

Hannes Leitgeb, April 25th 2014

The *Munich Center for Mathematical Philosophy* (MCMP) had another great year in 2013 with a lot of activities. Stephan Hartmann, and the colleagues that he had brought to the MCMP from autumn 2012, settled in very quickly; and, we give two summaries of MCMP activities again for 2013: one relating to Hannes Leitgeb's Alexander von Humboldt Professorship and another one relating to Stephan Hartmann's Alexander von Humboldt Professorship. This report only concerns the former, that is, only those data that concern Hannes Leitgeb's group and the more logic-related events, while the more philosophy-of-science-related events would be listed in Stephan Hartmann's report (occasionally there might be some overlap, e.g., when the events in questions had been organized jointly).

Here is a list of corresponding selected activities in 2013 the full details of which can be found, as usual, on our website at <http://www.mcmp.philosophie.uni-muenchen.de/index.html>:

(I) We continued to use different media in order to reach out to the public:

- In particular, other than the resources already described in previous reports, we installed a Massive Open Online Course (MOOC) on the web-based Coursera Platform on "Introduction to Mathematical Philosophy", which was given by Hannes Leitgeb and Stephan Hartmann jointly, which consisted of eight online lectures and one special online discussion session, and which attracted 50,000 students worldwide. More about this is to be found at <http://www.mcmp.philosophie.uni-muenchen.de/students/online-courses/index.html>.

(II) We organized a great number of academic events:

2013: Colloquia on Wednesday

Andrey Bovykin (Visitor MCMP)	Recent Metamathematical Wonders and the Question of Arithmetical Realism
Jake Chandler (Leuven, MCMP)	Reasons to believe and reasons to not
Catarina Dutilh-Novaes (Groningen, MCMP)	Being a Woman in (Mathematical) Philosophy
Eckehart Köhler (Vienna)	Refutation of Putnam's Collapse of the Fact/Value Dichotomy"
Tobias Rosefeldt (Berlin)	(Kinds of) Things That Don't Exist
Phil Kremer (Toronto)	Dynamic Topological Logic
Alexander Bird (Bristol)	Externalism, Internalism, and the KK Principle

2013: Colloquia on Thursday

Alessandra Palmigiano (Amsterdam)	Judgment Aggregation and Duality
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Sebastian Sequoiah-Grayson (Groningen)	Hume's Principle and Ontological Neutrality
Torben Braüner (Roskilde)	Hybrid-Logical Proof-Theory: With an Application to False-Belief Tasks
Alexandra Zinke (Konstanz)	The Interpretational Definition of Logical Truth
Sebastiaan Terwijn (Nijmegen)	Information Distance
Rosalie Iemhoff (Utrecht)	On Rules
Moritz Schulz (Barcelona)	On Modus Ponens
Chris Fermüller (Vienna)	Semantic Games and Hypersequents - A Case Study in Many-Valued Reasoning
John Broome (Oxford)	Climate Change
Martin Pleitz (Münster)	From Subsequentism to Tense Logicism: Paradox and Metaphysics
Salvatore Florio (Kansas State)	The Semantics of Plurals: A Neglected Alternative (joint work with Øystein Linnebo)
Hartley Slater (Western Australia)	The Uniform Solution of Some Paradoxes
Veli Mitova (Vienna)	How to Be A Truthy Psychologist About Evidence
Jakub Szymanik (Amsterdam)	From Logic to Behavior. Modern Semantics and Complexity Theory in Cognitive Modeling
Patrick Blackburn (Roskilde)	Deduction in Modal and Hybrid Logic
Igal Kwart (Jerusalem)	The Pragmatics of Knowledge, Counter-Examples to Pragmatic Contaminations of Knowledge, Pragmatic Inconsistencies, and the Knowledge Norm of Assertion
Scott Sturgeon (Birmingham)	Epistemic Attitudes
Stewart Shapiro (Ohio)	Frege on the Real Numbers: Language and Metaphysics - Joint Work
Mike Dunn (Indiana)	Contradictory Information Can Be Valuable: The Paradox of the Two Firemen
Steve Awodey (Carnegie Mellon, MCMP)	Advances in Univalent Foundations
Arthur Paul Pedersen (Berlin)	Bigger is not Always Better When Nothing is Good Enough
Björn Jespersen (Prague)	On Quantifying-In

Eleonora Cresto (Buenos Aires)	Group Knowledge and Probability
Jake Chandler (Leuven, MCMP)	On the Reduction of Iterated to One-Shot Revision
Hitoshi Omori (CUNY)	From Paraconsistent Logic to Dialetheic Logic
David Etlin (Groningen, MCMP)	Vagueness and Preferences
Nathan Wildman (Hamburg)	Modality and Essence
Helmut Schwichtenberg (Munich)	Remarks on the Foundations of Mathematics
Thomas Piecha (Tübingen)	Failure of Completeness in Proof-Theoretic Semantics
Jan-Willem Romeijn (Groningen)	Inductive Logic for Rich Languages

2013: Work in Progress Talks

Catarina Dutilh Novaes (Groningen, MCMP)	Informal Meeting with Female Members of the MCMP
Thomas Meier (MCMP)	Discussing Structural Realism
Ladislav Koren (Hradec Kralove)	Certainties and the Sceptical Problem
Philip Pfaller (Munich)	Conditionals and Questions
Ricki Bliss (Kyoto)	Viciousness
Hartley Slater (Western Australia)	Logically Proper Names are Not Constants
Christian Wallmann (Salzburg)	Probability Propagation in Generalized Inference forms and Probabilistic Semantics
Hans-Christoph Kotsch (MCMP)	Higher-Order Modal Logic
Filippo Casati (Bochum/St Andrews)	Was Heidegger a Dialetheist?

2013: Workshops and Conferences

18.01.13 – 19.01.13	Frege Workshop
02.02.13	Substructural Epistemic Logic
07.02.13 – 08.02.13	Paris-Munich Workshop
26.02.13	The Logic and Psychology of Confirmation and Information search
03.04.13 – 05.04.13	Theoretical Terms Conference
08.04.13 – 10.04.13	PhDs in Logic Graduate Conference
10.04.13 – 12.04.13	Models and Decisions
23.05.13	Putnam's Model Theoretic Arguments

24.05.13 – 25.05.13	Paradox and Truth Workshop
01.06.13	Wolfgang Stegmüller und die Rückkehr der analytischen Philosophie
01.07.13 – 03.07.13	Carnap's Aufbau
03.07.13 – 06.07.13	Carnap's Logic
12.07.13 – 13.07.13	1st MCMP Munich-Buenos Aires Workshop
20.07.13 – 22.07.13	2nd Bristol-Munich Workshop (held in Bristol)
17.09.13 – 18.09.13	Prolog 2013
11.10.13 – 12.10.13	Munich - St.Andrews - Arché Workshop: Models and Proofs

(There are various additional activities that are not listed above, such as e.g. reading groups on different topics of interest in logic and related areas.)

(III) We hosted LMU faculty, doctoral fellows, postdoctoral fellows, junior visiting fellows, and senior visiting fellows.

In particular, this is the list of junior and senior visiting fellows at the MCMP during some period in 2013:

Name	Date
Frederik Herzberg (Bielefeld)	01.04.2012 – 31.03.2013
Mathias Frisch (Maryland)	01.08.2012 – 31.07.2013
Erich Reck (UC Riverside)	01.09.2012 – 31.07.2013
Sam Sanders (Gent)	01.09.2012 – 31.07.2013
Anna-Maria Eder (Konstanz)	01.11.2012 – 30.04.2013
Vincenzo Crupi (Turin)	01.10.2012 – 31.03.2013
Andrey Bovykin (Bristol)	01.01.2013 – 28.02.2013
Ladislav Koren (Czech Republic)	01.02.2013 – 30.12.2013
Hans Rott (Regensburg)	15.04.2013 – 20.06.2013
Anna-Maria Eder (Konstanz)	30.04.2013 – 31.10.2013
Lavinia Picollo (Buenos Aires)	01.05.2013 – 31.07.2013
Igal Kvart (Jerusalem)	27.05.2013 – 30.06.2013
Joseph Almog (UCLA)	01.06.2013 – 30.06.2013
Philipp Koralus (Oxford)	01.06.2013 – 31.07.2013
Markus Pantsar (Helsinki)	01.09.2013 - 01.06.2014

Steve Awodey, Vincenzo Crupi, Catarina Dutilh-Novaes, Julien Murzi are external members of the MCMP and visit the center on a regular basis; their visits to the MCMP in 2013 are therefore not listed above.

(IV) Some of our MCMP members received special awards:

- Our postdoctoral fellow Gil Sagi received the Yael Cohen Memorial Award for her doctoral dissertation at the Hebrew University in Jerusalem.

(V) Some of the members of the MCMP (with non-permanent positions) secured permanent positions elsewhere:

- Our MCMP Fellow and Assistant Professor Olivier Roy became Full Professor at the Chair of

Philosophy 1 at the Department of Philosophy of the University of Bayreuth from October 2013.

He remains a fellow of our Center and will spend part of each year at the MCMP in the future.

(VI) Our international MA program in *Logic and Philosophy of Science* is developing very nicely and, in the meantime, includes 17 master students. More information about the program can be found at <http://www.mcmp.philosophie.uni-muenchen.de/students/ma/index.html>.

(VII) For reasons of space, when we now turn to a detailed description of the academic activities of the academic members of the MCMP in 2013, we will not mention their teaching activities and which students they supervised.

Albert Anglberger

1. Type of Affiliation with the MCMP

Albert Anglberger was an LMU Research Fellow at our Center throughout 2013. So he was funded by the LMU.

2. Research Projects

2.1 Deontic Logic

In their paper (A1) Albert Anglberger and his co-authors introduce a new understanding of deontic modals that they call ‘obligations as weakest permissions’. They argue for its philosophical plausibility, study its expressive power in neighbourhood models, provide a complete Hilbert-style axiom system and a cut-free sequent calculus for it, and show that it can be extended and applied to practical norms in decision theory and game theory. This paper is currently under review.

The open reading of permission (OR) states that an action is permitted if every execution of it is normatively OK. Free Choice Permission (FCP) is the notorious principle that a disjunction is permitted only if both disjuncts are. In (A2) they show that (OR) implies (FCP). Given that (FCP) has been heavily criticized, this seems like bad news for (OR). They disagree. They observe that this implication relies on a debatable principle involving disjunctive actions. They proceed to present alternative views of disjunctive actions which violate this principle, and which so block the undesired implication. So one can have the open reading without free choice and, as they argue towards the end of the paper, there are philosophical reasons why one should. This paper has been submitted to the conference *Deontic Logic and Normative Systems 2014* and is currently under review.

2.2 Ethics and Meta-Ethics

At the conference (K3) Albert Anglberger and some of his colleagues brought together ethicists, psychologists and deontic logicians to exchange ideas on different approaches to the pressing issues of privacy. This conference was partly financed by Albert Anglberger’s LMU research project (and another part by the University of Passau).

Albert Anglberger was asked to comment on a paper by Günter Kehrer on the relation between Religion, Atheism, and Science for the journal *Erwägen-Wissen-Ethik*. In his paper Günter Kehrer argues “that there are no more conflicts between science and religion because scientific research is done in a factually atheistic way: God does not play any role in the arguments.” In their paper (A5) Albert Anglberger and his co-author argues, contra Kehrer, that theistic theories still play a crucial role in the justification of various claims in moral philosophy, and they provide an argument that shows why an atheistic foundation of morality should be preferred over its theistic

alternatives.

2.3 Many-Valued Logic

The application of classical logic is known to lead to a number of problems (these are sometimes even called paradoxes). In a number of papers, Paul Weingartner introduced the matrix-based logics RMQ^- and RMQ^* as more suitable logics for applications in quantum physics and related areas. He presents only its logic's semantics though, and leaves the question of its axiomatizability open. In their paper (A6), Albert Anglberger and his co-author provide a sound and complete Hilbert-style axiomatization for RMQ^- . For reasons of simplicity, they present an adequate quasi-axiomatization for Weingartner's other logic RMQ^* , but they also briefly show how the usual methods for constructing Hilbert-style axiom systems can be applied to RMQ^* as well. This helps with comparing these logics to different well-known modal logics, and allows one to get a better grasp at their properties and logical strength. This paper is currently under review.

2.4 Others

In late 2012 Professor Stephan Hartmann was appointed as chair in Philosophy of Science at the LMU Munich and teamed up with Hannes Leitgeb as a director of the Munich Center for Mathematical Philosophy. Albert Anglberger took the opportunity to join another issue of the web-based journal *The Reasoner*, in which an interview was published which he had conducted with Professor Hartmann (A3).

3. Academic Output

Publications:

(A1) *The Logic of Obligation as Weakest Permission* (with O. Roy & N. Gratzl), submitted.

(A2) Open Reading without Free Choice (with H. Dong & O. Roy), submitted.

(A3) Editorial and interview with Stephan Hartmann, in *The Reasoner*, Vol. 7 (6), June 2013.

(A5) *Metaethische Bemerkungen zur religiösen Begründung der Moral* (with Ch. Feldbacher), in *Erwägen-Wissen-Ethik*, forthcoming.

(A6) *Hilbert-Style Axiom Systems for the Matrix-Based Logics RMQ^- and RMQ^** (with J. Lukic), submitted.

Further activities: Conferences organized

(K1) *Salzburg Conference for Young Analytic Philosophy (SOPhiA 2013)*, Paris-Lodron-Universität Salzburg, September 2013. Website: <http://www.sophia-conference.org>.

(K2) Privacy: Formal and Informal Approaches, LMU München, November 2013. Website: <http://www.privacy2013.org>.

Editorial Work for *The Reasoner* (board member), *KRITERION* (editor in chief).

Steve Awodey

1. Type of Affiliation with the MCMP

Steve Awodey is a professor at the Philosophy Department at Carnegie Mellon University, Pittsburgh, as well as an External Fellow of the MCMP. He spent one month, July 2013, at the MCMP and was supported by MCMP funds. This was the third regular visit by Prof. Awodey.

2. Research Projects and 3. Academic Output

Two journal publications result directly from Prof. Awodey's stay at MCMP: a paper on Modal Logic written jointly with an MCMP doctoral student (Hans-Christoph Kotsch) has been accepted

for publication in the journal *Logique et Analyse*, and a paper on Carnap presented at an MCMP conference (on Carnap). Also, work on the *Collected Works of Rudolf Carnap* (12 vol.s, Oxford University Press) was greatly advanced by the work conducted by Prof. Awodey and others while at MCMP, in particular in a meeting of the editorial board in conjunction with the conference on Carnap in Munich.

In addition, Prof. Awodey gave several talks on his research into Homotopy Type Theory, the topic of a research program that he recently co-organized at the Institute for Advanced Study, Princeton, USA. He gave a survey talk in the MCMP Logic Colloquium on Homotopy Type Theory and a Philosophy of Mathematics seminar, as well as a technical talk in the Mathematical Logic Oberseminar of the Mathematics Department.

While at the MCMP, Prof. Awodey also worked on the Rudolf Carnap Project, in collaboration with MCMP fellow Dr. Georg Schiemer, and MCMP guest Dr. Andre' Carus. The results of this collaboration will appear in the *Collected Works of Rudolf Carnap*. He also participated in a week-long conference on the Philosophy of Rudolf Carnap organized by the MCMP and gave a paper which will be published in a volume edited by Georg Schiemer.

As in the previous years, Awodey continued to work closely with MCMP doctoral student Hans-Christof Kotzsch on research into higher-order modal logic.

Catrin Campbell-Moore

1. Type of Affiliation with the MCMP

Catrin Campbell-Moore was an MCMP Doctoral Fellow in 2013 (supervised by Hannes Leitgeb).

2. Research Projects

Catrin Campbell-Moore has been working on how to provide a formal language and semantics so that sentences can talk about their own probabilities. A particularly interesting application of such a language is to formalize a person's degrees of belief in self-referential statements about her degrees of belief. Her work therefore has relevance to formal epistemology. Paradoxes analogous to the liar paradox appear, which is why I she has been working on how to develop semantics for such a language which can circumvent such paradoxes. To do this, she applies considerations from research on formal theories of truth in a probabilistic context. This gives work on theories of truth a new and exciting relevance to a different area.

