

Particle Physics viewed from Category Theory

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First Order ELEMENTARY PARTICLE PHYSICS

- Yang-Mills Group Theory (monoids)
- ~400 theory/ 17 experiment
- Still relies on the repudiated Set Theory of Alfred North Whitehead
- Principia Mathematica 1912

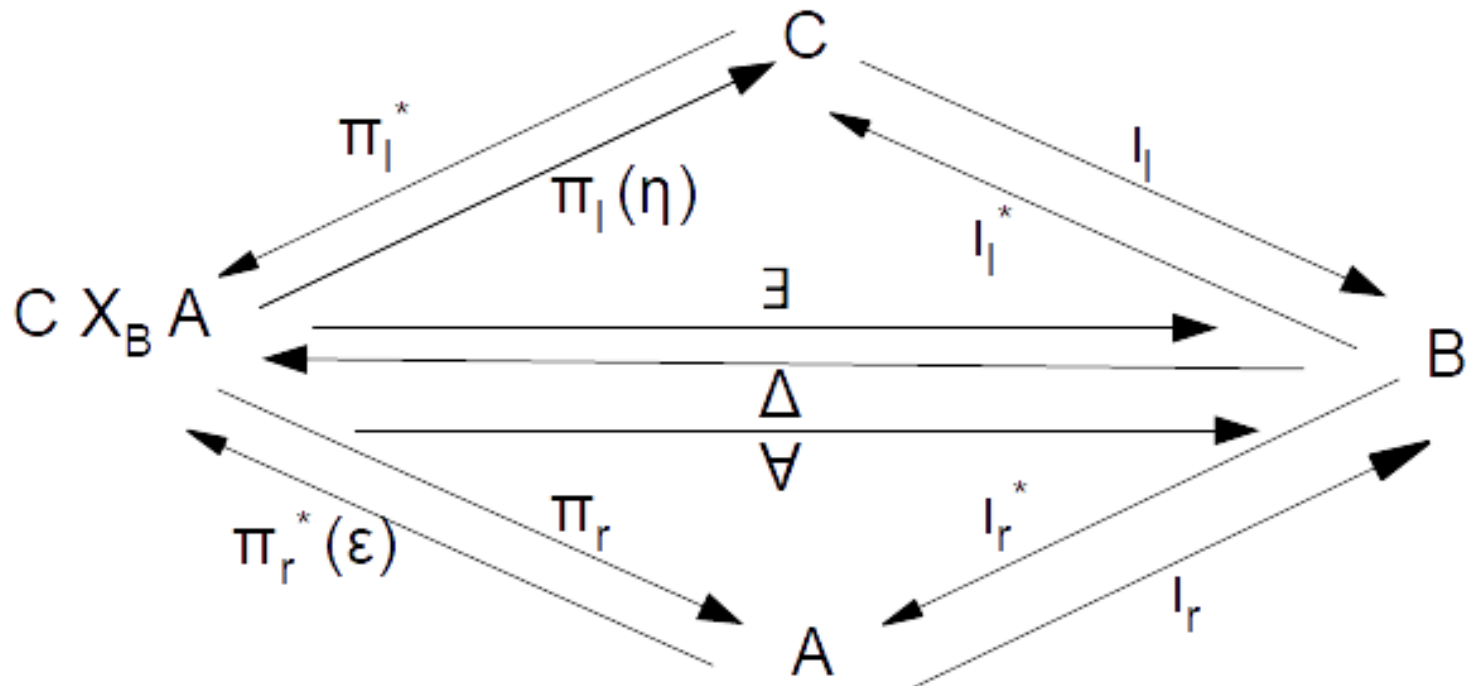
Fallacy of misplaced concreteness

- Higgs-Boson bottom up

Higher Order ELEMENTARY PARTICLE PHYSICS

- Metaphysical Topos Theory (monads)
- Needs to comply with Process Metaphysics of Alfred North Whitehead
- Process & Reality 1929
- Higgs-Boson top-down

Pullback of Electricity along Magnetism over Topos



$C \times_B A$: a Pullback of C along A over B