

Academic Report for 2012 (01.10.2012 - 31.12.2012)

Stephan Hartmann

April 30, 2013

On 1 October 2012 several new members joined the Munich Center for Mathematical Philosophy (MCOMP), which started two years before under the direction of Alexander von Humboldt Professor Hannes Leitgeb. The new members found a splendid and thriving research center, and the integration of the new members went very smoothly. Stephan Hartmann joined Hannes Leitgeb as Director of the MCOMP, and two new Assistant Professors lead and coordinate the research in *Philosophy of Physics* and the *Philosophy of Psychology and Social Sciences*, respectively. (A third Assistant Professor, who leads a group on *Modeling and Simulation in Philosophy*, started on 1 April 2013.) Each group has already or will soon have a number of postdocs and PhD students. Besides, we invited several Visiting Fellows to join us for an extended period of time to work with us and to enrich the life at the MCOMP.

Despite starting the search very late (in May 2012), we were able to attract several excellent scholars. Some could not start on 1 October, but joined us (or will join us) at a later point. We also found an excellent secretary, Ms. Sabine Krüger.

In the first three months, we were busy setting up the chair for Philosophy of Science, integrating the new members in the MCOMP, establishing connections to other faculties at the LMU (esp. Physics, Economics, and Political Science), starting new reading groups, and initiating various research projects. We are also involved in a new Master program on Logic and Philosophy of Science. This program introduces students to the research done at the MCOMP and we hope that the best students in the program will later join us as PhD students.

In this report, we will lay out in more detail what we did and who we are.

(I) We presented our center to the academic public at various occasions:

We gave various lectures and interviews. They are listed below.

(II) We were using different media in order to reach out to the public:

1. MCOMP on iTunes U

The MCOMP regularly records lectures and talks, which one can watch on iTunes U. This iTunes library is enormously successful with thousands of clicks and downloads.

2. MCOMP on Coursera

The MCOMP explores new forms of collaborative learning – by making use of Massive Open Online Courses (MOOCs). Hannes Leitgeb and Stephan Hartmann are currently preparing a new course on *Introduction to Mathematical Philosophy*, for which already more than 11,000 students signed up worldwide.

3. MCOMP @ Facebook

The MCOMP regularly posts news and events on Facebook.

4. M-Phi Blog

The MCOMP maintains a blog on current topics in mathematical philosophy.

5. What's Hot in Mathematical Philosophy?

Members of the MCOMP are in charge of the "What's Hot in Mathematical Philosophy?" series which appears regularly in the online gazette *The Reasoner*.

6. Others about the MCOMP

Stephan Hartmann's work was featured in an article on the LMU website: http://www.en.uni-muenchen.de/news/spotlight/2012_articles/hartmann.html

(III) We organized a great variety of academic events including speakers from all over the world and we had a great number of excellent visitors:

a. Colloquium in Philosophy of Science

Date	Time	Speaker	Address
15.10.2012	18-20 Uhr	Sean Gryb	Ludwigstr. 31/II, R. 225
22.10.2012	18-20 Uhr	Gábor Szábo	Ludwigstr. 31/II, R. 225
23.10.2012	14-18 Uhr	Gábor Szábo	Ludwigstr. 31/II, R. 225
30.11.2012	12-14 Uhr	Richard Dawid	Ludwigstr. 31/II, R. 225
05.12.2012	16-18 Uhr	Giovanni Valenté	Ludwigstr. 31/II, R. 225
10.12.2012	16-17:30 Uhr	Ryan Muldoon	Ludwigstr. 31/II, R. 225

b. Workshops and Conferences

1. Formal Practical Philosophy (5. to 11.11. 2012 at Venice International University)

This workshop brought together several members of the MCOMP and a number of scholars from all over the world to explore, in the beautiful setting of the Venice International University, topics from formal practical philosophy – a field which we want to promote more in the future. The workshop was organized by Stephan Hartmann and Martin Rechenauer (LMU).