3. Academic Output

Papers under review:

“Rational Probabilistic Incoherence? A Reply to Michael Caie”, under Review at *Philosophical Review*.

Papers in preparation:

“How to Express Self-Referential Probability and Avoid the (Bad) Consequences”.

“Imprecise Probabilities, Supervaluational Logic and Self-Reference”.

“Fully Classical Theories for Type-Free Probability”.

Talks given:

PhD's in Logic V, in Munich, refereed.

Graduate Conference in Theoretical Philosophy, in Groningen, refereed.

Logic Tea, in ILLC Amsterdam, invited.

Buenos-Aires-Munich Conference, in Munich.
Bristol-Munich Conference, in Bristol.
WIP in Buenos Aires.
Philosophy of Logic conference, in Buenos Aires.
Machine Intelligence Research Institute workshop, in Oxford.

Further activities – Reading Groups:

Reading group co-organized on “Elementary Induction on Abstract Structures” by Moschovakis.
Attending the Reading Group on Imprecise Probabilities.

Conferences/Summer Schools Attended (not lecturing):

Bristol Summer School on Epistemic Utility Theory.
Amsterdam Workshop on Truth.

Grants:

Studentship awarded to attend Bristol Summer School in Epistemic Utility Theory.
Studentship awarded to attend MIRI workshop at Oxford.

Visits:

Two months as a visiting researcher in Buenos Aires, funded by the DAAD project “Modality, Truth and Paradox” (joint of project of Eduardo Barrio at Buenos Aires and Hannes Leitgeb at the MCMP).

Services to the Profession:

Referee for *Ergo*.

Jake Chandler

1. Type of Affiliation with the MCMP

Jake Chandler was at the MCMP between Sept 1st 2013 and Dec 31st 2013, on an MCMP-funded Postdoctoral Fellowship.

2. Research Projects

During this period Jake Chandler has been primarily carrying out research on the foundations and philosophical applications of a mathematical model of belief change known as the AGM model.

With regards to applications, he first of all investigated a number of recent ‘no-go’ theorems which purport to show that a particular attempted application of the AGM model to the semantics of *conditionals* faces a number of theoretical difficulties. He has also further developed recently published work of his which used this model to help clarify the notion of *evidence*, which is crucial to the fields of epistemology and philosophy of science.

With regards to foundational issues, Jake Chandler established the key results for a series of papers which attempt to solve a long standing difficulty associated with the AGM model, namely a complete lack of consensus on how to handle the crucial problem of sequences of belief changes, the so-called problem of “*iterated change*”. A first paper demonstrates that progress on the matter has been hampered by a widespread commitment to a dubious “reductionist” assumption. The second paper suggests a novel way of handling sequences of belief change by attending to the agent’s beliefs about evidence. The third paper offers the first attempted extension to sequences of belief changes of a famous principle, the Harper identity, which establishes an extremely useful mathematical connection between two kinds of belief change operations. This extension allows one to translate advances in the understanding of the iterated behavior of one of these types of operation (belief “revision”) into advances in the understanding of the iterated behavior of the other (belief

“contraction”).

3. Academic Output

The research carried out during the relevant period led to one completed article, which was submitted to one of the top philosophy journals, and three papers in progress, two of which are co-authored, and all of which are expected to be submitted by mid-May 2014. The details are as follows:

“Preservation, Commutativity and Modus Ponens: Two Recent Triviality Results” (submitted to *Mind*).

“On the Reduction of Iterated to Single Revision” (in progress).

(With R. Booth:) “Iterated Revision and Evidential Relevance” (in progress).

(With R. Booth:) “Extending the Harper Identity” (in progress).

A version of the third paper was presented at the MCMP in November 2013. A more recent version recently been accepted for the Italian Society for Logic and Philosophy of Science (SILFS) Triennial Conference in Rome in June 2014.

During the relevant period, Jake Chandler participated regularly in the MCMP’s local reading group on imprecise probabilities. He also refereed for a number of journals, including *Erkenntnis*, and undertook some unpaid consultancy work for the British Royal Society-funded Probability, Uncertainty and Risk in the Environment (PURE) network, on the topic of crowdsourcing of risk assessment.

Regarding job and grant applications, he submitted an application for the Dutch VIDI grant scheme, for the sum of 800 000 EUR, which led to an interview in March (outcome still unknown) after receiving referee scores of three A’s and an A+. He was also interviewed for a Senior Research Professorship at the University of Leuven. This did not, however, result in a job offer.

Vincenzo Crupi

1. Type of Affiliation with the MCMP

Vincenzo Crupi was at the MCMP (with MCMP funds) as a Visiting Fellow in January-March and then again in October-December 2013.

2. Research Projects

Vincenzo Crupi’s work in this period further develops the analysis of probabilistic theories of evidential support (or confirmation) (Crupi, Chater, and Tentori, 2013; Crupi 2013; Crupi and Tentori, 2013; Crupi and Tentori, forthcoming-b), including key connections with models of rational information search and optimal experimental design (Crupi and Tentori, forthcoming-a). Ongoing collaborative investigations on the so-called conjunction fallacy yielded reports of original experimental data and novel theoretical discussions (Tentori, Crupi, and Russo, 2013; Tentori and Crupi, 2013). Additional work published in this period addressed the role of normative models in the study of human reasoning in a broad perspective (Crupi and Girotto 2014).

3. Academic Output

Publications:

Crupi, V. and Tentori, K. (forthcoming-a)

“Measuring Information and Confirmation”, *Studies in the History and Philosophy of Science*.

Crupi, V. and Tentori, K. (forthcoming-b)

“Confirmation Theory”. In: A. Hájek and C. Hitchcock (eds.), *Oxford Handbook of Philosophy and*

Probability, OUP.

Crupi, V. and Girotto, V. (2014)

“From *Is* to *Ought*, And Back: How Normative Concerns Foster Progress in Reasoning Research”, *Frontiers in Psychology*, 5, Article 219.

Crupi, V. and Tentori, K. (2013)

“Confirmation as Partial Entailment: A Representation Theorem in Inductive Logic”, *Journal of Applied Logic*, 11, pp. 364-372.

Tentori, K. and Crupi, V. (2013)

“Why Quantum Probability Does Not Explain the Conjunction Fallacy”, *Behavioral and Brain Sciences*, 36, pp. 308-310.

Tentori, K., Crupi, V., and Russo, S. (2013)

“On the Determinants of the Conjunction Fallacy: Probability vs. Inductive Confirmation”, *Journal of Experimental Psychology: General*, 142, pp. 235-255.

Crupi, V. (2013)

“Confirmation”. In: E. Zalta (ed.), *Stanford Encyclopedia of Philosophy*

(<http://plato.stanford.edu/entries/confirmation/>).

Crupi, V., Chater, N., and Tentori, K. (2013)

“New Axioms for Probability and Likelihood Ratio Measures”, *British Journal for the Philosophy of Science*, 64, pp. 189-204.

Talks:

The Logic and Psychology of Evidential Support (Invited)

Logic and Philosophy of Science Seminar

University of Florence

Firenze, March 7, 2014.

How the “Doctors” Think: Cognitive Errors in Clinical Reasoning (with Fabrizio Elia) (Invited)

Italian Society of Internal Medicine

Conference of the Piemonte–Liguria–Valle d’Aosta section

Torino, November 28, 2013.

Biases, Heuristics, and Probability: How Naïve is Naïve Reasoning? (Invited)

Conference Epistemology of ordinary knowledge

University of Siena, Arezzo, October 9, 2013.

Nelson, J.D., Szalay, C., Meder, B., Crupi, V., Gigerenzer, G., and Tentori, K. (Refereed)

On Optimality Conditions for the Likelihood Difference

46th Annual Meeting of the Society of Mathematical Psychology

Potsdam, August 5, 2013.

Organization of events:

Operationalization 2013

Freiburg, October 15-16, 2013

Organizer (with Marco Ragni, Henrik Singmann, and Jan Sprenger).

The Logic and Psychology of Confirmation and Information Search

Munich, February 26, 2013

Organizer.

Applications for funding:

Vincenzo Crupi submitted an application for the second three-year period (2014-2016) of the DFG priority program *New Frameworks of Rationality* (SPP 1516). Title of the research project: *Models of information search: A theoretical and empirical synthesis* (a joint proposal with: Jonathan Nelson and Björn Meder, MPI Berlin; Laura Martignon, Ludwigsburg; Katya Tentori, Trento).

Catarina Dutilh Novaes

1. Type of Affiliation with the MCMP

Catarina Dutilh-Novaes is a Professor the Faculty of Philosophy of the University of Groningen and also an External Fellow of the MCMP. She spent January 21-25 (MCMP funding), May 14-17 (MCMP funding), and July 3-6 (Carnap workshop funding) at the Center.

2. Research Projects

In this period Catarina Dutilh-Novaes continued to develop her dialogical conceptualization of logic and deduction, and to discuss its implications for philosophy of logic and mathematics. She focused in particular on the history of logic (especially Aristotle's logic), and on empirical results on deductive reasoning from psychology and cognitive science.

3. Academic Output

Papers published:

C. Dutilh Novaes 2013, "A Dialogical Account of Deductive Reasoning as a Case Study for How Culture Shapes Cognition", *Journal of Cognition and Culture* 13, 453-476.

C. Dutilh Novaes 2013, "The Role of 'denotatur' in Ockham's Theory of Supposition", *Vivarium* 51, 352-370.

C. Dutilh Novaes 2013, "Mathematical Reasoning and External Symbolic Systems", *Logique & Analyse* 221, 45-65.

C. Dutilh Novaes 2013, "The Ockham-Burley Dispute". In: A. Conti (ed.), *A Companion to Walter Burley*. Leiden, Brill.

C. Dutilh Novaes 2013, Review of P. Mancosu, *The Adventure of Reason*, *Mind* 122(486), pp. 571-575.

Papers accepted:

C. Dutilh Novaes 2014, "The Undergeneration of Permutation Invariance as a Criterion for Logicality", *Erkenntnis* 79, 81-97.

C. Dutilh Novaes and J. Spruyt, forthcoming, "Those Funny Words: Medieval Theories of Syncategorematic Terms". In: M. Cameron and R. Stainton (eds.), *Linguistic Content: New Essays on the History of the Philosophy of Language*. Oxford, Oxford University Press.

Talks/lectures:

A Dialogical Analysis of Structural Rules. Workshop 'Proof theory and philosophy', Groningen (December 2013).

The Phylogeny and Ontogeny of Deductive Reasoning as Cultural Phenomena. Keynote at SoPHia (Salzburg Graduate Conference) (September 2013).

Aristotle's Logic and the 'Built-in Opponent' Hypothesis. Conference Dialectic and Aristotle's logic, Groningen (September 2013).

Proofs as Dialogues and Logical Consequence. Invited lecture, SADAF, Buenos Aires (August 2013).

Reasoning Biases and Non-Monotonic Logics. Invited lecture, Computer Science department, University of São Paulo (August 2013).

Carnapian Explication and Formal Languages as Cognitive Artifacts: Two Conceptions of Formalization. Invited lecture, conference 'Carnap's Logic', Munich Center for Mathematical Philosophy, Munich (July 2013).

Mathematical Reasoning and External Symbolic Systems. Invited lecture, conference 'The reach of REC', Antwerp (June 2013).

Indirect Proof in the *Prior Analytics* from a Dialogical Perspective. Invited lecture, PhilMath Intersem colloquium, Paris (June 2013).

A Dialogical Conception of Indirect Proof. Workshop 'Argumentation in mathematics', Groningen (may 2013).

Being a Woman in (Mathematical) Philosophy. Invited lecture, Munich Center for Mathematical Philosophy, Munich (May 2013).

The Phylogeny and Ontogeny of Deductive Reasoning as Cultural Phenomena. 2nd Conference on Games, Interactive Rationality, and Learning, Lund (April 2013) and keynote at SoPHia (Salzburg Graduate Conference) (September 2013).

Axiomatizations of Arithmetic and the First-Order/Second-Order Divide. UNILOG, Rio de Janeiro (April 2013).

The Roots of Deduction: Every Proof is and is Not a Dialogue. Pacific APA, San Francisco, (March 2013).

Reasoning Biases and Non-Monotonic Logics. Invited lecture, Munich Center for Mathematical Philosophy, Munich (January 2013).

Further activities:

Numerous blog posts at

<http://www.newappsblog.com/catarina-dutilh-novaes/>

<http://m-phi.blogspot.com>

David Etlin

1. Type of Affiliation with the MCMP

David Etlin was an MCMP Postdoctoral Fellow from October 15 to December 31st 2013.

2. Research Projects

David Etlin did research on conditionals and modality, presented at an international conference; and on vagueness and decision theory, presented in colloquia here (and at four major UK universities in January 2014). The work on conditionals extends his earlier research on that topic, about the iteration of conditionals, and its relation to metaphysical and epistemic modality. The work on vagueness is a novel project which explains linguistic vagueness as arising from intransitive indifferences about the semantic interpretation of utterances, and which resolves the sorites paradox by an unorthodox decision theory.

3. Academic Output

Talks:

October 2013: Logic and Engineering of Natural Language Semantics, Tokyo.

November 2013: MCMP Colloquium.

Further activities:

Reading groups co-organized (with Aidan Lyon): Game Theoretic Meaning group.

Participated in reading group: Imprecise Credences group.

Referee for *Synthese*.

Martin Fischer

1. Type of Affiliation with the MCMP

During the whole year 2013 Martin Fischer was part of the MCMP and was working as a Postdoctoral Researcher within the DFG funded project ‘Syntactical treatments of interacting modalities’ (led by Hannes Leitgeb).

2. Research Projects

The research of Martin Fischer in 2013 focused on syntactical treatments of interacting modalities. One of the questions concerned paradoxes of interaction. In joint work with Johannes Stern a notion of reducibility of paradoxes was developed and applied to interaction paradoxes showing that there are irreducible as well as reducible paradoxes of interaction. Moreover, Martin Fischer worked on questions of expressive power: one special case is the expressive power of the truth predicate and its ability to shorten proofs. A third line of research consisted in a semantic construction for a theory of truth and groundedness incorporating methods developed by Kripke and Halbach & Welch. Another question of interest was the possibility of adequately axiomatizing semantic theories of truth. In joint work with Norbert Gatzl (also MCMP), proof-theoretic techniques were used to establish consistency proofs for axiomatic systems of interacting modalities.

3. Academic Output

Papers:

Martin Fischer, “Truth and Speed-up”, *Review of Symbolic Logic*, forthcoming.

Johannes Stern and Martin Fischer, “Paradoxes of Interaction?”, *Journal of Philosophical Logic*, accepted.

Martin Fischer and Leon Horsten, “The Expressive Power of Truth”, under review.

Martin Fischer, Volker Halbach, Jönne Kriener, and Johannes Stern, “Axiomatizing Semantic Theories of Truth”, under review.

Martin Fischer, “A Model of Truth and Groundedness”, in preparation.

Martin Fischer and Norbert Gatzl, “Philosophical Applications of Cut Elimination”, in preparation.

Talks:

“Paradoxes of Interaction”, Workshop Leuven, 6.02.2013.

“Paradoxes of Interacting Modalities”, Truth-to-Be-Told-Again Workshop Amsterdam, 13.03.2013.

“Truth and Speed-up”, Workshop Munich, 25.05.2013.

“Axiomatizing Grounded Truth?”, Groundedness in Semantics and Beyond, Oslo, 24.08.2013.

Mathias Frisch

1. Type of Affiliation with the MCMP

Mathias Frisch was a Senior Visiting Fellow at the MCMP from January 2013 through July 2013 (funded by the MCMP).

2. Research Projects

During his stay in Munich, Mathias Frisch worked on a book manuscript on causal reasoning in physics and on three papers: i) a paper on laws in physics, ii) a paper on inconsistencies in classical electrodynamics, iii) a joint paper with other members of the MCMP on a proper understanding of chances in physics.

3. Academic Output

Book:

Causal Reasoning in Physics (forthcoming 2014 with Cambridge University Press).

