

# ND PHILO



## Philosopher in Print

This month's philosopher in print is grad student Sebastian Murgueitio Ramirez. His paper titled, "[A puzzle about gauge transformations and their empirical significance](#)" has been accepted for publication on *The British Journal for the Philosophy of Science*.

### Abstract:

*In the last five years, the controversy about whether or not gauge transformations can be empirically significant has intensified. On the one hand, Greaves and Wallace (2014) developed a framework according to which, under some circumstances, gauge transformations can be empirically significant, and Teh (2015) further supported this result by using the Constrained Hamiltonian formalism. On the other hand, Friederich (2015, 2016) claims to have proved that gauge transformation can never be empirically significant. In this paper, I accomplish two tasks: first, I show that Friederich's proof is not valid, and that once it is corrected, it entails a result that is compatible with the treatments by Greaves, Wallace, and Teh. Second, I show that, despite criticism by Brading and Brown (2004) and Friederich (2015), t'Hooft's Beam-Splitter experiment is indeed a concrete realization of a case where a local gauge symmetry has empirical significance. By shedding light on these two points, this paper shows that recent arguments that claim gauge transformations cannot be empirically significant are not satisfactory*

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## PHILOSOPHER IN PRINT

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# NEWS AND ANNOUNCEMENTS

- For the latest news on closures and policies regarding Covid-19, visit [coronavirus.nd.edu](https://coronavirus.nd.edu).
- The new deadline for dropping a class is April 3rd.
- CPR News
  - "The Metaphysics of the Material World: Suárez to Spinoza" Workshop scheduled for April 24-25 has been cancelled.
  - The Logos 2020 Workshop scheduled for May 28-30 has been cancelled. We are working to reschedule with the same program for May 2021.
- Some Coping Mechanisms for self-isolation
  - Keep a routine
  - Digital Distractions
    - Facetime your family and friends
    - Netflix Party
    - HouseParty app
  - Pick up a new hobby or create a new one!
  - Exercise
  - Relax!
- Check out our Instagram page for fun things to do while in isolation

## Events:

**There are none. Stay home.**