Other events were planned, including two major conferences: (i) the Munich-Sydney-Tilburg conference on *Models and Decisions* (LMU, 10-12 April 2013), and (ii) the *17th UK and European Foundations of Physics* conference (LMU, 29-31 July 2013).

c. Additional Activities

1. Philosophy of Physics Reading Group

This reading group focuses on the foundations of modern physics and addresses conceptual, formal, and philosophical problems. We discuss contemporary papers from mathematics, physics, and philosophy of science journals that often relate to research that is conducted by some of the members of the group. In this semester, we focus on quantum mechanics (esp. Gleason's Theorem, probabilities in quantum mechanics, and imprecise probabilities in quantum mechanics) and quantum field theory (esp. renormalisation, effective field theories, and reduction and emergence in quantum field theory). Participants are encouraged to suggest interesting papers.

The group holds usually bi-weekly meetings throughout academic term, and all are welcome. The conveners of the reading group are Radin Dardashti and Karim Thebault.

The Philosophy of Physics group at the MCMP also hosts the mailing list philphys@munich.lmu.de. The list is a subscription-based electronic mailing list for the announcement of events relating to the foundations and philosophy of physics within Munich. In general, these will be talks, conferences, workshops or public lectures. The intended users of the list include physicists, philosophers and historians of physics.

2. Social Epistemology Reading Group

The reading group focuses on current issues in formal and non-formal social epistemology, which have enjoyed many interesting developments in the recent years. Our first series of sessions deals with peer disagreement, i.e. situations in which agents disagree although they are equivalent from an epistemic/evidential/rational point of view. Other topics of interest include (but are not limited to) judgment aggregation, information markets, simulations of social epistemic systems, and the like. Participants are encouraged to suggest interesting papers from these and similar areas.

The group holds usually bi-weekly meetings throughout academic term, and all are welcome. The conveners of the reading group are Cedric Paternotte and Lars Weisbrod.

(IV) We hosted LMU faculty, Doctoral Fellows, Post-Doctoral Fellows and Visiting Fellows:

This is the list of LMU faculty, doctoral, postdoctoral fellows that were members of the MCMP during the period from October to December 2012:

PD Dr. Holger Andreas
Radin Dardashti
Prof. Dr. Stephan Hartmann
Dr. Rogier de Langhe
Kristina Liefke
Chiara Lisciandra
Dr. Sebastian Lutz
Dr. Cedric Paternotte
Dr. Karim Thébault
Lars Weisbrod

In the following detailed description of the academic activities of these members of the MCMP in 2012, we will not mention their teaching activities, which conferences or reading groups they attended, at which MCMP hiring committees they served, and which PhD students they helped supervising.

PD Dr. Holger Andreas

1. Type of Affiliation with the MCMP

Holger Andreas is an Assistant Professor at the Chair of Philosophy of Science at LMU Munich. He joined the MCMP as a member (funded by the LMU) in April 2011.

2. Research Projects

Holger Andreas has been working primarily on paraconsistent reasoning in science. His research aims at an inferentially powerful and yet paraconsistent inference system. His work builds upon the structuralist approach to scientific theories and the logic of pragmatic truth by Da Costa and French.

3. Academic Output

Publications:

- "Deductive Reasoning in Structuralism", *Studia Logica*, onlinefirst (DOI 10.1007/s11225-012-9447-2).
- "Carnapian Structuralism", submitted to *Erkenntnis*.

Presentations:

- 03/2013: Descriptivism about Theoretical Concepts implies Ramsification or Conventionalism, GWP-Conference in Hannover.
- 11/2012: Paraconsistent Concept Formation, Colloquium at the Center for Logic and Philosophy of Science at Ghent University.
- 11/2012: A Finite-Memory Argument for Axiomatization, Biennial Meeting of the PSA (Philosophy of Science Association) in San Diego.
- 10/2012: Parakonsistente Begriffsbildungen in den Wissenschaften, Colloquium of the Philosophy Department at Salzburg University.
- 9/2012: Paraconsistent Concept Formation in a Belief Revision Framework. International Workshop Belief Revision, Conditional Logic and Possible Worlds Semantics at the 8th GAP congress in Konstanz.