Papers:

- 1) “Unsharp Humean Chances in Statistical Physics: a Reply to Beisbart”, together with Luke Glynn, Radin Dardashti, and Karim Theabault (forthcoming).
- 2) “Physics and the Human Face of Causation,” *Topoi. An International Review of Philosophy* (guest editors Federica Russo and Phylis Ilari) (forthcoming).
- 3) “Classical Electrodynamics: no more toils and troubles?”, *Studies in History and Philosophy of Modern Physics* (forthcoming).
- 4) “Laws in Physics”, *European Review* (forthcoming).

Talks:

- 1) Bielefeld-Bonn-Bochum Graduierten Konferenz, Keynote Speaker, Februar 2013.
- 2) “Causal Reasoning in Physics”, Universität Tübingen, May 2013.
- 3) “Uncertainty in Climate Modeling,” Symposium at the GWP.2013 conference (Deutsche Gesellschaft für Wissenschaftsphilosophie) Hannover, March 2013
- 4) “Integrated Assessment Models and Climate Policy Decisions.” Durham University, May 2013.
- 5) Summer school Physics and Philosophy of Time July 2013; invited lecturer.

Further Activities:

Mathias Frisch began work on a grant proposal, submitted later in 2013 to the U.S. National Science Foundation. (Application still pending).

Norbert Gratzl

1. Type of Affiliation with the MCMP

Norbert Gratzl was an MCMP Postdoctoral Fellow from January 1 to September 30, 2013, and as an Assistant Professor at the MCMP from October 1 to December 31, 2013 (as a temporary substitute for Olivier Roy, who had left to take up his professorship at the University of Bayreuth).

2. Research Projects

Norbert Gratzl’s work was focused on: (i) definite and indefinite descriptions, (ii) theoretical terms, (iii) paradigms, and (iv) deontic logic and multi-modal logics.

(i) Norbert Gratzl continued to work on definite and indefinite descriptions. Three major papers on these topics are currently under review: “Incomplete Symbols - Definite Description Revisited”: This paper approaches definite descriptions in the spirit of Bertrand Russell (*Principia Mathematica*). This paper contains a rather proof-theoretic view on this topic. “Ambiguous Descriptions” tackles Russell's conception of indefinite descriptions in a like manner as the forementioned paper. Some formalities of these approaches are applied to an alternative approach to epsilon terms, i.e. "Epsilon terms - alternate takes”.

(ii) Joint work with G. Schiemer on the "Epsilon Reconstruction of Scientific Theories”. In the 60ies, R. Carnap proposed a new way to define theoretical terms by use of Hilbert's epsilon terms. Georg Schiemer and Norbert Gratzl took a fresh look on Carnap's approach, and they connect this to more recent work on structuralism, arbitrary reference, and Russell's indefinite descriptions.

(iii) Together with M. Gabriel and D. Gruber, Norbert Gratzl wrote a paper on the pluralism of paradigms in sociology. They identify what they call ‘super-paradigms’ (of paradigms), and they investigate several philosophical relevant kinds of relations among them.

(iv) Deontic logic is another research interest of Norbert Gratzl. He and his collaborators (A. Anglberger and O. Roy) published already some articles on a new deontic logic that interprets obligation in a new way. The deontic logic of “obligation as weakest permission” has been proposed to analyze rational recommendations to players in game-theoretic situations. This logic departs in many ways from standard deontic logic (SDL). Its two deontic modalities are non-

normal. They do not validate K nor the rule of necessitation. They are also two “boxes”, while in SDL P (ermission) is a “diamond”. And they are not dual to each other. Finally, and more importantly, the main interaction principle between the deontic and the alethic modalities rest on the following idea: A is obligatory only if it is the logically weakest permitted action type that the agent can perform.

3. Academic Output

Appeared:

“Sequent Calculi for Multi-modal Logics with Interaction”, in D. Grossi, O. Roy & Huang (eds.), Proceedings of the 4th Workshop on Logic, Rationality and Interaction, Lecture Notes in Computer Science #8196, Springer, 2013, pp. 124-134, (peer-reviewed).

“Paradigmenpluralismus in der Soziologie: Klassifikation, Koexistenz, Kooperation und paradigmatische Dependenz” (together with: M. Gabriel & D. Gruber), in: S. Kornmesser & G. Schurz (eds), Die multiparadigmatische Struktur der Wissenschaften: Koexistenz, Komplementarität und (In)Kommensurabilität, Springer, 2014, pp. 305- 335.

“The Logic of Best Actions from a Deontic Perspective” (zusammen mit O. Roy & A. Anglberger), in S. Smets, A. Baltag (eds.) Johan F. A. K. van Benthem on Logical and Informational Dynamics, volume to appear (invited contribution; volume in preparation).

Submitted:

“Incomplete Symbols - Definite Descriptions Revisited” (*Journal of Philosophical Logic*).

Epsilon Terms - Alternate Takes (*Review of Symbolic Logic*).

“A Note on First Order $S5$ ” (*Notre Dame Journal of Formal Logic*).

“The Logic of Obligation as Weakest Permission” (together with: A. Anglberger and O. Roy, *Review of Symbolic Logic*).

“Ambiguous Descriptions”.

Book project:

Began to work on an edited volume on mathematical philosophy with S. Huttegger and A. Anglberger.

Talks:

“On Teleport - Multi-modal Sequent Calculi”, Paris-Munich-Workshop, February 2013.

“Ambiguous Descriptions”, Conference of the Society of Exact Philosophy, Montreal, June 19, 2013.

“Sequent Calculi for Multi-modal Logics with Interaction”, LORI IV, University Hangzhou, October 2014.

“Is, Ought, and Cut”, Proof Theory in Philosophy, Invited, University of Groningen, December 5, 2013.

Reviewing:

PC-member of the SEP-conference, Montreal; *Journal of Logic and Computation*.

Further activities – Administrative:

(Since October 2013:)

Co-administrator of the MA-programme “Logic and Philosophy of Science”.

Responsible for the ERASMUS-programme at the MCMP (successfully accomplished several new cooperation agreements).

Organizational:

Co-organized a workshop on *The Analysis of Theoretical Terms*, 3-5. April 2013. We successfully applied for a DFG-conference grant, about 7.500 €. Invited speakers: H. Andreas, D. Christopoulou, W. Demopoulos, J. Ketland, H. Leitgeb, M. Leng, S. Lutz, M. Massimi, U.

Moulines, S. Psillos, G. Schurz, Ch. Werndl, J. Worrall.

Successful application at the DAAD “Substructural epistemic logics: models, dynamics, proofs”, funding about 7.000 €; status: Principal Investigator.

Organized (together with O. Roy) a workshop “Proof Theory of Modal Logic“ at the 5th Indian School on Logic and Its Applications 6-17 January 2014, University Tezpur; invited participants: F. Poggiolesi, A. Palmigiano, T. Braüner. Roy.

Successfully applied (together with O. Roy) for an ESSLI-course “Introduction to Proof Theory of Modal Logic“ in August 2014.

Frederik Herzberg

1. Type of Affiliation with the MCMP

Frederik Herzberg was a Visiting Fellow (funded by the MCMP) from 1st January 2013 to 31st March 2013.

2. Research Projects

The main focus of Frederik Herzberg’s research is the use of formal methods from pure and applied mathematics in relation to fundamental questions of epistemology, in particular epistemic justification and the role of uncertainty in decision making. Having previously developed a generalised Bayesian framework for formal epistemology (a framework that allows belief systems to be compatible with multiple probability measures), he worked out in some detail a formalisation of the notion coherence concept from traditional epistemology due to Bonjour (1985), involving probability theory, graph theory, Bayesian confirmation theory, and – for the case of certain infinite belief systems – nonstandard analysis. In addition, he formulated an axiomatic analysis of the relations between various versions of coherentism, infinitism and foundationalism, arguing the irenic case for a common ground among mild versions of the three, based on a holistic approach to belief systems.

Since, generally, belief systems can be compatible with several (even infinitely many) probability measures, decision making given such belief systems encounters the problem of ambiguity or second-order (Knightian) uncertainty. An interesting problem is the aggregation of such ambiguous preferences – which can arise in social epistemology, collective decision making (social choice) or even at an individual level if one adopts Minsky’s (1986) society of mind theory. In response, Frederik Herzberg developed an Arrow-type aggregation theory for a very general class of ambiguous preferences, viz. Monotonic Bernoullian Archimedean preferences.

Moreover, Frederik Herzberg responded to the recent criticism of Bayesian orthodoxy (in particular, the regularity assumption) by Hájek (2012) and the criticism of standard Bayesian confirmation theory (in particular, the use of the relevance measure of confirmation) by David Miller (2012). He developed an escape strategy for orthodox Bayesians in response to the predicament perceived by Hájek; and he submits that there are compelling formal reasons not to abandon the relevance measure of confirmation.

Historically, an area where probability theory and decision theory are of philosophical import is the discussion surrounding Pascal’s Wager. After exploring the historical background, philosophico-theological presuppositions and mathematical difficulties in formalising it, he examined Hájek’s (2003) claim that only invalid formalisations of the Wager are actually historically faithful. Frederik Herzberg argues that the historical horn of Hájek’s dilemma is based on a misinterpretation.

3. Academic Output

Publications and Presentations:

F.S. Herzberg, “A Note on 'The No Alternatives Argument' by Richard Dawid, Stephan Hartmann and Jan Sprenger”, conditionally accepted by the *European Journal for Philosophy of*

Science.

F.S. Herzberg, “A graded Bayesian Coherence Notion”, *Erkenntnis*, to appear. [doi:10.1007/s10670-013-9569-6](https://doi.org/10.1007/s10670-013-9569-6).

F.S. Herzberg, “Aggregation Prior to Preference Formation: How to Rationally Aggregate Probabilities”, *Theory and Decision*, to appear. [doi:10.1007/s11238-014-9424-5](https://doi.org/10.1007/s11238-014-9424-5).

F.S. Herzberg, “Universal Algebra and General Aggregation: Many-Valued Propositional-Attitude Aggregators as MV-Homomorphisms”, *Journal of Logic and Computation*, to appear. [doi:10.1093/logcom/ext009](https://doi.org/10.1093/logcom/ext009).

F.S. Herzberg, “The Dialectics of Informatism and Coherentism: Inferential Justification vs. Holism and Coherence”, *Synthese* 191 (2014), no. 4, pp. 701–723. [doi:10.1007/s11229-013-0273-5](https://doi.org/10.1007/s11229-013-0273-5).

F.S. Herzberg, “The (Im)possibility of Collective Risk Measurement: Arrovian Aggregation of Variational Preferences”, *Economic Theory Bulletin* 1 (2013), no. 1, pp. 69–92. [doi:10.1007/s40505-013-0004-6](https://doi.org/10.1007/s40505-013-0004-6).

Papers under review:

F.S. Herzberg, “Arrovian Aggregation of Monotonic Bernoullian Archimedean Preferences: (Im)possibility Results via Model Theory”, submitted to *Social Choice and Welfare*.

Manuscripts:

F.S. Herzberg, “Pascal's Wager revisited”.

F.S. Herzberg, “Should q Come After r ? On David Miller's Critique of Bayesian Confirmation Theory”.

F.S. Herzberg, “In defence of Regular Bayesianism”.

Further activities – Refereeing for peer-reviewed journals during the funding period:

Erkenntnis.

Journal of Philosophical Logic.

Synthese.

Reviewing during the funding period:

Mathematical Reviews (American Mathematical Society).

Ole Hjortland

1. Type of Affiliation with the MCMP

Ole Hjortland was an Assistant Professor at LMU in 2013.

2. Research Projects

Ole Hjortland’s research is chiefly in the philosophy of logic, with a focus on non-classical logic. In 2013 he continued to work on substructural theories of truth, using logical restrictions to solve traditional semantic paradoxes in unified fashion. He is working on two manuscripts both exploring such approaches, one on contraction-free logics and one on axiomatizations of Kripke’s theory of truth. He also extended his research to cover epistemology of logic, especially combinations between non-classical logic and probability theory. He is finishing a manuscript on so-called bridge principles, that is, principles that aim to explicate the normative role of logic by relating logical consequence and doxastic conditions. In addition he co-authored a paper on connections between modalities dynamic epistemic logic and substructural consequence relations. Together with Olivier Roy, he is editing a forthcoming special issue with the same topic. Finally, he spent two productive research visits in Buenos Aires and Oslo, giving talks, and working on collaborative projects. The former resulted in a joint DFG application on semantic paradoxes (which was submitted in 2014).

3. Academic Output

Publications:

Hjortland, O., “Speech Acts, Categoricity, and the Meanings of Logical Connectives”, forthcoming in the *Notre Dame Journal of Formal Logic*.

Hjortland, O., “Verbal Disputes in Logic: Against Minimalism for Logical Connectives”, forthcoming in *Logique et Analyse*.

In preparation:

Hjortland, O., “Proof Theoretic Harmony in the Substructural Era”, under review (revise and resubmit).

Hjortland, O., “Dynamic Consequence for Soft Information”, (with Olivier Roy), under review (revise and resubmit).

Hjortland, O., “Normalization and Harmony: To Lie Like A Bullet”, under review.

Hjortland, O., “Categoricity and Conservativeness” (with J. Murzi), invited contribution to volume on Logical Inferentialism, edited by N. Tennant and F. Steinberger.

Hjortland, O. (ed.), Special issue on formal epistemology for *Erkenntnis*, based on the 9th Formal Epistemology Workshop FEW’9 (with B. Fitelson, V. Crupi, F. Steinberger).

Hjortland, O., “Truth, Paracompleteness, and Substructural Logic”, ms.

Hjortland, O., “Axiomatizing Theories of Truth in Sequent Calculus”, (with Johannes Korbmacher), ms.

Talks:

December 2013, “An n-Sided Sequent Calculus for Paraconsistent and Paracomplete Theories of Truth”, Workshop on Proof Theory and Philosophy, University of Groningen, Netherlands.

December 2013, “Dynamic Consequence for Soft Information”, Workshop on Proof Theory and Philosophy (with O. Roy), University of Groningen, Netherlands.

December 2013, “Proof Theoretic Harmony in the Substructural Era”, Colloquium, University of Tübingen, Germany.

November 2013, “Proof Theoretic Harmony in the Substructural Era”, Logic colloquium, University of Gothenburg, Sweden.

November 2013, “Bridge over Troubled Waters: The Normative Role of Logic”, Philosophy seminar, University of Umea, Sweden.

November 2013, “Half as Lovely, Twice as True: Theories of Truth and Paradox”, Filosofiska föreningen, University of Umea, Sweden.

September 2013, “Proof Theoretic Harmony with Higher Order Rules”, keynote speaker, SOPhiA 2013, University of Salzburg, Austria.

September 2013, “Tutorial: Nonclassical Logics”, SOPhiA 2013, Workshop on mathematical philosophy, University of Salzburg, Austria.

July 2013, “An n-Sided Sequent Calculus for Paraconsistent and Paracomplete Theories of Truth”, Paraconsistency workshop, University of Bonn, Germany.

April 2013, “Truth, Paracompleteness, and Substructural Logic”, Workshop on Truth, Paradoxes, and Inexpressibility, University of Buenos Aires, Buenos Aires, Argentina.

March 2013, “Primitivism about Validity”, Philosophy Research Seminar, University of Kent, UK.

March 2013, “Inferentialism and Minimalism for Logical Connectives”, Philosophy colloquium, University of Gothenburg, Gothenburg, Sweden.

February 2013, “Truth, Paracompleteness, and Substructural Logic”, Philosophy of Mathematics Seminar, University of Oxford, Oxford, UK.

Visiting appointment:

University of Buenos Aires, Argentina (April 2013).

University of Oslo (UiO), Oslo, Norway (August 2013).

Workshops organized:

Meaning: Models and Proofs, 1st joint Arché-MCMP workshop, October 2013.

Administrative:

Section Editor for Philosophy of Journal, *Ergo: An open access journal of philosophy*.

Member of editorial panel for the Northern Institute of Philosophy journal *Thought*.

Convenor of a weekly seminar on philosophy of logic and mathematics in MCMP.

Coordinator of the new MCMP MA programme in Philosophy of logic and science.

