

# List of Publications

Jan Sprenger

June 12, 2017

## 1 Overview and Citation Metrics

**Notable philosophy (of science) journals:** *Mind*; *Philosophy of Science* (x7); *British Journal for the Philosophy of Science* (x2); *Synthese* (x3); *Erkenntnis* (x2).

**Notable non-philosophy and interdisciplinary journals:** *Economics and Philosophy*; *Philosophy, Politics and Economics*; *Journal of Logic and Computation*; *Logic Journal of the IGPL*.

**Other notable publication venues:** *Stanford Encyclopedia of Philosophy*; *CogSci Proceedings*; diverse handbooks at Oxford University Press, SAGE and Routledge.

**Total citations:** 491 (as of June 12, 2017)

**h-index:** 11

**i10-index:** 16

### 1. Books

- (a) **Bayesian Philosophy of Science** (with Stephan Hartmann). To appear with Oxford University Press.

### 2. Refereed Journal Articles (key publications are bold faced)

- (a) Three Arguments for Absolute Outcome Measures'' (with Jacob Stegenga). Forthcoming in *Philosophy of Science*.
  - Argues on epistemic and decision-theoretic grounds against relative outcome measures in medicine (e.g., the Risk Ratio) and for absolute outcome measures (e.g., Absolute Risk Reduction).

- (b) “Two Impossibility Results for Measures of Corroboration”. Forthcoming in *The British Journal for the Philosophy of Science*.
- Motivates the need for a concept of corroboration in hypothesis testing, and demonstrates why a broadly Popperian explication cannot do the job.
- (c) “The Probabilistic No Miracles Argument”. *European Journal for Philosophy of Science* 6: 173–189. 2016
- Gives an analysis of scope and limits of a probabilistic No Miracles Argument, focusing on a situation where scientific knowledge is stable over time.
- (d) “A Novel Solution to the Problem of Old Evidence”. *Philosophy of Science* 82: 383–401. 2015.
- Provides an elegant solution to the dynamic Problem of Old Evidence in the tradition of the approaches of Jeffrey and Earman, but with more plausible assumptions.
- (e) “The No Alternative Argument” (with Richard Dawid and Stephan Hartmann). *The British Journal for the Philosophy of Science* 66: 213–234. 2015.
- Investigates scope and validity of the argument that scientists’ failure to find an alternative to an existing theory constitutes evidence for that particular theory.
- (f) “Modeling Expertise in Group Decisions” (with Dominik Klein). *Economics and Philosophy* 31: 3–25. 2015.
- Analysis under which circumstances a differential weighting of opinions is beneficial to group accuracy, compared to straight averaging.
- (g) “Disagreement Under the Veil of Ignorance” (with Mark Colyvan, Chiara Lisciandra, Carlo Martini, Ryan Muldoon and Giacomo Sillari). *Philosophical Studies* 170: 377–394. 2014.
- Discusses whether rational disagreement can persist under the conditions of a Rawlsian veil of ignorance, and explores scope and limits of formal models that tackle this question.
- (h) “The Predictive Mind and Chess-Playing. A Reply to Shand (2014)” (with Matteo Colombo). *Analysis* 74: 603–608. 2014.
- A short discussion piece of Shand’s arguments about human cognition, put forward in the very same journal, with an application to chess-playing.