- *The Future of Philosophy of Science*. *European Journal for Philosophy of Science* 2:2 (2012). Special issue ed. with Jan Sprenger. With contributions by William Bechtel, Markus Eronen, Christopher Hitchcock, Sebastian Lutz, and James Justus.
- *EPSA Philosophy of Science: Amsterdam 2009* (ed. with Henk de Regt and Samir Okasha). Berlin: Springer 2012.
- *Probabilities, Laws, and Structures* (ed. with D. Dieks, W. Gonzales, M. Stöltzner, and M. Weber). Berlin: Springer 2012.

Presentations:

- Updating on Conditionals = Kullback-Leibler + Causal Structure, at the conference PSA 2012, San Diego, USA, November 2012
- Updating on Conditionals = Kullback-Leibler + Causal Structure, at the workshop *Topics in Economics and Philosophy*, Swedish Collegium for Advanced Study (SCAS), Uppsala, Sweden, October 2012.
- Updating on Conditionals = Kullback-Leibler + Causal Structure, at the ESF-PSE Conference on *New Directions in the Philosophy of Science*, Bertinoro, Italy, October 2012.
- Voting, Deliberation, and Truth, at the workshop *Explanation, Models and Simulations in the Social and Behavioral Sciences*, University of Barcelona, Spain, October 2012.

Kristina Liefke

1. Type of Affiliation with the MCMP

Kristina Liefke has been an LMU-funded Doctoral Fellow at the MCMP since October 2012. She is currently finishing her PhD thesis, which she commenced (under the supervision of Prof. Dr. Hartmann) at the Tilburg Center for Logic and Philosophy of Science (Tilburg University).

2. Research Projects

Since her move to the MCMP, Kristina Liefke has continued her dissertation work on a single-type semantics for natural language. The latter is a reduced version of Montague semantics, that models a standard fragment of English through the use of one (rather than two or more) basic types of objects. In particular, in the last months, Liefke has shown that single-type semantics captures recent findings in language development (esp. the propositional interpretation of noun phrases). She is currently investigating the properties of the resulting minimal models for natural language semantics, and is extending her semantic framework to larger fragments of English.

3. Academic Output

Refereed Papers:

- "A Single-Type Logic for Natural Language", *Journal of Logic and Computation*, accepted for publication (online first January 23, 2013).
- "A Single-Type Ontology for Natural Language", *Proceedings of GAP.8* (submitted).

Radin Dardashti

1. Type of Affiliation with the MCMP

Radin Dardashti has been an MCMP Doctoral Fellow (funded by the MCMP) since October 2012.

2. Research Projekts

Radin Dardashti has been working on several topics relevant to his PhD thesis, which has tentatively been titled "The Role of Mathematics in Scientific Explanation".

3. Academic Output

Co-Organizer of the *Philosophy of Physics Reading Group*

Prof. Dr. Stephan Hartmann

1. Type of Affiliation with the MCMP

Stephan Hartmann is Chair of Philosophy of Science and Co-Director of the MCMP.

2. Research Projects

Stephan Hartmann has been working in General Philosophy of Science, Bayesian Epistemology, Philosophy of Physics, and Social and Political Philosophy.

3. Academic Output

Publications:

- The No Alternatives Argument (with Richard Dawid and Jan Sprenger). To appear in *The British Journal for the Philosophy of Science*.
- Models, Mechanisms and Coherence (with Matteo Colombo and Robert van Iersel). To appear in *The British Journal for the Philosophy of Science*.
- On the Emergence of Descriptive Norms (with Ryan Muldoon, Chiara Lisciandra, Cristina Bicchieri, and Jan Sprenger), to appear in *Politics, Philosophy and Economics*.
- Generalized Dicke States. To appear in *Quantum Information and Computation*.
- Formal Epistemology Meets Experimental Philosophy, *Synthese* 190:8 (2013). Special issue ed. with Chiara Lisciandra and Edouard Machery. With contributions by Mark Colyvan, Giovanna Devetag, Hykel Hosni and Giacomo Sillari, James A. Overton, Matthias Unterhuber and Gerhard Schurz, Aron Vallinder and Erik J. Olsson, and Carl G. Wagner.
- Judgment Aggregation and the Problem of Tracking the Truth (with Jan Sprenger), *Synthese* 187: 209-221 (2012).
- Walter the Banker: The Conjunction Fallacy Reconsidered (with Wouter Meijs), *Synthese* 184: 73-87 (2012).