Krystian Jobczyk

1. Type of Affiliation with the MCMP

Krystian Jobczyk was a Postdoctoral Researcher at the MCMP from 01.01.2013 to 30.09.2013 in a project funded by the Thyssen Foundation.

2. Research Projects

Krystian Jobczyk carried out a research project on “Metamathematics of axiomatic metaphysics, or the issue of the formal and philosophical improving of the model-theoretic argument”. The main thesis of this project was that the famous model-theoretic argument of Putnam’s can be formally improved in two ways: by exchanging of the logic of first-order for the stronger logical background: first order logic with generalized quantifiers of Mostowski’s type; and by exchanging set theory for the canonical meta-system of the Suszko or Myhill type. The model-theoretic argument in such a reconstructed version preserves (almost) all of the philosophical advantages of the original Putnam argument. In Suszko’s meta-system it omits the allegations of Velleman-Bellotti-Shapiro concerning the non-well-foundedness of the Putnam’s ω -model.

Other than his main research project, Krystian Jobczyk also worked on some topics in theoretical computer science.

3. Academic Output

Papers/talks/conferences – Papers under review:

a) “Polemic Remarks on Woleński’s Interpretation of the Model-Theoretic Argument” (*Filozofia Nauki*).

b) “Fuzzy Integral Logic of Preferences” (*Proceedings of ECAI*).

c) Review of “Philosophie der Mathematik” by R. Murawski, T. Bedürftig (SPCh).

Papers in preparation:

“Another Turn to Another Turn of the Screw: Remarks on Carpintero’s Interpretation of the Model-Theoretic Argument”.

“Dispute over the Model-Theoretic Argument. Reply to T. Bays”.

“Putnam and the Bellotti-Suszko-Velleman’s Allegation”.

“Model-Theoretic Argument and Logic with Generalized Quantifiers”.

“Game-Theoretic Aspects of the Model-Theoretic Argument”.

“Expedition against Skolemits: Still Needed?”.

“Two Temporal Logics of Action with the Abstract Finite Model Property”.

Conferences/talks:

“Logical Tools in Temporal Planning”, Invited talk for a research group MAD, Faculty of Computer Science, University Caen, 10. June 2013.

“Modeling of Effective Persuasion”, Invited talk for a research group of Applied Computer Science,

Technical University of Cracow (AGH Kraków), 12 September 2013.

“Modal Logic of Gödel’s Incompleteness Theorem and its Properties”, 31st International Conference on Mathematics and Information Science , Luxor 29-30 December 2013.

Further activity – since October 2013, PhD-student in computer science, University of Caen, France. (Supervision: Maroua Bouzid, research group: Models, Agents, Decision MAD); external financial sources (French industry).

Andreas Kapsner

1. Type of Affiliation with the MCMP

Andreas Kapsner took up a postdoctoral position at the MCMP in September 2013, leading the DFG-funded research project “New logics for verificationism”.

2. Research Projects and 3. Academic Output

The first phase of Andreas Kapsner’s project was mostly concerned with historical aspects. Two papers reporting on that research were presented later in February 2014: One on the virtually unknown research on philosophical logic conducted by Kalman Cohen in the 1950s, presented at the World Congress on Paraconsistent Logic in Kolkata, India (joint work with David Miller, Warwick, and Roy Dyckhoff, St. Andrews). The second on the history of dual intuitionistic logic, the conceptual roots of which are shown to go back to the 1920s, presented at the Ashutosh Mookherjee Memorial Conference on the History and Philosophy of Mathematics, also in Kolkata.

Furthermore, Andreas Kapsner, together with Albert Anglberger (also MCMP), organized the international conference “Privacy: Formal and Informal Approaches” (November 1st - 2nd 2013, see www.privacy2013.org). This conference brought together formal philosophers with researchers from the fields of practical philosophy, computer science, sociology and legal studies for an interdisciplinary exchange about the puzzles and problems surrounding privacy.

Johannes Korbmacher

1. Type of Affiliation with the MCMP

Johannes Korbmacher was an MCMP Doctoral Fellow (supervised by Hannes Leitgeb) for all of 2013.

2. Research Projects and 3. Academic Output

During the indicated period Johannes Korbmacher worked mainly on his doctoral research project: he particularly focused on the logic and semantics of metaphysical ground. Roughly, metaphysical ground is the concept expressed by the phrase ‘in virtue of’. The logic of ground deals with the notion of consequence for ‘in virtue of’-statements. It is an open research problem to find a sound and complete semantics for the logic of ground. Most of his work in the indicated period was aimed at providing such a semantics. In this context, he gave two talks on the proof theory of the logic of ground: one at the 1st MCMP Munich-Buenos Aires Workshop, 12th of July 2013 in Munich, entitled “The Logic of Ground”, and one at the workshop *Groundedness in Semantics and Beyond*, which took place August 23rd – 24th 2013 in Oslo. The work carried out in the indicated period will account for major parts of his dissertation, as well as a paper draft (~35 pages) tentatively titled “Semantics for the Logic of Ground”.

Besides the work on his dissertation, he published an extended version of a previously published entry on *Substitution* (~15.000 characters) in the second online edition of the *Wörterbuch zur*

Sprach- und Kommunikationswissenschaft. Band 15: Sprachphilosophie. Furthermore, he worked on a joint paper with Georg Schiemer (University of Vienna, formerly MCMP) tentatively entitled “What are Structural Properties?”. This work culminated in a paper draft of roughly 30 pages which they plan to submit in 2014.

Ladislav Koren

1. Type of Affiliation with the MCMP

Ladislav Koren worked at the MCMP from 01/02/2013 to 23/12/2013. His research stay was fully funded by his independent Alexander-von-Humboldt Fellowship for Postdoctoral Researchers (academic host: Hannes Leitgeb).

2. Research Projects and 3. Academic Output

Ladislav Koren was working on his research project *Certainties and the Sceptical Problem* the objective of which was to explore, in a systematic way, the idea that a Wittgensteinian account of discursive-epistemic practices – assigning a special role to so-called certainties (*aka* hinge propositions) – promises to provide both an appealing diagnosis and way out of paradigmatic sceptical puzzles concerning knowledge or justification.

The main outcomes of his research at the MCMP are the following ones (in print/to be submitted shortly):

1) “Certainties and Scepticism: a Pragmatically-Oriented Approach”, to be submitted to *Philosophia*.

In this study Ladislav Koren aims to provide a pragmatically-oriented diagnosis and exposure of paradigmatic sceptical arguments, based on an account of a specific role of Wittgensteinian certainties in our discursive games in general and epistemic practices in particular. The basic idea is to take very seriously a specific pragmatic approach that treats our discursive practices as rule-governed games involving both discursive moves and statuses of a sort and to extend this model also to our epistemic language-games and categories. It is further shown how the pragmatic model of epistemic games incorporates Wittgensteinian certainties and how all this conspires together to provide an exposure of the sceptical puzzles as based on “optional” commitments (by our lights) not implicated in our epistemic practices (*pace* those philosophers who would have us believe that the very best sceptical arguments are perennial paradoxes precisely because they just draw inconvenient consequences from the commitments that are, at least on careful reflection, our own). Finally, this pragmatic approach is defended against traditional charges of “dogmatism” often raised against related common-sense responses to scepticism.

2) “Underdetermination, Scepticism and Realism”, in print, to appear in *Organon F* 2014 21(2): 145-167.

In this study Ladislav Koren articulates and compares the structure, presuppositions and implications of two paradigmatic sceptical arguments, i.e. arguments from underdetermination of scientific theories by observational data (UA) and Cartesian-style arguments (CA) invoking sceptical scenarios of severe cognitive dislocation. Although salient analogies between them may prompt one to think that a unified diagnosis of what is amiss with them is called for, it is argued that this may be a false hope, if those analogies do not underwrite a complete homology. That said, possible parallels of one promising anti-sceptical exposure of CA are pointed out for the case of UA, which conspire together to render the problem of underdetermination less threatening than it could at first appear.

3) “Hinges and the Transmission/Closure Problem”, to be submitted to *Synthese*.

In this study Ladislav Koren offers a critical appraisal of the argument recently advanced by Duncan Pritchard ("Groundlessness of our Believing", *Synthese* 2012) to the effect that preservation of some eminently plausible closure (or transmission) principles can be used as a powerful adequacy test sorting out plausible from implausible conceptions of Wittgensteinian certainties. I argue that Pritchard's adequacy test fails to exert the intended selection pressures on those alternative conceptions of Wittgensteinian certainties that treat them as sort of 'logical' preconditions of knowledge (justification) that are not up for grabs as known or unknown (justified or unjustified).

In addition, Ladislav Koren prepared material for two further studies directly related to the topic of his research project, both of which should be finished in 2014 and submitted to international journals.

4) “Are We Entitled to Certainties?”.

In this paper he focuses on the issue of Wittgensteinian certainties in connection to the debate about the possibility and nature of epistemic entitlement and its anti-sceptical potential – if any. It has two principal aims. First, it offers a criticism of two intriguing recent accounts of the nature of epistemic entitlement or right (both drawing on Wittgenstein's insights), namely those worked out by Crispin Wright and Michael Williams respectively. On this basis, secondly, it argues that a Wittgensteinian approach to certainty and scepticism had better do without the idea of *default epistemic entitlement*, if it is to retain certain characteristic features that make it a plausible account of our epistemic practices in the first place.

5) “Heavyweight Propositions and the Closure Problem.”

In this paper, Ladislav Koren compares the issue of certainties *vis-à-vis* the closure problem with the somewhat analogous debate focusing on so-called heavyweight propositions *vis-à-vis* the closure problem. He tries to substantiate two conditional claims. (1) If certainties are treated as sort of unknowable preconditions of knowledge, they (just like heavyweight propositions) seem to violate canonical closure principles spelled out in terms of knowledge-closure under recognized entailment. But this, he submits, is not particularly worrying, if those closure principles are implausible on independent grounds – as they arguably are. One thus cannot easily appeal to such closure principles to motivate the radical sceptical challenge. (2) Furthermore, so construed, certainties (just like heavyweights) needn't by themselves compromise what many see as more plausible closure principles under competent deduction, which state that the deductive consequence C of the premise-set P needs to be believed “in virtue of” it having been competently deduced from P (to prevent certain *prima facie* counterexamples to canonical closure principles). But, once again, this fact – if it is a fact - does not invite radical scepticism, since one cannot easily use such qualified closure principles to underwrite crucial sceptical premises of the sort: *If I know that I have hands, then I know that I am not a handless brain in a vat.*

Taken together, the papers described above should form the core of his *Habilitation* monograph, hopefully to be finished by the end of 2014.

Further activities – Invited talks:

Ladislav Koren gave two invited talks while at the MCMP:

“Certainties and the Sceptical Problem”, MCMP LMU, April 2013.

“Certainties and the Sceptical Problem”, Catholic University Ružomberok, Slovakia, May 2013.

Conferences: In addition, he attended three international conferences while at the MCMP:

May 2013: Conference Wittgenstein in Relation to Philosophical Traditions, University of

Göttingen, Germany, May 2013 (without talk).

June 2013: Conference The Varieties of Realism/Antirealism (Catholic University in Ružomberok, Slovak Republic), where he presented a draft of the paper "Underdetermination, Scepticism and Realism".

June 2013: Conference Wittgenstein and the Creativity of Language (University of Bergen and Wittgenstein's Archives, Norway), where he presented a draft of the paper (work-in-progress) "Certainties and the sceptical problem".

European research stay: October-November 2013.

Within his A-v-H research fellowship at the MCMP, Ladislav Koren took a European research stay at the Department of Philosophy of the University of Vienna (academic host: Prof. Martin Kusch). This invaluable experience helped him to establish an intense research collaboration with Prof. Martin Kusch and his research group, which is going to continue this year (both with respect to his current research topic and with respect to the topic of relativism, as he got invited by Prof. Kusch to be a regular visitor at the meetings of his ERC Advanced Grant *Emergence of Relativism*). The immediate result of this collaboration is the paper 3) (viz. above), which emerged directly out of the discussions at the research seminar *Wittgenstein and Epistemology*.

Reading group: In April/May 2013, he participated in the MCMP reading group led by Prof. E. Reck devoted to the book by P. Blanchette: *Frege's Conception of Logic*.

Hans-Christoph Kotsch

1. Type of Affiliation with the MCMP

Hans-Christoph Kotsch was an MCMP Doctoral Fellow in 2013 (supervised by Hannes Leitgeb).

2. Research Projects

Hans-Christoph Kotsch was mainly working on his doctoral thesis on a topos semantics for higher-order modal logic (as described already in the report for 2012).

Besides that he studied further topics of related interest, including topos theory, algebraic set theory, homotopy type theory, and corresponding issues in the philosophy of mathematics.

3. Academic Output

Publications:

S. Awodey, K. Kishida, H-Ch. Kotsch, "Topos Semantics for Higher-Order Modal Logic", Accepted for publication by *Logique et Analyse*.

Invited Talks:

"Higher-Order Categorical Modal Logic". Bristol-Munich Workshop, July 20 – July 22, at the Department of Philosophy, University of Bristol.

"Introduction to Categorical Logic". Lecture at Salzburg Conference for Young Analytic Philosophy 2013 (Salzburg, Sep 12–14, 2013).

"Higher-Order Categorical Modal Logic". Held at the colloquium of the department of theoretical computer science, University Erlangen-Nürnberg, September 20, 2013 (Prof. Lutz Schröder, PD Stefan Melius).

"Higher-Order Categorical Modal Logic". Third Reasoning Club Conference, June 17-19, University of Kent, Canterbury, UK.

Contributed (reviewed) talks:

"Higher-Order Categorical Modal Logic", given at the conference *Topology, Algebra and*

Categories in Logic, July 28 – August 1, 2013, Department of Mathematics, Vanderbilt University, Nashville (TN), US.

Further Activities:

Attended the *Nordic Spring School in Logic 2013*, May 27 – May 31, 2013, Sophus Lie Conference Center, Nordfjordeid, Norway.

Organised the reading group in Homotopy Type Theory discussing the Homotopy Type Theory Book: <http://homotopytypetheory.org/book/>.

Igal Kwart

1. Type of Affiliation with the MCMP

Igal Kwart stayed in Munich as a Visiting Fellow for one month, from mid June to mid July, 2013.

2. Research Projects and 3. Academic Output

During this month Professor Kwart presented a lecture to the Center. His work focused on the direction of developing a decision-theoretic based pragmatics, developing the concept of a Steering Role of how speakers steer others towards their preferred action in joint deliberational setups. During this period various linguistic mechanisms that serve to employ the steering role either pro certain actions against by way of undermining them are brought to light, such as epistemic modals. The formal underpinnings of such pragmatics has been advanced as well, making it possible to specify the concept of pragmatic consistency. Lectures based on this research were given also at the Universities of Regensburg and Oldenbrueck during his stay in Munich.

Hannes Leitgeb

1. Type of Affiliation with the MCMP

Hannes Leitgeb has been the Chair in Logic and Philosophy of Language at LMU Munich, as well as head of the MCMP, since October 2010.

2. Research Projects

Firstly, Hannes Leitgeb is currently working on his monograph titled *The Stability of Belief* in which he develops a new joint theory of all-or-nothing belief and degrees of belief (subjective probabilities), which is under contract with Oxford University Press and which is due by the end of 2014. In the meantime, eight articles on this book project are either forthcoming or have appeared (“A Lottery Paradox for Counterfactuals Without Agglomeration” in *Philosophy and Phenomenological Research*, “The Review Paradox. A Note on the Diachronic Costs of Not Closing Rational Belief Under Conjunction” in *Nous*), and one additional article is under review.

Secondly, Hannes Leitgeb has written and finished some new papers in 2013, including “Scientific Philosophy, Mathematical Philosophy, and All That”, which is to appear in *Metaphilosophy*; “Revision Revisited” (with L. Horsten, G. Leigh, P. Welch), which is to appear in the *Review of Symbolic Logic*; and “Belief as Qualitative Probability”, to appear in: A. Garcia de la Sierra Guajardo, C. Crangle, H. Longino (eds.), volume on the occasion of Patrick Suppes' 90th birthday.

Thirdly, he continued to work on “A Defense of Logicism” (joint article with E. Zalta from Stanford) and “A Theory of Propositions and Truth” (with P. Welch from Bristol).