- (i) “On the Emergence of Descriptive Norms” (with Ryan Muldoon, Chiara Lisiciandra, Cristina Bicchieri, and Stephan Hartmann). *Philosophy, Politics and Economics* 13: 3–22. 2014.
- A probabilistic model for the emergence of descriptive norms, such as fashions or conventions. We study the impact of social sensitivity and extend the model in order to study more complex equilibria.
- (j) “Testing a Precise Null Hypothesis: The Case of Lindley’s Paradox”. *Philosophy of Science* 80: 733–744. 2013.
- An analysis of Lindley’s Paradox and the rationale behind point null significance testing with the help of Bernardo’s reference prior approach.
- (k) “A Synthesis of Hempelian and Hypothetico-Deductive Confirmation”. *Erkenntnis* 78: 727–738. 2013.
- Synthesizes two different and allegedly opposed research programs in confirmation theory by means of a particular logical tool.
- (l) “Bias and Conditioning in Sequential Medical Trials (with Cecilia Nardini)”. *Philosophy of Science* 80: 1053–1064. 2013.
- A suggestion to improve the practice of clinical trials by adopting a particular statistical framework: conditional frequentist reasoning, a compromise between Bayesian and frequentist methods.
- (m) “Convergence of Opinion through Mutual Respect: Scope and Limits” (with Mark Colyvan and Carlo Martini). *Erkenntnis* 78: 881–898. 2013.
- Explores the rationality of consensus procedures that are based on the group members’ mutual respect for each other, with application to factual and value-related disagreements.
- (n) “The Role of Bayesian Philosophy within Bayesian Model Selection”. *European Journal for the Philosophy of Science* 3, 101–114. 2013.
- An analysis of how much Bayesian reasoning there actually is in model selection procedures that are commonly classified as “Bayesian”.
- (o) “Environmental Risk Analysis: Robustness is Essential for Precaution”. *Philosophy of Science* 79: 881–892. 2012.

- An analysis of what the Precautionary Principle implies for environmental risk analysis based on scientific models, with applications to risk assessment.
- (p) “Judgment Aggregation and the Problem of Tracking the Truth” (with Stephan Hartmann). *Synthese* 187: 209–221. 2012.
- Conducts an epistemic analysis of judgment aggregation procedures that aim not only at a correct decision, but also at the right *reasons* for that decision.
- (q) “The Renegade Subjectivist: Jose Bernardo’s Reference Bayesianism”. *Rationality, Markets and Morality* 3: 1–13. Special Issue “Statistical Science and Philosophy of Science: Where Do (Should) They Meet in 2011 and Beyond?”, edited by D. Mayo, A. Spanos and K. Staley. 2012.
- A critical, but sympathetic comment on Bernardo’s reference Bayesianism from a philosophical point of view.
- (r) “The Bounded Strength of Weak Expectations” (with Remco Heesen). *Mind* 120: 819–832. 2011.
- Explores the scope of the “weak expectations” approach by Easwaran (2008, *Mind*): they do not have normative force by themselves, but they are the intersubjective consensus value in a bounded utility framework.
- (s) “Science without (Parametric) Models: The Case of Bootstrap Resampling”. *Synthese* 180: 65–76. 2011.
- A case study on data-driven inference in statistics and the interplay of top-down and bottom-up modeling, conducted with the help of bootstrap resampling techniques.
- (t) “The Logic of Explanatory Power” (with Jonah Schupbach). *Philosophy of Science* 78: 105–127. 2011.
- Sets up and defends a specific measure of explanatory power from axiomatic considerations, and vindicates the normative pull of explanatory considerations.
- (u) “The Weight of Competence Under a Realistic Loss Function” (with Stephan Hartmann). *The Logic Journal of the IGPL* 20: 603–617. 2010.
- Argues for a more realistic loss function in information pooling problems, and determines the optimal relative weights of individual contributions, dependent on the competence of the sources.

- (v) “Reliable Methods of Judgment Aggregation” (with Stephan Hartmann and Gabriella Pigozzi). *Journal for Logic and Computation* 20: 603–617. 2010.
  - Combines analytical methods and numerical simulations in order to compare the epistemic value of various judgment aggregation procedures.
- (w) “Probability, Rational Single-Case Decisions and the Monty Hall Problem”. *Synthese* 174: 331–340. 2010.
  - Rebuts an argument by Baumann against the standard solution of the Monty Hall Problem, and defends the normative force of probabilistic arguments in single cases.
- (x) “Evidence and Experimental Design in Sequential Trials”. *Philosophy of Science* 76: 637–649. 2009.
  - Defends the Bayesian position on the post-experimental irrelevance of experimental design and stopping rules, both from a methodological and a decision-theoretic perspective.
- (y) “Statistics between Inductive Logic and Empirical Science”. *Journal of Applied Logic* 7: 239–250. 2009.
  - Argues that the “inductive logic” understanding of statistics is misplaced: in actual practice, statistics more and more resembles an empirical science than a branch of mathematics.
- (z) “Consensual Decision-Making Among Epistemic Peers” (with Stephan Hartmann and Carlo Martini). *Episteme* 6: 110–129. 2009.
  - Generalizes Elga’s notion of an epistemic peer, and shows under which conditions networks of epistemic peers will achieve consensus on their opinions.

