Juergen Landes

Foundations, Applications & Theory of Inductive Logic

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Meetings

26 – 28 FEB 2020: Kick off Workshop (https://www.fatil.philosophie.uni-muenchen.de/events/interdis_inductive_logic/index.html)
Postponed: Conference FATIL (http://fatil2020.krportal.org/)
Spring 2021: Workshop 2 (https://www.fatil.philosophie.uni-muenchen.de/events/probab_inf_logical_models/index.html)
Summer 2021: Conference 2 (https://www.fatil.philosophie.uni-muenchen.de/events/defence_inductive_logic/index.html)

Abstract

While "our ancestors did not escape the saber-tooths by thrashing them at roulette" [Strevens, 2013, p. 217], our ability to reason under uncertainty is clearly one of the causes of the continued dominance of the human species on earth. Inductive logic, the topic of this project, aims to describe, predict, understand, automate and improve our faculties for uncertain inference. Today, uncertain inference permeates our daily lives, politics, (business) decision making, the natural sciences (including probability theory and statistics) and large areas of analytic philosophy.

Modern-era inductive logic was funded and popularised by Rudolf Carnap [1947, 1950, 1952]. Despite the impressive progress made by Carnap and his co-workers (listing but a few classical points in case) Carnap [1971], Carnap and Bar-Hillel [1952], Carnap and Stegmüller [1959], Gaifman [1964], Hintikka [1966], Jeffrey [1980], Kemeny [1952], Scott and Krauss [1966] (see Niiniluoto [2011], Zabell [2011] for narrative overviews), the research programme of inductive logic never gained traction in philosophy, logic, mathematics nor in computer science. This is undoubtedly, at least partially, due to a number of influential criticisms levelled at inductive logic Lakatos [1968], Norton [2019], Popper [1954], Seidenfeld [1979,1987]. Nelson Goodman's grue paradox [1946, 1947, 1955], in particular, threatened to sink Carnap's approach at an early stage. Carnap's replies [1947, 1948] notwithstanding, inductive logicians have been facing an uphill battle from that point on.

Inductive logicians today take Goodman to point out that, first, violations of the Principle of Total Evidence (as already formulated by Carnap [1947]) will bring about counter-intuitive results, Paris and Vencovská [2015]; and second, that inductive inference depends on the underlying language. Rather than being threatened by this, we take this to be an opportunity for exciting research aiming at formalising ever larger parts of the available evidence and investigating the (in-)dependence of inductive inference with respect to the underlying formal framework de Cooman et al. [2009], Grünwald [2000], Halpern and Koller [2004], Landes [2009], Landes and Masterton [2017], Landes et al. [2007], Paris [2014], Romeyn [2004], Williamson [2010].

Today, small but dedicated groups of philosophers, computer scientists and mathematicians are once again flying the inductive logic flag. Unfortunately, there is little close interaction between groups Landes [2019], which is a major obstacle in realising the prospects of inductive logic. Furthermore, inductive logic does not receive the appreciation by the wider communities it, in our views, deserves – possibly due to the lack of perceived cohesion among inductive logicians. This network hence aims to

1. support and coordinate inductive logicians and
2. draw attention to new exciting work on inductive logic.