3. Academic Output

Publications:

The Stability of Belief, book manuscript (in preparation, under contract with OUP).

Logik für Philosophen: Eine Einführung in die klassische Aussagen- und Prädikatenlogik (with A. Hieke), book manuscript (in preparation).

“On the Best Approximation of Probability by Belief” (under review).

“A Way Out of the Preface Paradox?”, to appear in *Analysis*.

“A Lottery Paradox for Counterfactuals Without Agglomeration”, to appear in *Philosophy and Phenomenological Research*.

“The Review Paradox. A Note on the Diachronic Costs of Not Closing Rational Belief Under Conjunction”, to appear in *Nous*.

“Belief as Qualitative Probability”, to appear in: A. Garcia de la Sienna Guajardo, C. Crangle, H. Longino (eds.), volume on the occasion of Patrick Suppes' 90th birthday.

“Neural Network Models of Conditionals”, to appear in the *Formal Philosophy Handbook*, co-edited by V. Hendricks.

“Abstraction Grounded. A Note on Abstraction and Truth”, to appear in: P. Ebert and M. Rossberg (eds.), *Abstractionism in Mathematics*.

“Belief as a Simplification of Probability, and What This Entails”, to appear in: A. Baltag and S. Smets (eds.), *Johan F. A. K. van Benthem on Logical and Informational Dynamics*, Outstanding Contributions to Logic, Springer.

“Scientific Philosophy, Mathematical Philosophy, and All That”, *Metaphilosophy* 44/3 (2013), 267-275..

“Criteria of Identity, Strong and Wrong”, *British Journal for the Philosophy of Science* 64/1 (2013), 61-68.

“The Stability Theory of Belief. A Summary” (extended abstract), in: J. van Benthem and F. Liu (eds.), *Logic Across the University: Foundations and Applications*, Proceedings of the Tsinghua Logic Conference at Beijing 2013, Volume 47: Studies in Logic, London: College Publications, 47-54.

“Comments on Feng Ye, ‘Introduction to a Naturalistic Philosophy of Mathematics’”, in: J. van Benthem and F. Liu (eds.), *Logic Across the University: Foundations and Applications*, Proceedings of the Tsinghua Logic Conference at Beijing 2013, Volume 47: Studies in Logic, London: College Publications, 123-127.

“The Stability Theory of Belief”, *The Philosophical Review* 123/2 (2014), 131-171.

“Reducing Belief Simpliciter to Degrees of Belief”, *Annals of Pure and Applied Logic* 164 (2013), 1338-1389.

Presentations:

“The Humean Thesis on Belief”, Department of Philosophy, University of Bern (03/12/13).

“Mathematical Explications in Philosophy”, Workshop on Mathematical Philosophy, Lausanne (03/12/13).

“Truth, Necessity, Probability”, Logic and Truth Workshop, Swiss Graduate Society of Logic and Philosophy of Science (SGSLPS), Geneva (02/12/13).

“Type-Free Truth and Probability”, Workshop of the Machine Intelligence Research Institute, Oxford (23/11/13).

“The Stability Theory of Belief”, Logic across the University, Foundation and Applications, Tsinghua University, Beijing (15/10/13).

“Logic of Belief vs Subjective Probability: A Normative Clash?”, Evening lecture at LORI-4, Hangzhou (10/10/13).

“Belief and Stable Probability”, Prolog 2013: The Sixth Workshop on Combining Probability and Logic, Munich (17/09/13).

“The Logic of Belief and the Stability of Reasoning”, Keynote lecture at 4th Biennial Conference of the EPSA, Helsinki (29/08/13).

“The Humean Thesis on Belief”, 2nd Bristol-Munich Workshop, Bristol (20/07/2013).

“The Humean Thesis on Belief Explicated”, Second Theoria Lecture, Stockholm (14/06/13).

“A Theory of Propositions and Truth”, Symposium on Principia Mathematica, Graz (17/06/13).
“The Humean Thesis on Belief (and Its Equivalents)”, LOGOS Colloquium, Barcelona (29/05/13).
“The Humean Thesis on Belief (and Its Equivalents)”, Formal Epistemology Workshop, Rutgers (09/05/13).
“The Humean Thesis on Belief (and Its Equivalents)”, Graduate Conference in Theoretical Philosophy, Groningen (18/04/13).
“Theoretical Terms and Induction”, The Analysis of Theoretical Terms, Munich (04/04/13).
“Rational Belief: Four Approaches, One Theory”, Department of Philosophy, University of Ghent (22/02/13).
“Rational Belief: Four Approaches, One Theory”, LogiCIC Kick-off Workshop, Amsterdam (15/12/12).

Interviews:

Interview, *Süddeutsche Zeitung*, 14/11/13.
Interview, *Information Philosophie* 1/2013, p.110.

Further activities:

Editor-in-Chief of *Erkenntnis*.
Coordinating Editor of *Review of Symbolic Logic*.
Member of the Editorial Board of the *European Journal for the Philosophy of Science*.
Member of the Editorial Board of the *Grazer Philosophical Studies*.
Consulting Editor of *Journal of Philosophical Logic*.
Consulting Editor of *Theoria*.
Associate Editor of *Studia Logica*.
Subject Editor of the *Stanford Encyclopedia of Philosophy* for Philosophy of Mathematics.
Member of the Editorial Board of *PHIBOOK: The Yearbook of Philosophical Logic*, Automatic Press.
Member of the Editorial Board of *The Collected Works of Rudolf Carnap* (Open Court).
Member of Scientific Board of *Munich Graduate School of Systemic Neurosciences* (GSN).
Member of *Center for Advanced Studies*, Ludwig-Maximilians-University Munich.
Forschungsdekan (Dean of Research) of the Faculty of Philosophy, Philosophy of Science and Study of Religion, LMU Munich.
External Assessor for Professorial Appointments or Promotions at: University of Bayreuth, University of Salzburg, University of Madison (all 2013).
Member of Panels and Advisory Boards for: *European Science Foundation Eurocores Review Panel*. Chair of Program Committee of the *15th Congress of Logic, Methodology and Philosophy of Science*, Helsinki, 2015. Member of Program Committee of *Colloquium Logicum*, Neubiberg, 2014.
Co-PI of the Volkswagen Foundation event *Proof, Truth, Computation*, Summer School on the Interactions between Modern Foundations of Mathematics and Contemporary Philosophy, with Helmut Schwichtenberg, Iosif Petrakis, Peter Schuster (2014, EUR 45,600).
Co-PI of the ANR-DFG Project *Mathematics: Objectivity by Representation* with Gerhard Heinzmann from the University of Nancy (from 2014, EUR 262,000 for three years).
PI of the LMU Investitionsfonds Project *Von einem logisch-mathematischen Standpunkt: Richard Swineshead und die Tradition der Calculatores* (from 2013, EUR 100,000 for two years).
Co-PI of the MINCYT-DAAD Project *Truth, Paradoxes and Modalities* with Eduardo Barrio from the University of Buenos Aires (from 2012, for two years).
PI of the DFG Project *Syntactic Approaches to Interacting Modalities* (since 2011, EUR 414,450 for three years).

Thomas Meier

1. Type of Affiliation with the MCMP

Thomas Meier was an MCMP Doctoral Fellow in 2013 (supervised by Ulises Moulines and Hannes Leitgeb).

2. Research Projects

In 2013, Thomas Meier continued to work on his PhD project. In particular, he studied how to apply a formal structuralist framework and certain related mathematical notions to the discussion on structural realism in the philosophy of science. He investigated the role of mathematization in linguistics, and he also discussed the position of ontic structural realism in linguistics. He developed a way of responding to an important objection to structuralist approaches in epistemology, the so-called *Newman-Objection*. As a result of his research during 2013, he has currently three papers under review.

The period from August to December 2013 he spent in Miami and Mexico where he worked with several scholars (such as Professor Otávio Bueno at the Department of Philosophy of the University of Miami).

3. Academic Output

Talks at Workshops/Conferences:

July 1-6th, 2013: Workshop on Carnap's Aufbau and Workshop on Carnap's Logic at the MCMP/LMU Munich. Title of the Talk: "The Influences on Carnap's Structuralism in the Aufbau".

May 16-17th, 2013: Workshop Mathematising Science - Limits and Perspectives, at the University of East Anglia, Norwich. Title of the Talk: "Mathematising Linguistics - the Case of Transformational Theory".

Talks as an invited speaker:

November 13th, 2013: "Structural Realism Beyond Physics: The Case of Generative Grammar", at Instituto de Investigaciones Filosóficas, UNAM, Mexico-City.

June 10-14th, 2013: "Structural Realism in Generative Linguistics", at the conference Semantics and Philosophy in Europe 6, St. Petersburg, Russia, at the Special Colloquium on The Status of Semantics in Generative Grammar, together with Robert May, Howard Lasnik, Barbara Partee, Friederike Moltmann, John Collins and Wolfram Hinzen.

Organization of Workshops/Conferences:

The 1st MCMP - Buenos Aires Workshop, at the MCMP/LMU Munich, July 12-13th, 2013.

The Analysis of Theoretical Terms, together with Norbert Gratzl and Paul Dicken, at the MCMP/LMU Munich from April 3-5, 2013.

Visits to other academic institutions:

August - September 2013: Visiting Scholar at the University of Miami, FL, USA. Research under supervision of Professor Otávio Bueno.

October 2013: Visit to Universidad Autónoma de Zacatecas, Mexico.

November 2013: Visit to Instituto de Investigaciones Filosóficas, UNAM, and Universidad Autónoma Metropolitana, both in Mexico-City.

November 2013: Short visit to the *University of Miami*. Research under supervision of Professor Otávio Bueno.

Further activities:

Since April 2013: Organization of the reading group on Structuralism in the Sciences.

Julien Murzi

1. Type of Affiliation with the MCMP

Julien Murzi is an External Fellow of the MCMP. He was a Visiting Scholar at MCMP between April 15 and July 15, 2013, supported by an MCMP Visiting Fellowship.

2. Research Projects

Julien's Murzi's research in 2013 mainly focused on four topics: semantic paradoxes, the inferentialist approach to logic, logical consequence, and naïve set-theory. During his visit to Munich, he worked on the following papers, all of which have since been accepted for publication: "Maximally Consistent Sets of Instances of Naïve Comprehension" (with Luca Incurvati), conditionally accepted by *Mind*.

"More Reflections on Consequence" (with M. Carrara), forthcoming in *Logique et Analyse* (2014).

"Dialetheism and Disagreement" (with M. Carrara), forthcoming in *Topoi* (2014).

"The Inexpressibility of Validity", 2014, *Analysis* 74(1), pp. 65-81.

Julien also worked on three special issues that he is editing:

Special issue of *Logique et Analyse* on Reasoning (J. Murzi and J. P. van Bendegem, eds.), forthcoming (2014).

Paradox and Logical Revision, special issue of *Topoi* (M. Carrara and J. Murzi eds.), forthcoming (2014).

Logical Consequence, special issue of *Logique et Analyse* (M. Carrara and J. Murzi eds.), forthcoming (2014).

3. Academic Output

Publications:

"Maximally Consistent Sets of Instances of Naïve Comprehension" (with Luca Incurvati), conditionally accepted by *Mind*.

"More Reflections on Consequence" (with M. Carrara), forthcoming in *Logique et Analyse* (2014).

"Dialetheism and Disagreement" (with M. Carrara), forthcoming in *Topoi* (2014).

"The Inexpressibility of Validity", 2014, *Analysis* 74(1), pp. 65-81.

"Validity and Truth-Preservation" (with L. Shapiro), forthcoming (2014) in *Unifying the Philosophy of Truth* (D. Achourioti, K. Fujimoto, H. Galinon, J. Martinez, eds), Springer.

"Is Knowledge of Logic Dispositional?" (with F. Steinberger), 2013, *Philosophical Studies* 166(1), pp. 165-183.

"Two Flavours of Curry's Paradox" (with Jc Beall), 2013, *The Journal of Philosophy* CX(3), pp. 143-65.

"Coming True: A Note on Truth and Actuality" (with Richard Dietz), 2013, *Philosophical Studies* 163(2), pp. 403-427.

Work in progress:

"Inference and Logic" (with Florian Steinberger, also MCMP).

"Harmony and Separability in Classical Logic".

"Instability and Revenge".

Talks:

December 2013, Bochum, "Instability and Revenge", University of Bochum, Workshop on Semantic Paradoxes.

November 2013, Oxford, "Instability and Revenge", Philosophy of Mathematics Seminar, University of Oxford.

November 2013, *Barcelona*, "Instability and Revenge", Substructural Approaches to Semantic Paradox, Logos, University of Barcelona.

April 2013, Buenos Aires, "The Inexpressibility of Validity", Oxford-Buenos Aires Workshop on

Truth, Paradoxes and Inexpressibility, University of Buenos Aires.

Conference organisation: In 2013, Julien Murzi organized three conferences (two of which were held at the MCMP).

Second Reasoning Club Conference (with Hykel Hosni). Pisa, Scuola Normale Superiore, June 17-9, 2013. Keynote speakers: Jan Sprenger (Tilburg), Julia Tanney (Kent), George Wilmer (Manchester).

Truth and Paradox (with Ole T. Hjortland). Munich, MCMP, May 24-5, 2013. Speakers: Francesco Paoli, Lionel Shapiro, Dave Ripley, Christine Schurz, and Elia Zardini.

Putnam's Model-Theoretic Arguments (with Georg Schiemer and Florian Steinberger). Munich, MCMP, May 23, 2013. Speakers: Tim Bays, Tim Button, Igor Douven, Kate Hodeson.

Further activities: Julien Murzi successfully applied, with Florian Steinberger (MCMP), for a British Academy Small Grant.

Niki Pfeifer

1. Type of Affiliation with the MCMP

Niki Pfeifer worked as an MCMP Postdoctoral Fellow for the whole year of 2013. Moreover, he has been a research associate at the *Tilburg Center for Logic, General Ethics, and Philosophy of Science* (The Netherlands) and at *The Formal Epistemology Project* (The Netherlands). Furthermore, he has been an external member of the *Düsseldorf Center for Logic and Philosophy of Science* (Germany).

Niki Pfeifer's research stay at Carnegie Mellon University (hosted by Kevin T. Kelly) and almost all of his workshop participations in 2013 were funded by his DFG Project PF 740/2-1 (which is part of the DFG Priority Programme SPP 1516 "New Frameworks of Rationality"). Niki Pfeifer's research stay at the University of Palermo was financed by third-party funding received by Giuseppe Sanfilippo, who hosted the stay. A conference fee (talk in Munich) and a poster presentation in Helsinki was financed by the MCMP.

2. Research Projects

Niki Pfeifer extended the probabilistic truth table paradigm by investigating incomplete probabilistic knowledge [5] and causal and counterfactual conditionals [13]. He worked on various philosophical questions in the context of the new paradigm psychology of reasoning and its relation to formal epistemology [7]. Niki Pfeifer investigated formally and empirically uncertain conditionals [9]. Niki Pfeifer elaborated on a new formal measure of argument strength [4]. Furthermore, he published a co-authored survey on knowledge and reasoning for a handbook of cognitive science [6]. Moreover, he investigated natural disasters in a multidisciplinary context [1,2] and co-edited a Springer book on this topic [15]. Niki Pfeifer prepared an editorial and an interview with Teddy Seidenfeld for *The Reasoner* [10]; he also reported on the Prolog 2013 workshop which was hosted by the MCMP in Munich in September 2013 [3; local organizer: Niki Pfeifer].

Ongoing research includes probabilistic interpretations of the traditional logical square of opposition [12]. Furthermore, a probability semantics for categorical syllogisms has been investigated [11]. Moreover, an introduction to a special issue of the *Journal of Applied Logic* entitled "Combining probability and logic to solve philosophical problems", which consists of selected papers of the Prolog 2013 workshop, is in preparation [14]. Niki Pfeifer also conducts his ongoing DFG research project PF 740/2-1 "Rational reasoning with conditionals and probabilities. Logical foundations and empirical evaluation" (Project within the DFG Priority Program SPP 1516 "New Frameworks of Rationality").