### 3. Book Contributions and Encyclopedia Entries

- (a) “Confirmation and Induction”, forthcoming in Paul Humphreys (ed.): *Oxford Handbook of the Philosophy of Science*. Oxford: Oxford University Press.
  - An overview article on confirmation theory, both from a qualitative and a probabilistic/statistical angle.
- (b) “Opinion Aggregation and Individual Expertise” (with Carlo Martini), to appear in Thomas Boyer-Kassem, Conor Mayo-Wilson

and Michael Weisberg (eds.): *Scientific Collaboration and Collective Knowledge*. New York: Oxford University Press.

- An overview on probability and judgment aggregation methods, with a focus on the role of experts and differential weighting procedures.
- (c) “Bayesian vs. Frequentist Statistics”. Forthcoming in Alan Hájek and Christopher Hitchcock (eds.) *The Oxford Handbook of Probability and Philosophy*. Oxford: Oxford University Press.
- A handbook article that contrasts Bayesian and frequentist approaches to statistical inference, with particular attention to hypothesis testing.
- (d) “Bayésianisme versus fréquentisme en inférence statistique”, in Isabelle Drouet (ed.): *Les méthodes bayésiennes, sciences et épistémologie*. Paris: Editions matériologiques.
- An abbreviated version of the above article, in French.
- (e) “Scientific Objectivity” (with Julian Reiss). *Stanford Encyclopedia of Philosophy*, Fall 2014 edition.
- An encyclopedia entry covering different aspects of objectivity in science.
- (f) “The Ethics of Statistical Testing (with David Teira), in Christoph Luetge (ed.): *Handbook of the Philosophical Foundations of Business Ethics, 1535–1549*. Berlin: Springer. 2013.
- A handbook article on methodology and ethical issues in statistical hypothesis testing.
- (g) “Mathematics and Statistics in the Social Sciences” (with Stephan Hartmann), in Ian C. Jarvie and Jesús Zamora Bonilla (eds.): *SAGE Handbook of Philosophy of Social Sciences*, 594–612. London: SAGE. 2011.
- Gives an overview of the development of mathematical and statistical modeling in the social sciences, with special attention on methodological problems.
- (h) “Hypothetico-Deductive Confirmation”. *Philosophy Compass* 6: 497–508. 2011.
- A positioned overview of the history and current state of hypothetico-deductive confirmation.

- (i) “Hempel and the Paradoxes of Confirmation”, in: Dov Gabbay, Stephan Hartmann and John Woods (eds.): *Handbook of the History of Logic, Volume 10 (Inductive Logic)*, 231-260. London: Elsevier. 2010.
  - A handbook article that connects Hempel’s writings on confirmation with modern, probabilistic approaches to the paradox of the ravens.
- (j) “Bayesian Epistemology” (with Stephan Hartmann), in Sven Bernecker and Duncan Pritchard (eds.): *The Routledge Companion to Epistemology*, 609–620. London: Routledge. 2010.
  - An introduction to Bayesian epistemology that explains the principles of probabilistic modeling and presents some applications, such as formal accounts of coherence and confirmation.

