

PUBLICATIONS – CHARLOTTE WERNDL

Peer-Reviewed Journal Articles

Werndl, C. (2020). 'When Do Gibbsian Phase Averages and Boltzmannian Equilibrium Values Agree?'. **Studies in History and Philosophy of Modern Physics** 72, 46-69.

Werndl, C. (2019). 'Statistical Mechanics. A Tale of Two Theories?'. **Monist** 102 (4), 424-438.

Werndl, C. (2018). 'Can Somebody Please Say What Gibbsian Statistical Mechanics Says?'. **The British Journal for the Philosophy of Science**. [with R. Frigg]

Werndl, C. (2018). 'Initial Conditions Dependence and Initial Conditions Uncertainty in Climate Science'. **The British Journal for the Philosophy of Science**, axy021.

Werndl, C. (2018). 'Wissenschaftstheoretische Aspekte der Philosophie der Klimawissenschaften'. **Zeitschrift für Didaktik der Philosophie und Ethik**, 10-16.

Werndl, C. (2017). 'Mind the Gap: Boltzmannian versus Gibbsian Equilibrium'. **Philosophy of Science** 84 (5), 1289-1302 [with R. Frigg, but Werndl is first author]

Werndl, C. (2016). 'Model Selection Theory. The Need for a More Nuanced Picture of Double-Counting and Use-Novelty'. **The British Journal for the Philosophy of Science**, doi.org/10.1093/bjps/axw024. [with K. Steele]

Werndl, C. (2016). 'The Diversity of Model Tuning Practices in Climate Science'. **Philosophy of Science** 83 (5), 1133-1144. [with K. Steele]

Werndl, C. (2016). 'On Defining Climate and Climate Change'. **The British Journal for the Philosophy of Science** 67 (2), 337-364.

Werndl, C. (2015). 'Introduction to Philosophy of Climate Science, Part 2: Modelling Climate Change'. **Philosophy Compass** 10 (12), 965-977. [with R. Frigg and E. Thompson]

Werndl, C. (2015). 'Introduction to Philosophy of Climate Science, Part 1: Observing Climate Change'. **Philosophy Compass** 10 (12), 953-964. [with R. Frigg and E. Thompson]

Werndl, C. (2015). 'Rethinking Boltzmannian Equilibrium'. **Philosophy of Science** 82 (5), 1224-1235 [with R. Frigg, but Werndl is first author].

Werndl, C. (2015). 'Reconceptualising Equilibrium in Boltzmannian Statistical Mechanics'. **Studies in History and Philosophy of Modern Physics** 49, 19-31. [with R. Frigg, but Werndl is first author]

Werndl, C. (2015). 'Model tuning in engineering: uncovering the logic'. **The Journal of Strain Analysis for Engineering Design**, with K. Steele, doi: 10.1177/0309324715575445.

Werndl, C. (2013). 'Justifying Typicality Measures of Boltzmannian Statistical Mechanics and Dynamical Systems'. ***Studies in History and Philosophy of Modern Physics*** 44 (4), 470-479.

Werndl, C. (2013). 'Climate Models, Confirmation and Calibration'. ***The British Journal for the Philosophy of Science*** 64, 609-635 [with K. Steele].

Werndl, C. (2013). 'On Choosing Between Deterministic and Indeterministic Models: Underdetermination and Indirect Evidence'. ***Synthese*** 190 (12), 2243-2265.

Werndl, C. (2012). 'Demystifying Typicality'. ***Philosophy of Science*** (5) 917-929. [with R. Frigg]

Werndl, C. (2012). 'Evidence for the Deterministic or the Indeterministic Description? -- A Critique of the Literature about Classical Dynamical Systems'. ***Journal for General Philosophy of Science*** 43 (2), 295-312.

Werndl, C. (2012). 'On the History of the Isomorphism Problem of Dynamical Systems With Special Regard to von Neumann's Contribution'. ***Archive for History of Exact Sciences*** 66 (1), 71-93. [with M. Redei]

Werndl, C. (2011). 'Explaining Thermodynamic-Like Behaviour in Terms of Epsilon-Ergodicity'. ***Philosophy of Science*** 78 (4), 628-652. [with R. Frigg]

Werndl, C. (2011). 'On the Observational Equivalence of Continuous-Time Deterministic and Indeterministic Descriptions'. ***European Journal for the Philosophy of Science*** 1 (2), 193-225.

Werndl, C. (2009). 'Are Deterministic Descriptions and Indeterministic Descriptions Observationally Equivalent?'. ***Studies in History and Philosophy of Modern Physics*** 40, 232-242.

Werndl, C. (2009). 'Justifying Definitions in Mathematics -- Going Beyond Lakatos'. ***Philosophia Mathematica*** 17, 313-340.

Werndl, C. (2009). 'What are the New Implications of Chaos for Unpredictability?'. ***The British Journal for the Philosophy of Science*** 60, 195-220.