Presentations:

- "A Single-Type Semantics for Natural Language", *Workshop in Semantics and Philosophy of Language*, University of Chicago, November 16, 2012.

Chiara Lisciandra

1. Type of Affiliation with the MCMP

Chiara Lisciandra has been an LMU-funded Doctoral Fellow at the MCMP since October 2012.

2. Research Projects

Chiara Lisciandra has been working on her PhD thesis, which will be on formal and experimental approaches to the emergence of norms.

3. Academic Output

Publications:

- On the Emergence of Descriptive Norms (with Ryan Muldoon, Chiara Lisciandra, Cristina Bicchieri, and Jan Sprenger), to appear in *Politics, Philosophy and Economics*.

Presentations:

- Presentation of the paper 'Conformability. A study on group conditioning of normative judgment'. Tilburg University, November 2012.
- Presentation of the paper 'Why are descriptive norms there?' Descartes Lectures. Tilburg University, November 2012
- Presentation of the paper 'Disagreement behind the veil of ignorance'. International Conference. New Directions in the Philosophy of Science. Bertinoro Conference Centre (University of Bologna), October 2012

Further Activities:

- Teaching Assistant: Central Topics in the Philosophy of Science.

Sebastian Lutz

1. Type of Affiliation with the MCMP

Sebastian Lutz is a Postdoctoral Fellow at the Chair of Philosophy of Science at LMU Munich. He joined the MCMP as a member in November 2012.

2. Research Projects

In his two months at the MCMP in 2012, Sebastian Lutz has been working on a research article entitled "The Semantics of Scientific Theories", an invited contribution to a Festschrift in honor of Marian Przelecki on occasion of his 90th birthday. The article connects Holger Andreas's semantics with that of Przelecki.

3. Academic Output

Presentation:

- "Empirical Adequacy in the Received View." Contribution to the symposium *Semantic and Syntactic Approaches to Science: A Reconsideration, Twenty-Third Biennial Meeting of the Philosophy of Science Association*, San Diego, CA, USA, 15-17 November 2012.

Cédric Paternotte

1. Type of affiliation with the MCMP

Cedric Paternotte is a MCMP postdoctoral fellow since October 2012.

2. Research projects

Cedric Paternotte's research deals with definitions and explanations of cooperation and related social phenomena., and more precisely with the links between their analyses in different fields, for instance in philosophy and in the social sciences. He is particularly interested in the rational (e.g. team reasoning) and evolutionary (e.g. group selection) explanations of cooperative behavior.

At the MCMP, Cedric focuses on the compatibility and structural similarities of rational and evolutionary explanations of cooperation, and on the possibility of a unified multilevel theory of rational behavior, in which explanations of cooperation could bring light on individual behavior by considering individuals as groups of interacting subagents.

3. Academic Output

Publications:

- 'Shared adaptiveness is not group adaptation' - Commentary of E. Van der Vliert's 'Climate-economic habitats support patterns of human needs, stresses, and freedoms'. *Behavioral and Brain Sciences* (forthcoming).
- 'Social Norms: Repeated Interactions, Punishment and Context Dependence' (with J. Grose). *Public Reason* (forthcoming).
- 'Constraints on Joint Action'. In M. Gallotti & J. Michael (eds), *Perspectives in Social Ontology and Social Cognition*, Springer (short version accepted; full version in preparation)
- 'The epistemic core of joint action' (resubmitted, under review).
- 'We-reasoning, efficiency and probability' (submitted, under review).
- 'Robustness and evolutionary explanations' (with J. Grose; in preparation).

Further activities:

- Organizer of the Social Epistemology Reading Group

Karim Thebaut

1. Type of Affiliation with the MCMP

consequences? Recently he has been working on the question how to include degrees of belief in such an account.

