Preface

This book constitutes the proceedings of ΔEON 2014, the 12th International Conference on Deontic Logic and Normative Systems held during July 12–15, 2014, at Ghent University, Belgium. The biennial ΔEON conferences are intended to promote interdisciplinary cooperation amongst scholars interested in linking the formal-logical study of normative concepts and normative systems with computer science, artificial intelligence, linguistics, philosophy, organization theory, and law. There have been eleven previous ΔEON conferences: Amsterdam, December 1991; Oslo, January 1994; Sesimbra, January 1996; Bologna, January 1998; Toulouse, January 2000; London, May 2002; Madeira, May 2004; Utrecht, July 2006; Luxembourg, July 2008; Fiesole, July 2010; Bergen, July 2012.

The conference has been renamed from “International Conference on Deontic Logic in Computer Science” to “International Conference on Deontic logic and Normative Systems”, the acronym ΔEON being kept. This name change was decided by the ΔEON Steering Committee (http://www.deonticlogic.org), in order to broaden the scope of our conference series, which originated from within computer science.

The topics solicited for ΔEON 2014 included the following general themes:

– the logical study of normative reasoning, including formal systems of deontic logic, defeasible normative reasoning, logics of action, logics of time, and other related areas of logic
– the formal analysis of normative concepts and normative systems
– the formal specification of aspects of norm-governed multi-agent systems and autonomous agents, including (but not limited to) the representation of rights, authorization, delegation, power, responsibility, and liability
– the normative aspects of protocols for communication, negotiation, and multi-agent decision making
– the formal representation of legal knowledge
– the formal specification of normative systems for the management of bureaucratic processes in public or private administration
– the applications of normative logic to the specification of database integrity constraints

In addition to the above general themes, ΔEON 2014 had the following special theme: Deontic modalities in natural language. Deontic or normative modality is a subject of common interest for researchers in several fields, including moral philosophy, meta-ethics, linguistic semantics, and deontic logic. In the past, the deontic modalities were extensively studied on the logic side. Comparatively, much less attention was paid to them from a natural language perspective, at least in ΔEON. At the same time, there was a growing interest from linguists and philosophers in the study of the deontic modalities, mostly in the U.S.,
under the influence of Angelika Kratzer’s work. A Deontic Modality Workshop was held in Los Angeles during May 20–22, 2013. The aim of ΔEON 2014 was to bring together these two communities. Topics of interest for this special theme included:

- challenges from natural language for deontic logic
- the relationship between deontic and other types of modality: epistemic modality, imperatives, supererogatory, etc.
- the deontic paradoxes
- the modeling of normative concepts other than obligation and permission, e.g., values
- the game-theoretical aspects of deontic reasoning
- the emergence of norms
- norms from a conversational and pragmatic point of view
- norms and argumentation

Our call for papers attracted a variety of submissions, from both research communities. We received 43 abstracts, and reviewed 37 papers. This is slightly more than usual. Of these, 21 were accepted for presentation at the conference and 17 are published in this volume. The titles themselves demonstrate commitment to the themes of the conference. We believe that our attempt at bringing the two communities together was a success.

The five keynote speakers were chosen in line with the special theme of the conference. The first keynote speaker was Sven Ove Hansson from the Royal Institute of Technology in Stockholm. His talk was titled “Deontic Diversity” and the content of his presentation is displayed by the following abstract:

It is commonly assumed that deontic logic concerns “the” logic of normative concepts. However, a close look at actual usage shows that the structural patterns of deontic notions differ between different usages. Some of these differences are difficult to discern in natural language, but may be easier to keep apart with the more precise tools of a formal language. We should use the resources of deontic logic to discover and distinguish between different meanings of the deontic terms in natural language. Some of the ingrained disagreements on postulates in deontic logic may be resolvable if we recognize that the different viewpoints correspond to different meanings of the normative terms of ordinary language.