Werndl, C. (2008). 'The Evolutionary Foundation of Popper's Concept of Three Worlds: a Neglected Perspective of Human Ecological Research in Geography'. ***Geographische Zeitschrift*** 94 (3), 129-142. [with M. Schafranek, and F. Huber]

Books

Werndl, C. (2020). *Tatjana Afanassjewa and her Legacy: Philosophical Insights from the Work of an Original Physicist and Mathematician*. Springer. [with G. Valente, J. Uffink and L. Zuchowski]

Peer-Reviewed Contributions in Books

Werndl, C. (forthcoming). 'Taming Abundance: on the Relation between Boltzmannian and Gibbsian Statistical Mechanics?'. In: V. Allori (ed), *Statistical Mechanics and Scientific*

Explanation: Determinism, Indeterminism and Laws of Nature, World Scientific. [with R. Frigg]

Werndl, C. (forthcoming). 'When Does a Boltzmannian Equilibrium Exist?'. In: D. Bendingham, O. Maroney and C. Timpson (eds), *Quantum Foundations of Statistical Mechanics*. Oxford University Press. [with R. Frigg, but Werndl is first author]

Werndl, C. (2020). 'Philosophy of Climate Science'. In: Internet Encyclopedia of Philosophy. <https://iep.utm.edu/climate/> [with R. Bradley, R. Frigg, K. Steele and E. Thompson]

Werndl, C. (2020). 'Ehrenfest and Ehrenfest-Afanassjewa on Why Boltzmannian and Gibbsian Calculations Agree'. In: J. Uffink, G. Valente, C. Werndl and L. Zuchowski, (eds), *Tatjana Afanassjewa and her Legacy: Philosophical Insights from the Work of an Original Physicist and Mathematician*. Springer. [with R. Frigg]

Werndl, C. (2017). 'Boltzmannian Equilibrium in Stochastic Systems'. In: M. Massimi and van Romeijn, J.-W. (eds), *Duesseldorf 2015: The European Philosophy of Science Association Proceedings*. [with R. Frigg, but Werndl is first author]

Werndl, C. (2017). 'Philosophie der Klimawissenschaften'. In: T. Reydon and S. Lohse (eds), *Die Philosophie der Einzelwissenschaften*. Meiner Verlag [with R. Bradley, R. Frigg, K. Steele and E. Thompson]

Werndl, C. (2016). 'Determinism'. In: M. Griffith, T. Neil and K. Timpe (eds), *Routledge Companion to Free Will*. Routledge.

Werndl, C. (2015). 'Determinism and Indeterminism'. In: P. Humphreys (ed), *Oxford Handbook for the Philosophy of Science*. Oxford University Press.

Werndl, C. (2012). 'Probability, Indeterminism and Biological Processes'. In: D. Dieks, J.G. Wenceslao, S. Hartmann, M. Stoeltzner, and M. Weber (eds), *Probabilities, Laws and Structures*. The Philosophy of Science in a European Perspective, Volume 3. Springer, 263-277.

Werndl, C. (2012). 'A New Approach to the Approach to Equilibrium'. In: Y. Ben-Menahem and M. Hemmo (eds), *Probability in Physics*. The Frontiers Collection. Springer, 99-114. [with R. Frigg]

Werndl, C. (2012). 'Observational Equivalence of Deterministic and Indeterministic Descriptions and the Role of Different Observations'. In: Hartmann, S., Okasha, S. and De Regt, H., (eds), *Proceedings of the Second Conference of the European Philosophy of Science Association*. Springer, 427-439.

Werndl, C. (2011). 'Entropy - A Guide for the Perplexed'. In: C. Beisbart and S. Hartmann (eds), *Probabilities in Physics*. Oxford University Press, 115-142. [with R. Frigg]

Werndl, C. (2009). 'The Formulation and Justification of Mathematical Definitions Illustrated by Deterministic Chaos'. In: M. Suarez, M. Dorato and M. Rédei (eds), *Philosophical Issues in the Sciences: Launch of the European Philosophy of Science Association*. Springer, 279-288.

Other Contributions in Books

Werndl, C. (forthcoming). 'Kontroversen zur Schaetzung und Prognosefaehigkeit am Beispiel globaler Klimawandel sowie wirtschaftswissenschaftlicher Vorhersagestudien'. In: R. Bachleitner, M. Weichbold und M. Pausch (eds), *Wissenschaftstheoretische und methodologische Problemlagen empirischer Voraussagen und statistischer Vorhersagen*. Springer. [with F. Huber]

Werndl, C. (2009). 'Deterministic Versus Indeterministic Descriptions: Not That Different After All?'. In: A. Hieke and H. Leitgeb (eds), *Reduction, Abstraction, Analysis*. Ontos, 63-78.

Book Reviews

Werndl, C. (2016). Review: "The Precautionary Principle: Science, Evidence and Environmental Policy" (Daniel Steel). *Economics and Philosophy* 32 (1), 162-169.

Werndl, C. (2013). 'Do Microbes Question Standard Thinking in the Philosophy of Biology?' Critical Notice of "Processes of Life -- Essays in the Philosophy of Biology" (John Dupre). *Analysis* 73 (2), 380-387.

Werndl, C. (2013). 'Are All Probabilities in Statistical Mechanics Transition Probabilities?' Review of "The Road to Maxwell's Demon -- Conceptual Foundations of Statistical Mechanics" (Meir Hemmo and Orly Shenker). *Notre Dame Philosophical Reviews*.

Werndl, C. (2010). 'The Simple Behaviour of Complex Systems Explained?' Review of "Bigger Than Chaos, Understanding Complexity Through Probability" (Michael Strevens). *The British Journal for the Philosophy of Science* 61 (4), 875-882

Werndl, C. (2005). Rezension: "Rationalitaet in der Angewandten Ethik" [Review of "Rationality in Applied Ethics"] (Pavel Fobel, Gerhard Banse, Andrzej Kiepas, Gerhard Zecha (Hg)). *Kriterion - Journal of Philosophy* 19. [with Angelberger, A.J.J., Armstrong, B., Berger, W.F. and Gratzl, N.]