of physics to applied ontology, offering practical advantages over naturalized approaches.

Analytic metaphysics and mathematics share actual and potential future instrumental value, justifying their development. Constraining metaphysics, like constraining mathematics, may limit the richness of ideas and tools. Metaphysics' unconstrained nature fosters creativity and adaptability, enhancing its usefulness across diverse fields, including unforeseen ones. Confining metaphysics to present needs risks stifling its evolution and potential applications in emerging fields. Therefore, preserving its openness ensures its continued relevance and utility in an ever-changing intellectual landscape.

Mathematics' evolution offers insight into the division of metaphysics into pure and applied branches. Encouraging analytic metaphysicians to explore applications echoes mathematicians' engagement with other disciplines. Overall, metaphysics and mathematics share a qualitatively similar situation in terms of instrumental justification. Analytic metaphysics may foster philosophy of physics and applied ontologies, akin to how mathematics fuels scientific progress.

In conclusion, we extend French and McKenzie's heuristic defense of analytic metaphysics based on its utility in applied ontology. We argue against interference with analytic metaphysics, even if it contradicts current scientific understanding. We caution against scientific triage, advocating for the equitable distribution of intellectual resources, rejecting the notion that naturalized metaphysics should take precedence over analytic metaphysics.

Keywords

Analytic metaphysics, Naturalized metaphysics, Applied Ontology, Mathematics, Philosophy of Physics