#### 4. Conference Proceedings

- (a) “Explanatory Value, Probability and Abductive Inference” (with Matteo Colombo and Marie Postma-Nilsenová). *Proceedings of the 38th Annual Meeting of the Cognitive Science Society (CogSci 2016)*, Philadelphia/PA: Cognitive Science Society.
  - An explorative study about psychological associations between explanatory power and other cognitive values.
- (b) “The Learnability of Auditory Center-embedded Recursion” (with Jun Lai and Emiel Krahmer). In D.C. Noelle et al. (eds.), *Proceedings of the 37th Annual Meeting of the Cognitive Science Society (CogSci 2015)*, 1237–1243. Austin, TX: Cognitive Science Society.
  - Extends the article listed below in the direction of learning recursive structures in the auditory modality.
- (c) “Studying Frequency Effects in Learning Center-embedded Recursion” (with Jun Lai and Emiel Krahmer). In P. Bello et al. (eds.), *Proceedings of the 36th Annual Meeting of the Cognitive Science Society (CogSci 2014)*, 797–802. Austin, TX: Cognitive Science Society.
  - Short article about the learning of recursive structures in an artificial grammar paradigm, comparing various modalities for presentation of the input.

- (d) “Discussion: Integrated Objective Bayesian Estimation and Hypothesis Testing” (by José M. Bernardo), in José M. Bernardo et al. (eds.): *Bayesian Statistics 9: Proceedings of the Ninth Valencia International Meeting*, 47–48. Oxford: Oxford University Press. 2012.
- A short discussion contribution on José Bernardo’s reference prior approach to hypothesis testing and parameter estimation.
- (e) “Statistical Inference without Frequentist Justifications”, in Mauricio Suárez, Mauro Dorato and Miklós Rédei (eds.): *EPSA Epistemology and Methodology of Science: Launch of the European Philosophy of Science Association*, Vol. I, 289–297. Berlin: Springer. 2010.
- Develops an anti-metaphysical conception of probability which is able to account for the use of probabilistic inference in statistical modeling.

## 5. Theses

- (a) *Confirmation and Evidence*, PhD thesis in philosophy, University of Bonn, 2008.
- (b) *Skalenlimiten interagierender Teilchensysteme*, diploma (=MSc) thesis in mathematics, University of Bonn, 2005.

## 6. Editorial Activities

- (a) Guest editor of a special issue of *Synthese* (with Mark Colyvan, Paul Griffiths, Stephan Hartmann, Matteo Colombo, and Raoul Gervais): “Objectivity in Science”.
- The peer-reviewed proceedings of the 7th Munich-Sydney-Tilburg conference, Tilburg, June 2015.
- (b) Guest editor of a special issue of *Studies in History and Philosophy of Science* (with Rogier De Langhe and Stephan Hartmann): “Progress in Science”.
- The peer-reviewed proceedings of the 5th Sydney-Tilburg conference, Tilburg, April 2012.
- (c) Guest editor of a special issue of *Synthese* (with Cyrille Imbert, Ryan Muldoon, and Kevin Zollman): “The Collective Dimension of Science”.



- The peer-reviewed proceedings of the conference “The Collective Dimension of Science”, Nancy, December 2011.
- (d) Guest editor of a special issue of *The European Journal for Philosophy of Science* (with Stephan Hartmann): “The Future of Philosophy of Science”. Vol. 2, No. 2. 2012.
- The peer-reviewed proceedings of the 3rd Sydney-Tilburg conference. Tilburg, April 2010.
- (e) Guest editor of a special issue of *The Logic Journal of the IGPL* (with Stephan Hartmann and Carlo Martini): “Formal Modeling in Social Epistemology”. Vol. 18, No. 2. 2010.
- The peer-reviewed proceedings of a workshop on formal modeling in social epistemology. Tilburg, October 2008.

## 7. Book Reviews

- (a) “A unifying framework for probabilistic reasoning”. Review of R. Haenni, J.W. Romeijn, G. Wheeler and J. Williamson: “Probabilistic Logic and Probabilistic Networks”, Springer: Berlin, 2011. *Metascience* 21: 459–462. 2012.