3. Academic Output

Presentations:

- „Why agreement cannot justify peerless: Completing Elga's non-sceptical Conciliatorism by refining his Equal Weight View“, 8th International Conference of the Gesellschaft für analytische Philosophie (GAP8), Konstanz, September 2012

Further activities:

- Organizer of the Social Epistemology Reading Group

Visiting Fellows

We invited a number of scholars to join us for some weeks or months. The visitors contributed considerably to the life at the center and joined reading groups, gave lectures and worked with us.

1. Rogier de Langhe (Tilburg University, NL, 15.11.2012 to 15.2.2013)

Rogier worked on a problem from social epistemology and philosophy of science. His stay was funded by the MCMP. During his stay, he prepared the following publications:

- Peer Disagreement under Multiple Epistemic Systems, To appear in *Synthese*, DOI 10.1007/s11229-012-0149-0
- The Kuhnian Paradigm, *Topoi*, 32(1), 78-99 (2013)
- Introduction: Structure of Scientific Revolutions, 50 Years On, *Topoi*, 32(1), 1-11 (2013)
- The Problem of Kuhnian Rationality, *Philosophica*, 86(3), 11-31 (2013)

2. Ryan Muldoon (University of Pennsylvania, USA, 16.11. to 16.12.2012)

Ryan worked on a problem from social epistemology and prepared a paper with Stephan Hartmann and Chiara Lisicandra. His stay was funded by the MCMP. He gave a lecture on his research on Monday, December 10, 16-17:30 p.m. in our seminar room.

3. Richard David-Rus (University of Bucharest, Romania, 13.11. to 17.12.2012)

Richard came on his own funding to work on a problem from general philosophy of science.

Karim Thébault is an Assistant Professor at the Chair for Philosophy of Science. He joined in October 2012.

2. Research Projects

Karim works on the following projects: (i) Cosmology and the Status of Temporal Ordering, (ii) Time and the Quantization of Gravity, (iii) Evidence and Probability in Quantum Cosmology, and (iv) Ontological Underdetermination and Structural Realism.

3. Academic Output

Papers:

- Thébault, K.P.Y. Three denials of time in the interpretation of canonical gravity, *Studies in the History and Philosophy of Modern Physics*, 43 (4), 277-294, 2012 (DOI:10.1016/j.bbr.2011.03.031)
- Gryp, S. and Thébault, K.P.Y. The role of time in relational quantum theories, *Foundations of Physics*, 42 (9), 1210-1238, 2012 (DOI:10.1007/s10701-012-9665-5)
- Thébault, K.P.Y. Quantization as a guide to ontic structure, 2013, *Under Review*, preprint: <http://philsci-archiv.pitt.edu/9128/>
- Dawid, R. and Thébault, K.P.Y. Many worlds: incoherent or decoherent? 2013, *Under Review*, preprint: <http://philsci-archiv.pitt.edu/9542/>
- Dawid, R. and Thébault, K.P.Y. Against the Empirical Viability of the Deutsch-Wallace-Everett Approach to Quantum Mechanics, 2013, *Under Review*, preprint: <http://philsci-archiv.pitt.edu/9541/>
- Smart, B.T.H. and Thébault, K.P.Y. On the Metaphysics of Least Action, 2013, *Under Review*, preprint: <http://philsci-archiv.pitt.edu/9642/>
- Gryp, S. and Thébault, K.P.Y. Symmetry and Evolution in Quantum Gravity, 2013, *Draft Manuscript*

Presentations:

- Quantization as a Guide to Ontic Structure (Munich Center for Mathematical Philosophy Philosophy of Science Colloquium, Munich 2013; Meeting of the German Society for Philosophy of Science/Gesellschaft für Wissenschaftsphilosophie (GWP), Hannover 2013)
- Time Remains (Deutsche Physikalische Gesellschaft (DPG) Spring Meeting, Jena 2013)

Lars Weisbrod

1. Type of Affiliation with the MCMP

Lars Weisbrod has been a MCMP Doctoral Fellow (funded by the MCMP) since October 2012.

2. Research Projects

Lars Weisbrod has been working on his doctoral research project tentatively titled 'A non-skeptical conformism'. In this project, he tries to develop an account of the epistemic significance of peer disagreement. The question he is mainly concerned with is: How can we respect the intuition that in certain cases we should move our belief in the direction of our disagreeing peer while at the same time avoid skeptical