Finally, Niki Pfeifer was on two research stays and delivered nine talks and one poster

presentation. All this happened in 2013 (see the corresponding lists below).

3. Academic Output

Books:

- [15] Pfeifer, K. & Pfeifer, N. (Eds.) (2013). *Forces of nature and cultural responses*. Dordrecht: Springer.

Papers – In preparation:

- [14] Pfeifer, N. (in preparation). “Introduction to the Special Issue: Combining Probability and Logic to Solve Philosophical Problems”. *Journal of Applied Logic*.
[13] Pfeifer, N. (in preparation). “Generalizing the Probabilistic Truth Table Task to Investigate Causal and Counterfactual Conditionals”.
[12] Pfeifer, N., Sanfilippo, G. & Gilio, A. (in preparation). “Probabilistic Interpretations of the Square of Opposition”.
[11] Pfeifer, N., Sanfilippo, G. & Gilio, A. (in preparation). “Probability Semantics for Categorical Syllogisms”.

Published/Accepted for publication:

- [10] Pfeifer, N. (2014). Editorial and interview with Teddy Seidenfeld. *The Reasoner*, 8(3), 22-24.
[9] Pfeifer, N. (in press). “Reasoning about Uncertain Conditionals”. *Studia Logica*. DOI:10.1007/s11225-013-9505-4.
[8] Pfeifer, N. (in press). “Naturalized Formal Epistemology of Uncertain Reasoning” (Abstract). *The Knowledge Engineering Review*.
[7] Pfeifer, N. & Douven, I. (in press). “Formal Epistemology and the New Paradigm in Psychology of Reasoning”. *The Review of Philosophy and Psychology*. DOI:10.1007/s13164-013-0165-0.
[6] Grundmann, T., Beierle, C., Kern-Isberner, G. & Pfeifer, N. (2013). “Wissen”. In: A. Stephan, and S. Walter (Hrsg.), *Handbuch Kognitionswissenschaft* (pp. 488-500). Stuttgart: J. B. Metzler.
[5] Pfeifer, N. (2013). “The New Psychology of Reasoning: A Mental Probability Logical Perspective”. *Thinking & Reasoning*, 19(3-4), 329-345.
[4] Pfeifer, N. (2013). “On Argument Strength”. In: F. Zenker (ed.), *Bayesian Argumentation. The Practical Side of Probability* (pp. 185-193). Dordrecht: Synthese Library Vol. 362, Springer.
[3] Pfeifer, N. (2013). “Combining Probability and Logic” (Workshop Report). *The Reasoner*, 7(12), 141.
[2] Pfeifer, K. & Pfeifer, N. (2013). “Severe Storm Reports of the 17th Century: Examples from the UK and France”. *Proceedings of the 7th European Conference on Severe Storms (ECSS 2013)*, extended abstract #100. Helsinki, Finland.
[1] Pfeifer, N. & Pfeifer, K. (2013). “Forces of Nature and Cultural Responses: An Introduction”. In K. Pfeifer & N. Pfeifer (eds.), *Forces of Nature and Cultural Responses* (pp. 1-4). Dordrecht: Springer.

Talks:

- “Conditionals: Philosophical Foundations and Empirical Evaluation”. Dipartimento di Scienze Economiche, Aziendali e Statistiche, Università di Palermo (Italy), 25.10.2013. (Invited talk.)
“Reasoning under Uncertainty: Quantification and Conditionals”. Dipartimento di Matematica e Informatica, Università di Palermo (Italy), 24.10.2013. (Invited talk.)
“The Mind and Probability Logic”. Philosophy of Science Colloquium, Institute Vienna Circle, University of Vienna (Austria), 06.09.2013. (Invited talk.)
“Normative and Descriptive Perspectives on Natural Risks.” Seventh Biennial Conference of the European Society for Environmental History, Circulating Natures: Water–Food–Energy, Ludwig-Maximilians-University Munich (Germany), 20.-24.08.2013.
“Mathematical Philosophy Meets Mathematical Psychology”. 46th Annual Meeting of the Society of Mathematical Psychology, Potsdam (Germany), 04-07.08.2013.
“Conditionals under Incomplete Knowledge”. 7th London Reasoning Workshop (LRW2013),

London (UK), 25-26.07.2013.

“Incomplete Probabilistic Knowledge and Cognition”. 21st Meeting of the European Society for Philosophy and Psychology (ESPP 2013), Granada (Spain), 09-12.07.2013.

“How People (Ought to) Reason Under Uncertainty”. CFE Workshop on Cognition and Formal Theories of Reasoning, Carnegie Mellon University (USA), 30.03.2013. (Invited talk.)

“Probability Logic and Human Reasoning.” Center for Philosophy of Science (Lunchtime talk), University of Pittsburgh (USA), 05.03.2013. (Invited talk.)

Poster presentations:

Pfeifer, K. & Pfeifer, N. “Severe Storm Reports of the 17th Century: Examples from the UK and France”. Poster. 7th European Conference on Severe Storms, ECSS 2013, Helsinki, Finland, 03-07.06.2013.

Further activities – Workshops organized:

Niki Pfeifer served as the local organizer for the international and peer-reviewed “Sixth Workshop on Combining Probability and Logic” (Prolog 2013). Special Focus: “Combining probability and logic to solve philosophical problems”. Prolog 2013 took place at the Carl Friedrich von Siemens Stiftung in Munich between September 17 and 18, 2013. Invited speakers included Igor Douven, Alan Hájek, Kevin T. Kelly, Hannes Leitgeb, and Peter Milne.

Niki Pfeifer is editing selected papers of Prolog 2013 as a special issue in *The Journal of Applied Logic*. Contributors include Igor Douven, Alan Hájek, Peter Milne, Dana Scott, Glauber De Bona, Fabio G. Cozman, Marcelo Finger, Tommaso Flaminio, Lluís Godó, Hykel Hosni, Teddy Groves, and Sean Walsh. This special issue is planned to appear in mid-2014.

Visits to other academic institutions:

February 11 until April 29, 2013: Research stay at the Center for Formal Epistemology at the Carnegie Mellon University (Pittsburgh, USA). Host: Kevin T. Kelly. Purpose: Two invited talks and collaborations with philosophers and psychologists; conducting empirical investigations at the Laboratory for Empirical Approaches to Philosophy (LEAP; director: David Danks).

November 6 until October 15, 2013: Research stay at the University of Palermo (Italy). Host: Giuseppe Sanfilippo. Purpose: Two invited talks and collaborations on coherence; conducting empirical investigations. Funding: International research exchange grant awarded to Giuseppe Sanfilippo.

Editorial activities:

Niki Pfeifer was member of the editorial board of *The Reasoner* in 2013. He also served as a reviewer for various philosophical and psychological scientific journals during 2013.

Applications for external funding:

Niki Pfeifer started to prepare a follow-up project proposal for the second funding period of the DFG Priority Programm SPP1516 “New Frameworks of Rationality” at the end of 2013. This grant proposal was submitted in 2014 and is currently under review.

Lavinia Maria Picollo

1. Type of Affiliation with the MCMP

Lavinia Picollo spent the period from 15 May to 20 July 2013 at the MCMP as a Visiting Student (funded by the DAAD, hosted by Hannes Leitgeb).

2. Research Projects

During Lavinia Picollo's stay at MCMP she investigated reference and self-reference in formal languages. Her aim was to provide precise and sound definitions for these concepts that would then help finding necessary and sufficient conditions for semantic paradoxes. This, in turn, would be the first step to avoid contradictions and construct better semantic theories.

Triggered by her work in Munich, Lavinia Picollo changed her standpoint from a proof-theoretic to a semantic perspective. This allowed her to shift her attention to a notion of semantic dependence analogue, which in turn helped her to obtain results on reference patterns within extensions of arithmetic and to develop a work-in-progress notion of dependence for other arithmetical predicates, such as provability. She was also able to put forward a notion of reference via quantification in simpler terms.

3. Academic Output

In the course of her stay at the MCMP, Lavinia Picollo wrote a substantial part of her PhD thesis as well as a joint paper with Thomas Schindler (MCMP), which is still in preparation and which applies some ideas on self-reference to the construction of a powerful theory of truth.

Talks:

“Reference and Self-Reference in First-Order Peano Arithmetic”, Logic Colloquium 2013, Évora, Portugal, July 2013.

“Tweaking the Diagonal Lemma”, First MCMP-Munich Buenos Aires Workshop, Munich, Germany, July 2013.

“Reference is problematic”, University of Groningen, Groningen, The Netherlands, June 2013.

She also attended various seminars at the MCMP (“The Theory of the Infinite: Set Theory and its Philosophy”, by Catrin Campbell-Moore and Thomas Schindler. “Structuralism in Mathematics”, by Erich Reck and Georg Schiemer. “Oberseminar: Mathematical Philosophy”, by Hannes Leitgeb. “Central Topics in Logic”, by Hannes Leitgeb. She also took part of a reading group on ordinal notation organised by some of the PhD students at the center. Further, she was able to meet scholars working on my area of research to discuss my work on reference: in particular, in June 2013 she met Prof. Albert Visser in Utrecht, The Netherlands; and in July 2013 she met Prof. Cezary Cieslinski in Évora, Portugal. Lavinia Picollo applied for ASL (Association of Symbolic Logic) funding to attend the Logic Colloquium 2013 in Évora, Portugal. She was reimbursed for her travel expenses.

Roland Poellinger

1. Type of Affiliation with the MCMP

Roland Poellinger was an MCMP Postdoctoral Fellow with an additional research focus in academic management (communication and organization).

2. Research Projects

A. “Learning Causal Structure – Cognition, Computation, Communication”:

Background. In Roland Poellinger's dissertation “Concrete Causation” (Logic and Philosophy of Science), Pearl's definition of a causal model is augmented by the addition of epistemic contours transferring knowledge deterministically, non-directionally, and instantaneously. Causal knowledge patterns thus conceived allow for the integration of intensional markers – the nodes of a respective graph not necessarily represent extensionally distinct entities anymore, countering the standard reading of events placed in Bayes nets by the causal modeler. Roland Poellinger's thesis presents the difficulties arising from this augmentation and how causal knowledge patterns can be used for efficient computation in partial nets, once the Markov assumption is relativized suitably: In light of

the communicative aspect of causal knowledge patterns (theme “Communication”) it can be explained how causal knowledge can be inferred qua intensional bridges and informational links uniquely and consistently (theme “Computation”).

Central questions and methodology. Against the backdrop of methodology and results described in his PhD thesis, he devoted his research project on “Learning Causal Structure” to the cognitive foundations of models of belief propagation (theme “Cognition”). Current research in this field includes the following questions: How do we acquire knowledge about causal relations of given events? How do we process seemingly conflicting information in causal paradoxes? How is the direction of the “causal flow” determined – with or without the possibility of concrete intervention? By what procedures is the existence of confounders inferred, and how is such knowledge translated into corrective actions (to screen off observed events from disturbing factors)?

Building on current trends, the core of his project consisted of three closely related questions that emerge from the above-mentioned research field and exceed it in emphasizing foundational aspects of causal modeling:

1. How do we learn causal relations in our environment if we do not know the relations, yet? That means, how do we acquire the variables that represent the events in our surroundings? Or also: How are sense data blobs sorted in existing knowledge?
2. How do we treat a model whose set of variables (so to say, its domain of discourse) is changing (dynamically) (e.g., when we learn new circumstances or when the lab situation changes)?
3. And how are two causal models with separate sets of variables unified (e.g., in everyday discourse or in the context of scientific research)?

B. Additional Focus: “Communicating Mathematical Philosophy – Evaluating Challenges, Formulating Interfaces, Building Channels”:

This special focus of Roland Poellinger’s corresponding research focuses on the communication side of Mathematical Philosophy and describes the challenges and opportunities of media use in modern academia and our discipline in particular. Among the topics are the following points:

Talking research-2-research (building bridges within the community, e.g. with iTunes U and the development of event formats such as First Sight video abstracts).

Making complex contents accessible (utilizing [social] media for teaching and turning research results into research-based teaching [with videos etc.]).

Being aware of public awareness (evaluating how foundations, press, and other public institutions perceive the MCMP and which funding opportunities arise from this perspective).

Internal communication (evaluating tools for collaboration [virtual conferencing etc.] within the team and across research groups).

Development of new formats and interactive media (video abstracts, online video search, etc.).

3. Academic Output

1. Talk: *Unboxing the Concepts in Newcomb’s Paradox: Causation, Prediction, Decision in Causal Knowledge Patterns*, Conference Models and Decisions, 6th Munich–Sydney–Tilburg Meeting, LMU Munich, April 2013.

2. Talk: *Indicative vs. Subjunctive Conditionals and the Actual Cause*, Conference *The Actual Cause*, University of Pécs (Hungary), Graduate School of Philosophy, May 2013.

3. Talk: *The Scope of Action in Deterministic Causal Nets*, 41st Annual Meeting of the Society for Exact Philosophy (SEP), Université de Montréal and Université du Québec à Montréal, May 2013.

4. Talk: *Possibility, Opportunity, Choice in a Deterministic World*, Hungarian Academy of Sciences, Institute of Philosophy (Research Group for the History and Philosophy of Science), Budapest, May 2013.

5. Talk: *13 Questions for a Theory of Causation along a Brief Conceptual History*, Budapest University of Technology and Economics (BME), Department of Philosophy and History of Science, May 2013.

6. Talk: *Disentangling Causal Connections and Informational Links*, 21st Annual Meeting of

the European Society for Philosophy and Psychology, Faculty of Psychology, University of Granada, July 2013.

7. Talk: *If One Were to Evaluate Indicative and Subjunctive Conditionals in Bayes Net Models*, 2nd Bristol–Munich Workshop, University of Bristol, July 2013.

Further activities – Organizational Work:

1. Co-organization of the *6th Munich–Sydney–Tilburg Conference on Models and Decisions* (with S. Hartmann, K. Nickelsen, O. Roy), LMU Munich, April 2013.
2. Organization of the conference *The Actual Cause*, University of Pécs (Department of Philosophy), May 2013.
3. Co-organization of the *17th UK and European Meeting on the Foundations of Physics* (with D. Dürr, M. Frisch, S. Hartmann, Ch. Joas, K. Thébault), LMU Munich, July 2013.

Committee Work/Grant Applications:

In 2013 Roland Poellinger was appointed investigator in the (ultimately successful) application committee for the *Elitenetzwerk Bayern* project *Exploring Quantum Matter (ExQM)*; short project description: *Exploring Quantum Matter (ExQM)* – International PhD Program of Excellence in the *Bavarian Excellence Network* – “*Elitenetzwerk Bayern*”. ExQM is a Munich-based international program jointly held by several leading research groups at Technische Universität München (TUM), Ludwig-Maximilians-Universität München (LMU), Max-Planck-Institut für Quantenoptik (MPQ), Walther-Meissner-Institut, Walter-Schottky-Institut and Virtuelle Hochschule at LMU. The program is interdisciplinary and will involve a strong exchange with partner programs in Vienna, Innsbruck, ETH Zürich, Harvard, Stanford, Caltech etc., also by exploiting new media to set up an international e-library. The project addresses students in physics, mathematics, computer science, and chemistry with research topics comprising quantum simulation, many-body systems, ultracold gases, optical lattices, cavity QED, numerical and tensor methods etc.