Sven Ove Hansson’s paper is included in the proceedings. The second keynote speaker was Magdalena Kaufmann from the University of Connecticut. Her talk was titled “Fine-Tuning Natural Language Modality”, and is described by the following abstract:

Over the past couple of years, the traditional binary classification of modal expressions in natural languages into necessity operators and possibility operators has been called into question by a variety of distinctions
like descriptive vs. performative, information-sensitive vs. information-insensitive ("objective"), strong necessity vs. weak necessity, and subjective vs. objective. Not all of these distinctions are equally well-defined, and not all of them have been argued to be reflected in actual lexical distinctions. In my talk, I will first provide definitions that are sharp enough to allow us to administer linguistic tests, and I will then investigate for a couple of languages (English, German, Japanese) which of these categories relate to actual linguistic differences (specific linguistic items or constructions) and, most importantly, what patterns can be detected in how they relate to other morpho-syntactic or semantic properties of the linguistic expressions in question.

The third keynote speaker was Paul McNamara from the University of New Hampshire. His talk was titled "Toward a More Fine-Grained Framework for Some Fundamental Moral Notions", and is described by the following abstract:

Deontic logic, despite its merits, emerged in sin, sins that also infested ethical theory. One was the conflation of indifference with optionality, a conflation which tacitly, but inexorably, rules out action beyond the call of duty. Another pervasive conflation, in both deontic logic and ethical theory, has been that of must with ought. Perhaps with the exception of good, ought has been the most discussed moral term in 20th Century ethical theory, based on a mistaken but pervasive bipartisan presupposition that ought has the right continuity with traditional concerns with permissibility and impermissibility, and thus expresses obligatoriness. Arguably, yet another conflation is that of action beyond the call with supererogation, and permissible sub-optimality with suberogation. Other important notions, like the least you can do, praiseworthiness, and blameworthiness have been either ignored or at best underexplored. We will survey some of these issues, and explore some simple semantic structures that provide enough expressive power and conceptual discrimination to model all these notions without conflation, and to generate plausible logical relationships between them. We begin with a simple framework for indifference, and then show that the semantical and logical framework for optionality (and contingency) are just a special case. We then add a framework for must, and the can and can’t of permissibility and impermissibility. Next, we order elements in the structures and add a framework for ought, and one for the least one can do. A simple semantic structure repeatedly emerges naturally from intuitive and independent reflections on either a) indifference vs. optionality, b) must vs. ought, c) the least one can do, d) action beyond the call, or e) permissible sub-optimality, so that interlocking considerations generate a cumulative case argument for the aptness of the structures and for the logical interrelationships hypothesized. We sketch generalizations and expansions of the framework (e.g. to include supererogation and suberogation, or conditional versions of the notions). Whatever refinements are needed, the simple overarching approach appears to be on track, and
promises a much better synchronization of deontic systems with the rich array of concepts from commonsense morality of special interest to moral philosophers.

The fourth keynote speaker was Krister Segerberg from Uppsala University. His talk was titled “Information, Belief, Metaphor”, and is described by the following short abstract:

A primitive theory of information is formulated and is then related to a simple doxastic logic.

The fifth keynote speaker was Bryan Skyrms from the University of California, Irvine. His talk was titled “Emergence of Meaningful Signals”, and is described by the following abstract:

David Lewis proposed signaling games as a model that demonstrates the viability of signals with conventional meaning. The “meaning” of a signal is a function of the equilibrium of the game at which play resides. This raises the question of how equilibrium is selected, and indeed whether equilibrium is ever reached. We discuss this in the context of adaptive dynamics, both in the original context of Lewis signaling, and in more general contexts which relax assumptions of common interest and binary signaling.

We are grateful to everyone whose hard work made this conference possible. Most of all, we are grateful to our invited speakers, and to all the authors of the presented papers. Special thanks go to the members of the Program Committee and (when they liaised with one) the external referees for their service in reviewing papers and advising us on the program. They were all forced to work on a very tight timescale to make this volume a reality. We would also like to thank the members of the Local Organizing Committee, especially Erik Weber, Christian Straßer and Frederik Van De Putte, for taking care of all the countless details that a conference like this requires. We would also like to thank Leendert van der Torre and Jeff Horty, chair and vice chair of the ΔEON Steering Committee, respectively, for their advice and continuing goodwill. Finally we are indebted to Springer, and Alfred Hofmann, Anna Kramer and Elke Werner in particular, for their support in getting these proceedings published.

We record a deep sense of loss at the passing of Ingmar Pörn in February. He was a leading figure in the development of deontic logic. We dedicate this volume to his memory. An obituary by Andrew J.I. Jones opens this volume.

July 2014

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