MCMP Media & Science Communication:

1. Talk at LMU’s in-house event “Learn & Talk”: *LMUcast as a Marketing Tool for the MCMP* (presentation on conceptual work, infrastructure, technical realization, and results of the communication-related activities at the MCMP)
2. Development and coordination of the internship program *Science and Communication* (public relations and social media, science communication, web management, conference organization)
3. Maintenance of the MCMP Facebook page (<https://www.facebook.com/lmu.mcmp>), design and programming for the official MCMP website (<http://www.lmu.de/mcnp>), contributions to the MCMP M-Phi blog at <http://m-phi.blogspot.com>.
4. Technical planning, team coordination, and training as well as media production for the video portal *MCMP on iTunes U* (in the summer term of 2013 alone, April – September, we recorded 150 talks, including our colloquia and a total of 11 conferences), find the channel list here: <http://www.mcnp.philosophie.uni-muenchen.de/media/index.html>
5. Evaluation and development of new formats:
 - a. Introduction of “First Sight” video abstracts and programming of the First Sight media server, cf. e.g.: <http://firstsight.rforge.com/?videoid=suyV62TV7a>
 - b. Development of an LMUcast online video search function, cf. e.g.: http://www.rforge.com/lmu/virtualplaylist/search_lmucast_results.php?keyword=m%26d2013&attr=itunes%3Akeywords
 - c. Introduction of 10 new video channels for MCMP on iTunes U and production of a teaser video for the announcement of the new channels (in blogs and social media): <http://firstsight.rforge.com/?videoid=xoZzT2cC6x>
 - d. Technical preparation of the MCMP publication management system (with LMU’s internet services and our e-publication experts at LMU’s library), cf.: <http://epub.ub.uni-muenchen.de/view/subjects/1005.html>

Martin Rechenauer

1. Type of Affiliation with the MCMP

Martin Rechenauer was an associated member of the MCMP for the whole year 2013 (based on own funding, except for some travel funding by the MCMP; since 9/13 acting as substitute professor at the University of Konstanz).

2. Research Projects

During the year 2013 Martin Rechenauer worked mostly on contractualism, partly working on a larger book project, partly in joint work with Olivier Roy (MCMP) on the formalization of procedural justification procedures within contractualism. Other work concerned the relationship between philosophical aspects of theories of justice and the formal framework of Social Choice Theory.

3. Academic Output

Publications:

“On the Possibility of Aggregation“, under review (there exists also a German version).

“Kohärenz macht das Subjekt aus: strukturelle Rationalität und kollektive Elemente in der Handlungstheorie“, F. Böhle & W. Schneider (eds.), *Handlung und Subjekt*, transcript-Verlag 2013.

Talks given:

“Deontic Logic of Contractualist Ethics and Consensus“, Conference “Justice Beyond Rawls“, Istanbul June 2013 (travel funding by the MCMP).

“Aspekte ökonomischer Gerechtigkeit“, Kooperationsseminar der Hochschule für Politik München und der Hanns-Seidel-Stiftung, Wildbad Kreuth, June 2013.

“Zur Struktur des Kontraktualismus“, Fachbereichskolloquium der Universität Konstanz, October 2013.

Besides participation in these conferences, Martin Rechenauer took part at the conference “Models and Decisions” at MCMP in April 2013, co-organized the invitation of John Broome (Oxford) on Climate Ethics May 2013 at MCMP and LMU (chair of Political Philosophy), and co-organized a workshop with Wlodek Rabinowicz (Lund) at the University of Regensburg in September 2013.

Olivier Roy

1. Type of Affiliation with the MCMP

Olivier is a Professor at the Department of Philosophy and Economics at the University of Bayreuth, and an External Fellow of the MCMP.

2. Research Projects and 3. Academic Output

In 2013 Olivier Roy was working increasingly on Deontic Logic together with Norbert Gratzl and Albert Anglberger (both MCMP members). They submitted one paper to the *Review of Symbolic Logic* (still under review) and wrote another paper for a volume of the *Trends in Logic* series (forthcoming in 2014). He also collaborated on additional projects with Norbert Gratzl: amongst others they organized a workshop on proof theory for modal logic at the Indian School of Logic and its Applications (January 2014) and prepared a course on the same topic (accepted for ESSLLI 2014). Olivier Roy was also working with Eric Pacuit (UMD College Park, Maryland) on game

theory and philosophy (entry for the *Stanford Encyclopedia of Philosophy* in preparation, and a paper to be re-submitted to *Philosopher's Imprint*). He also did some research on sub-structural logic and epistemology with Ole Thomassen Hjortland (MCMP): they are currently editing a special issue of the *Journal of Logic and Computation* (to appear in 2014), and are now revising a paper after “minor revisions” in the same journal.

Gil Sagi

1. Type of Affiliation with the MCMP

Gil Sagi spent July 2013 at the MCMP as a Visiting Student (funded by the MCMP) and then September until December 2013 as an MCMP Postdoctoral Fellow. In the summer of 2013 she received her PhD in philosophy at the Hebrew University in Jerusalem.

2. Research Projects

During her time at the MCMP Gil Sagi worked on issues concerning logical terms from a model-theoretic perspective. One issue concerns the function of logical terms in model-theoretic systems. Logical terms are often said to be the fixed terms in the system. The question she dealt with is: what does it mean that a term is fixed in a model-theoretic system? This question touches upon foundational issues concerning the use of model theory in logic and the relation between models and meanings and possible worlds. In addition, answering the question has important implications on debates on criteria for logical terms. The second issue that her research concerned was a specific criticism given by Timothy McCarthy, Vann McGee and William Hanson on the isomorphism invariance criterion for logical terms. The criticism concerns how the criterion fares with respect to the necessity and apriority of logic. My research reveals the flaws in this influential criticism.

3. Academic Output

Papers:

“The Modal and Epistemic Arguments against Invariance Criteria for Logical Terms” (under review).

“What is a Fixed Term?” (under review).

Talks:

“What is a Fixed Term?” Munich-St Andrews Workshop, October 2013, and LLCC, Jerusalem, October 2013.

Further activities: Organization of a reading group on Homotopy Type Theory at the MCMP, and four workshops attended in Munich in July 2013 (Carnap's Aufbau, Carnap on Logic, New Perspectives on External World Scepticism, 1st Buenos Aires-Munich Workshop).

Sam Sanders

1. Type of Affiliation with the MCMP

Sam Sanders was a Postdoctoral Fellow at the MCMP based on a combination of funding from the MCMP, the Flemish FWO, and the John Templeton Foundation.

2. Research Projects

Sam Sanders investigated the connection between infinitesimals and computation. Infinitesimals

are infinitely small quantities used to date in Physics and historically in Mathematics (until the advent of Karl Weierstrass' development of the 'epsilon-delta'-framework).

He developed results (especially in Reverse Mathematics) related to ' Ω -invariance', the nonstandard version of (Turing) computability, and he explored the philosophical implications of such results.

3. Academic Output

Papers published:

"Reverse-Engineering Reverse Mathematics", *Ann. Pure Appl. Logic*, CiE Special Issue 164 (2013), no. 5, 528–541.

"On Algorithm and Robustness in a Non-Standard Sense". In: Hanne Andersen, Dennis Dieks, Wenceslao Gonzalez, Thomas Übel, and Gregory Wheeler (eds.), *The Philosophy of Science in a European Perspective*, Springer, 2013.

"On the Connection Between Nonstandard Analysis and Constructive Analysis", *Logique et Anal.* 56 (2013), no. 222, 183–210.

"Algorithm and Proof as Ω -invariance and Transfer: A New Model of Computation in Nonstandard Analysis", *Electronic Proceedings in Theoretical Computer Science for DCM 2012* (2014).

Papers submitted:

"Reverse-Engineering Constructive Reverse Mathematics" (AML).

"A Tale of Three Reverse Mathematics" (APAL).

"ERNA and Friedman's Reverse Mathematics" (APAL).

Papers in preparation:

(With Damir Dzhafarov) "Explaining Reverse Mathematics".

"Higher-Order Reverse Mathematics of Brouwer's Continuity Principle and Related Principles".

"Higher-Order Reverse Mathematics and the Theme from Explicit Mathematics".

Talks given:

"Higher-Order Reverse Mathematics and Nonstandard Analysis", *MIT-Harvard Logic Seminar*, Harvard University, USA, Dec 2013.

"Higher-Order Reverse Mathematics and Nonstandard Analysis", *Logic Seminar*, City University NY, USA, Dec 2013.

"Higher-Order Reverse Mathematics and Nonstandard Analysis", *Logic Seminar*, University of Chicago, USA, Nov 2013.

"Higher-Order Reverse Mathematics and Nonstandard Analysis," *Logic Seminar*, University of Wisconsin, USA, Nov 2013.

"Higher-Order Reverse Mathematics: Where Existence Meets Computation via Infinitesimals", *Logic Seminar*, Stanford University, USA, Nov 2013.

"Introduction to Reverse Mathematics", Postdoctoral talk, Heidelberg Laureate Forum, Heidelberg, September 2013.

"The Ghosts of Departed Quantities as the Soul of Computation", *FOTFSVIII*, Cambridge University, September 2013.

"Higher-Order Reverse Mathematics: Where Existence Meets Computation via Infinitesimals, *Sy Friedman 60th Birthday Conference*, Vienna University, Austria, July 2013.

"Higher-Order Reverse Mathematics: Where Existence Meets Computation via Infinitesimals", *CMFP*, Nis University, Serbia, June 2013.

"Higher-Order Reverse Mathematics: Where Existence Meets Computation via Infinitesimals, *Logic Colloquium*, Evora University, Portugal, July 2013.

"Nonstandard Analysis: A New Way to Compute", *60th Parallel Workshop on Constructive Mathematics*, Stockholm University, May 2013.

"Nonstandard Analysis: A New Way to Compute", *OASIS Seminar*, Oxford University. Reuniting the antipodes, *Logic Seminar*, University of Bern, April 2013.

Further activities – Conferences attended:

LC13 in Evora (Portugal), CMFP13 in Nis (Serbia), SDF60 in Vienna (Austria), FOTFSVII in Cambridge, UK, First Heidelberg Laureate Forum in Heidelberg.

Visits to academic institutions:

Berkeley, Stanford, Chicago, CUNY (November 1st to December 18th 2013).

Organization:

Member of the organizing committee of Computability Theory and Foundations of Mathematics in Tokyo and Sendai, <http://goo.gl/c93IoY>

Applications:

Successfully applied for a “Alexander von Humboldt” Postdoctoral position at the MCMP of 24 months (from 2014).

Georg Schiemer

1. Type of Affiliation with the MCMP

Georg Schiemer was working as a Postdoctoral Fellow at the MCMP between January 2013 and July 2013. His work was funded by the Austrian Science Fund (FWF) in terms of an Erwin-Schrödinger Fellowship.

2. Research Projects

Georg Schiemer’s research in 2013 was primarily devoted to three topics: (i) *Invariants, structural properties and mathematical structuralism*. The main work here was dedicated to the formulation of a novel account of mathematical structures based on the role of invariants in mathematical practice. Joint work with Johannes Korbmayer (also MCMP) focused on different explications of the notion of structural properties as well as on their metaphysical underpinnings. (ii) *Carnap’s early structuralism*. Research on this topic included the study of different proposals made in Carnap’s work from the 1920s to make precise the structural content of axiomatic theories. A main objective was to investigate how his notion of “model structures” was implemented in his early metatheoretic results, in particular his *Gabelbarkeitssatz*. (iii) *The epsilon-reconstruction of scientific theories*. Research on this topic concerned the logic and choice semantics of epsilon terms and their use in the logical reconstruction of theories. In joint work with Norbert Gratzl (also MCMP), one objective was to analyze whether Carnap’s suggested epsilon definition of theoretical terms is compatible with scientific structuralism.

3. Academic Output

Publications:

“Logicism and Ramsification”, Survey review of W. Demopoulos, *Logicism and its Philosophical Legacy*, Cambridge University Press, (2013), in: *Metascience*, (forthcoming)

“Invariants and Mathematical Structuralism”, *Philosophia Mathematica*, (2014), 22/1, pp.70-107.

“Logic in the 1930s: Type Theory and Model Theory” (with Erich Reck), *The Bulletin of Symbolic Logic*, (2013), 19/4: pp.433-472.

Editorial & Interview with Michael Friedman, *The Reasoner*, (2013), 7/5, pp.52-54.

“Carnap’s Early Semantics”, *Erkenntnis*, (2013), 78/3, pp.487-522.

Work in Progress:

“The Epsilon-Reconstruction of Theories and Scientific Structuralism” (with Norbert Gratzl).

“What are Structural Properties?” (with Johannes Korbmacher).
“Semantics in Type Theory”.

Edited:

Rudolf Carnap, *Collected Works*, Vol. III: *Pre-Syntax Logic*, 1927-1934 (bilingual edition), E. Reck, G. Schiemer, and D. Schlimm, eds. and trans. (in progress).
Carnap on Logic, Special Issue, *Synthese* (in preparation).

Presentations:

“Weyl on Brouwer - Reply to Toader”, 44th Husserl Circle Meeting, Graz, 21/06/2013.
“The Epsilon-Reconstruction of Theories and Scientific Structuralism”, EPSA13, Helsinki, 28-31/08/2013.
“The Epsilon-Reconstruction of Theories and Scientific Structuralism”, The Analysis of Theoretical Terms, Workshop MCMP, Munich, 04/04/2013.
“Invariants and Mathematical Structuralism”, SILFS, Postgraduate Conference in Logic and Philosophy of Sciences, Urbino, 30/05/2013.
“Invariants and Mathematical Structuralism”, Colloquium “Logik Café”, Vienna, 15/10/2013.
“Semantics in Type Theory”, Amsterdam Workshop on Truth, Amsterdam, 15/03/2013.

Further activities:

Organizer of the MCMP Workshop *Carnap on Logic* (4-6 July, 2013). Successful application to the DFG for €12.000,- of conference funding.

Co-organizer of the MCMP Workshop *Putnam’s Model-Theoretic Arguments*. (23 May, 2013). Successful application to the Münchner Universitätsgesellschaft (MUG) for €1.500,- of conference funding.

Member of the editorial board of *The Reasoner*.

Member of the editorial board of *The Collected Works of Rudolf Carnap*.

Thomas Schindler

1. Type of Affiliation with the MCMP

Thomas Schindler is an MCMP Doctoral Fellow (supervised by Hannes Leitgeb). He was a visiting student at the University of Buenos Aires from 01.09.2013 to 31.12.2013.

2. Research Projects

He continued his work on his PhD thesis topic, in particular, strong theories of truth: he tried to find safe principles of truth by translations of second-order arithmetic into the language of truth.

In joint work with Timo Beringer, he also tried to characterize semantic paradoxes in graph-theoretic and game-theoretic terms.

3. Academic Output

Papers:

In February 2013, Thomas Schindler submitted his article “Axioms for Grounded Truth” (11 pages) to the *Review of Symbolic Logic*, which was then accepted for publication. He wrote and submitted the final version in September 2013. (Online publication in October 2013, printed in March 2014.)

During the summer term of 2013, he wrote a teaching document “Introduction to Set Theory” (53+8+7 pages) (joint work with Catrin Campbell-Moore, also MCMP).

In May 2013 Thomas Schindler wrote two short conference reports that were published in *The Reasoner* 7(7).

In August 2013 he submitted “Arithmetic with Fusions” (12 pages) (joint work with Jeff Ketland,

Oxford) to *Logique et Analyse*.

In August 2013 he also started writing “Reference-Graphs, Truth-Games and Paradox” (27 pages so far) (joint work with Timo Beringer, LMU).

In October 2013 he started writing “Truth and Comprehension” (10 pages so far) (joint work with Lavinia Picollo, Buenos Aires).

In November 2013 he finished and submitted his paper “A Disquotational Theory of Truth as Strong as Z2-” (25 pages) to the *Journal of Philosophical Logic*.

In December 2013 he was asked to write a paper on Cantor’s paradox (11 pages) for a Handbook on Paradoxes, edited by Eduardo Barrio, which he accepted.

Talks:

“Reference-Graphs, Dependency-Games, and Paradox”, Logic Workshop, Buenos Aires (Argentina), September 2013 (invited).

“Reference-Graphs, Dependency-Games, and Paradox”, Grounding in Semantics and Beyond Workshop, Oslo (Norway), August 2013 (invited).

“Reference, Dependence, and Danger”, 2nd Munich-Bristol Workshop, Bristol (UK), July 2013 (invited).

“Truth and Diagonalization”, 1st Munich-Buenos Aires Workshop, Munich (Germany), July 2013 (invited).

“Truth and Diagonalization”, Workshop on Paradox and Truth, Munich (Germany), May 2013 (invited).

“A Disquotational Truth Theory as Strong as Z2-”, WIP Seminar, UBA Buenos Aires, November 2013.

“Reference, Dependence, and Danger”, Graduate Seminar, LMU Munich, July 2013.

Further activities:

Co-organization of *PhD’s in Logic V* conference, held in Munich, April 8-10 2013.

Reviewing a paper for *Studies in Logic*.

Conferences attended: Truth (Amsterdam), Paradox and Truth (Munich), 2nd Munich-Bristol workshop (Bristol), Grounding in Semantics and Beyond (Oslo), PhDs in logic (Munich), 1st and 2nd Munich-Buenos Aires Workshop (Munich, Buenos Aires) Putnam’s Model-Theoretic Arguments (Munich).

Seminars attended: Oberseminar Mathematical Philosophy, Structuralism in the philosophy of mathematics.

Igor Sedlár

1. Type of Affiliation with the MCMP

Igor Sedlár is an Assistant Professor at the Department of Logic and Methodology of Science at Comenius University in Bratislava, Slovak Republic. He was a Visiting Fellow at the MCMP from October 7th 2013 to December 6th 2013 (funded by the MCMP).

2. Research Projects

Igor Sedlár was working on a paper on substructural epistemic logics, a combination of substructural logics with mainstream epistemic logics based on modal logic. The main result is a general completeness proof for a variety of substructural epistemic logics. In addition, he investigated possible applications of substructural epistemic logics in knowledge representation. Most notably, he explored some connections with non-monotonic information update and belief revision. This research project resulted from his interactions with O. Hjortland (MCMP) and O. Roy (external member of the MCMP).

3. Academic Output

The paper “Epistemic Extensions of Modal Distributive Substructural Logics” was accepted for publication in the *Journal of Logic and Computation*, in a special issue on Substructural Logics and Information Dynamics edited by O. Roy, O. Hjortland, and G. Aucher (the expected publication is late 2014).

Florian Steinberger

1. Type of Affiliation with the MCMP

Florian Steinberger was an Assistant Professor at LMU in 2013.

2. Research Projects

In 2013, Florian Steinberger pursued two principal lines of research. The first project was concerned with the question of the normative status of logic: in what sense, if any, can logic be said to have normative authority over our thinking? He explored this question from a number of angles, both historical (Kant, Frege, Carnap) and systematic. It is also the topic of his habilitation project, which he is writing under the supervision of Prof. Hannes Leitgeb, Prof. John MacFarlane (UC Berkeley), and Prof. Joseph Perner (University of Salzburg). The second project examines a view in the philosophy of language and logic known as (logical) inferentialism. Here he was primarily concerned with the clarification of various foundational conceptual issues, with the correct formulation of the central notion of *harmony* as well as with the ramifications of the view so understood for our knowledge of logic and for our understanding of the logical constants.

3. Academic Output

Publications:

“Explosion and the Normativity of Logic”, to appear in *Mind*.

“Frege and Carnap on the Normativity of Logic”, invited submission to *Carnap on Logic*, special issue of *Synthese*, G. Schiemer (ed.).

“Inferential Role Semantics” (with Julien Murzi), to appear in *Blackwell Companion to Philosophy of Language*, second edition, B. Hale, A. Miller and C. Wright (eds.).

“The Normative Status of Logic”, commissioned entry for *Stanford Encyclopedia of Philosophy*.

“Philosophie der Logik”, to appear in *Philosophien der Einzelwissenschaften*, S. Lohe and T. Reydon (Hrsg.), *Meiner*.

Forthcoming entries in *Cambridge Dictionary of Philosophy*, third edition, R. Audi (ed.): adverbs, logic of; bootstrapping; cumulative case arguments; dialetheism; explosion; harmony, proof-theoretic; Lockean thesis; logical pluralism; normalization theorem; preface paradox; proof; principal principle; probabilism; radical interpretation; regulative-constitutive distinction; substructural logics.

Special Issue on Formal Epistemology (ed. with Vincenzo Crupi, Branden Fitelson and Ole Hjortland), *Erkenntnis*, forthcoming.

“David Lewis’ sprachbegabte Esel”, *Cogito*.

“On the Equivalence Conjecture for Proof-Theoretic Harmony”, *Notre Dame Journal for Formal Logic*, Vol. 54 (1), 2013.

Work in preparation – Books:

Inference and Logic (with Julien Murzi).

The Normativity of Logic.

Editorial Work:

Logical Inferentialism (with Neil Tennant), under review at *Routledge*.

Manuscripts:

“Carnap and the Limits of Tolerance” (under review *Philosophy and Phenomenological Research*).

“On the Constitutive Normativity of Logic”, in preparation.

“Consequence and Credence”, in preparation.

“The Bridge From Logic to Epistemology”, in preparation.

Talks:

October 2013, “Understanding and Inference”, Munich-St. Andrews Conference, Meaning: Models and Proofs, Munich (invited).

September 2013, “Turing Machines and Computation in the Philosophy of Mind”, TUFTS University, Boston (invited).

July 2013, “Carnap and the Limits of Tolerance”, Carnap on Logic Conference, LMU Munich (invited).

May 2013, “Explosion and the Normativity of Logic”, University of Edinburgh (invited).

Apr 2013, “The Normative Status of Logic”, University of Aarhus (invited).

Feb 2013, “The Normative Status of Logic”, University of Notre Dame (invited).

Further activities:

Co-organizer of workshop on Putnam’s Model Theoretic Argument (May 2013)

Course Coordinator MCMP.

Deputy Women’s Officer, Faculty of Philosophy, Philosophy of Science and Religious Science.

Search Committee Member for Professorship in Philosophy of Mind, Faculty of Philosophy, Philosophy of Science and Religious Science.

Funding applied to: Junior Researcher in Residence, Center for Advanced Studies, LMU Munich (to be held during summer term 2014) – successful. British Academy/Leverhulme Trust Small Research Grant (£10.000), with Julien Murzi (Kent and MCMP) – successful. Universitätsgesellschaft funding (€2.500) for Workshop “Putnam’s Model-Theoretic Arguments” – successful.

Johannes Stern

1. Type of Affiliation with the MCMP

Throughout 2013 Johannes Stern was a Postdoctoral Fellow of the MCMP funded by the DFG research project „Syntactical Treatments of Interacting Modalities” (led by Hannes Leitgeb). In August and September 2013 he was a Visiting Researcher in Buenos Aires within a DAAD and MinCyT funded research project on paradox and modality.

2. Research Projects

In the first half of 2013 Johannes Stern focused on finishing and submitting papers that were in preparation, or that had to be revised, after incoming referee reports. He then started studying arithmetical completeness results for modal operator logics. Some preliminary results of this research were discussed in his talk held in Geneva and will be discussed in the paper which is currently in preparation entitled “A New Norm for Axiomatic Theories of Truth”.

3. Academic Output

Published and forthcoming work:

“Paradoxes of Interaction?” (with Martin Fischer), *Journal of Philosophical Logic*, forthcoming.
“Modality and Axiomatic Theories of Truth I: Friedman-Sheard”, *The Review of Symbolic Logic*, forthcoming.
“Modality and Axiomatic Theories of Truth II: Kripke-Feferman”, *The Review of Symbolic Logic*, forthcoming.
“Montague’s Theorem and Modal Logic”, *Erkenntnis*, forthcoming. Online First 2013, DOI 10.1007/s10670-013-95237.

Revise and resubmit:

“Axiomatizing Semantic Theories of Truth” (with Martin Fischer, Volker Halbach and Jönne Kriener).

In preparation:

“Necessity and Necessary Truths Proof-Theoretically”.

“How Believable can a Modal Operator Be? A Negative Result”.

“A New Norm for Axiomatic Theories of Truth”.

“Restricting without Restrictions. Fitch’s Paradox in the Light of Kripke-Style Theories of Modality”.

Toward Predicate Approaches to Modality, monograph based on his PhD thesis.

Reports:

Report on the “First Paris-Munich Workshop in Formal Philosophy” (with C. Paternotte), *The Reasoner*, 7(3):33, 2013.

Talks:

2 December 2013, “Truth and Modal Logic”, SGSLPS Workshop Logic and Truth, Geneva.

26 September 2013, “Axiomatizing Semantic Theories of Truth?”, Buenos Aires Workshop on the Philosophy of Logic, Buenos Aires.

24 May 2013, “Necessities and Necessary Truths. A Proof-Theoretic Addendum”, Truth and Paradox, Munich.

13 March 2013, “Necessities and Necessary Truths from a Proof-Theoretic Perspective”, The Truth to Be Told Again, Amsterdam.

Further activities:

Organization (with Denis Bonnay, Paul Egré and Cedric Paternotte) of the Paris-Munich Workshop, MCMP, Munich, 8/9. February 2013.

Referee for *The Review of Symbolic Logic*, *Erkenntnis*, *dialectica*, and *Topoi*.

Marta Sznajder

1. Type of Affiliation with the MCMP

Marta Sznajder was an MCMP Doctoral Fellow in 2013 (supervised by Hannes Leitgeb).

2. Research Projects

Marta Sznajder was working on her PhD project on “Conceptual Frameworks: Geometrical Representations of Concepts in Inductive Logic”. The philosophical problem that she is working on is the relation between rational confirmation functions and conceptual frameworks: in what ways can and do conceptual frameworks determine rational confirmation functions? Her research revolved around two larger questions. The first one concern the ways in which different elements of a conceptual framework constrain the admissible confirmation functions. The second concerns the

reasons for specific choices of elements of a conceptual framework. She wrote a critical analysis of Carnap's "Basic System of Inductive Logic" and clarified what elements conceptual frameworks contain and what the relative status of these elements is like. She also started working on an analysis of the presuppositions of induction from the perspective of the axiomatization of inductive logic.

3. Academic Output

Submitted:

"A Geometric Principle of Indifference", with L. Decock and I. Douven, submitted to *Journal of Applied Logic*.

Under review:

"Update Semantics for Intensional Transitive Verbs – A Case Study".

Talks:

"Geometry of Meaning – Conceptual Spaces and Confirmation", Munich-St Andrews Workshop Meaning: Models and Proofs, MCMP, Munich, October 2013.

"Attributing Spaces and Inductive Logic", GroLog Seminar, Groningen, October 2013.

"Justifying Logics", Graduate Conference in Theoretical Philosophy, Groningen, April 2013.

"Intensional Verbs, Their Intensional Objects and Axiomatic Metaphysics", 4th World Congress and School on Universal Logic, Rio de Janeiro, April 2013.

Comment on: J. Zehr, *Penta-valued TCS: a unified account of vagueness and presuppositions*, Paris-Munich Workshop, MCMP, Munich, February 2013.

Further activities:

Marta Sznajder organized the conference PhDs in Logic V, which took place at the MCMP in April 2013.

She reviewed work for the *Journal of Logic and Computation* and the *Synthese Library* volume on Conceptual Spaces@Work.

She attended the Nordic Spring School in Logic 2013, Sophus Lie Conference Center, Nordfjordeid, Norway, 2013.

She visited Rijksuniversiteit Groningen in October 2013, following an invitation of Catarina Dutilh-Novaes. During that visit she gave a talk at the Philosophy Department.

Dietmar Zaefferer

1. Type of Affiliation with the MCMP

Professor Zaefferer (emeritus from LMU) spent the entire year of 2013 as a Visiting Fellow of the MCMP in one of its offices in Ludwigstr. 25. He was funded by his income as an LMU retired Professor of Theoretical Linguistics.

2. Research Projects

Professor Zaefferer's research in 2013 was focused on two strands, one belonging to the very foundations of linguistic theory, the other to the interface between linguistics and formal logic.

Strand one aims at explaining at least some of the structures found in all human languages (linguistic universals) by relating them to their neighbourhood in the human mind and investigating the ways our faculty of language is embedded in and partially shaped by the human faculty of action. I have therefore christened it *Shared Structures of Language and Action*.

Strand two is concerned with the ubiquitous phenomenon of conceptual relativization, which is

reflected in language not only in overt biclausal conditional constructions like ‘*If you're happy and you know it, clap your hands!*’ (to quote a well-known children’s song), but also by monoclausal sentences such as ‘*In case of danger, break glass*’ or by sequences like ‘*Short of cash? Try cyberbegging*’.

3. Academic Output

Efforts on strand one went into various proposals for funding projects, symposia and theme sessions at conferences mentioned below.

Intermediate results of strand two were presented and discussed at the sixth installment of the *Semantics and Philosophy in Europe* conference series (SPE 6) in Санкт-Петербург (St. Petersburg) on June 10-14, 2013 under the title *Conditionals, Syllogisms and Counterexamples. Remarks from a Linguist’s Point of View*. There Professor Zaefferer argued that at least some, and possibly all, of the so-called counterexamples to classical conditional-based syllogisms such as *modus ponens* and *modus tollens* proposed in the philosophical literature disappear as soon as the coding sentences are given an appropriate semantic analysis.

Further activities:

Professor Zaefferer organized a conference together with Roel Willems (Radbout University and Max Planck Institute for Psycholinguistics) which took place in 2014, but the preparation of which started in April 2013. The meeting was a theme session at the at the *36th Annual Conference of the German Linguistic Society* (March 5-7, 2014, Marburg University, Marburg/Lahn, Germany) and was called *Converging Evidence? Embodied Views of Basic Categories in Language and Cognition*. As the title reveals, it was part of his first strand of research mentioned above.

Seven applications for external funding (four aiming at direct funding for a very large, a large and a small project and three asking for indirect funding via infrastructure) have been submitted in the relevant period:

(1) January 31, 2013. Aiming at a very large research program lasting for twelve years, Professor Zaefferer and Hannes Leitgeb submitted a *Vorantrag für ein Projekt im Rahmen des Akademienprogramms für 2015* (preliminary proposal for a project to be part of the academy program for 2015). The title was *Glotto- und Ontodiversität: Wie unterschiedlich sind menschliche Sprachen und Denkweisen? Bestandsaufnahme der Einheit, Vielfalt und Dynamik von Begriffs- und Kodierungssystemen*. (Glotto and Ontodiversity: To what extent do human languages and ways of thinking diverge? Taking stock of the unity, heterogeneity and dynamics of systems of concepts and their codings). This application was not successful.

(2) February 1, 2013. Roel Willems (Radbout University and Max Planck Institute for Psycholinguistics) and Professor Zaefferer submitted a proposal for a one-day symposium to precede the 35th annual meeting of the *Cognitive Science Society*, in Berlin, Germany, Wednesday, July 31 - Saturday, August 3 with the title *Refocusing Embodiment Research. What Sensorimotor Evidence Tells Us About Structure in Language and Cognition*. This application was not successful.

(3) March 20, 2013. Submission of the abstract for the talk at SPE 6 in St. Petersburg mentioned above. This application was successful.

(4) April 15, 2013. Roel Willems (Radbout University and Max Planck Institute for Psycholinguistics) and Professor Zaefferer submitted a proposal for three-day theme session as part of the *36th Annual Conference of the German Linguistic Society* (March 5-7, 2014, Marburg University, Marburg/Lahn, Germany) with the title *Converging Evidence? Embodied Views of Basic Categories in Language and Cognition*, as mentioned above. This application was successful.

(5) August 29, 2013. Application for subsidies for an international and interdisciplinary specialist workshop (the one mentioned above) from the Fritz Thyssen Foundation. The amount asked for was 9.603,00 EUR. This application was not successful.

(6) October 1, 2013. Roel Willems (Radbout University and Max Planck Institute for Psycholinguistics) and Professor Zaefferer submitted a proposal for a research program lasting for three years plus three more if extended with the title *Shared structures of language and action* to the DFG (German Research Foundation) as part of the Priority Programme *XPrag.de: New*

Pragmatic Theories based on Experimental Evidence (SPP 1727). Whereas the proposal for Priority Programme itself has been accepted, there has been no official notification about the success of this proposal so far.

(7) November 3, 2013. Application for subsidies for an international and interdisciplinary specialist workshop (the one mentioned above) from the Hertie Foundation. The amount of the support requested was 8.843,00 EUR. This application was not successful.

We hope that this amounts to a helpful summary of what was going on academically at the MCMP in the period from 01/01/2013 to 31/12/2013.

(We did not state research results of some of our external fellows/regular visitors to the MCMP if they did not spend time at the MCMP in 2013; for instance, this applies to Branden Fitelson from Rutgers and Ed Zalta from Stanford.)



Hannes Leitgeb, April 25th, 2014
MCMP, LMU Munich