Quantifiers in TIME and SPACE: computational complexity of generalized quantifiers in natural language

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It was quite a long climb. It would have never happened without the support and inspiration from many people. If I had given a full account of everyone’s help I would have never succeed in finishing on time. Therefore, some of you will have to forgive me for the following, only partial notes.

First of all, my parents have been a continuous source of motivation. They were always interested in my research and helped so much in building my confidence, optimism and energy. I am also very grateful to the rest of my family for providing me with many expressions of support.

I got for the first time interested in language, logic and cognition over 10 years ago thanks to Anna Wojdanowicz. She was the first to teach me philosophy and to encourage my independent thinking. She was also the very first critic of my very first essay on language and cognition which I wrote for the Philosophical Olympiad. This dissertation would not come to existence without her and I would be probably doing something completely different, presumably less fun.

I am grateful to all my friends with whom I had opportunity to discuss various philosophical issues in many wonderful places: climbing mountains, sailing lakes and seas, kayaking along the rivers, and bivouacking in the wilderness. Let me mention Tomasz Adamski, Nina Gierasimczuk, Rafał Gryko, Konrad Grzegorzelewicz, Andrzej Korduk, Maciek Malicki, Paweł Mleczko, Maciek Mostowski, Mateusz Orliński, Jakub Pilarek, Tomasz Puczyłowski, Paweł Szewczyk, and Marcin Zajenkowski.

It was a lucky choice for me to start studying in the inter-departmental programme at the University of Warsaw (Collegium MISH), where I had a lot of freedom to develop my interests across different scientific disciplines. I am in debt to my tutors in the Collegium: Jerzy Pelc and Barbara Stanosz. Their supervision encouraged me to use the freedom for rigorous studies in the philosophy of language and related fields (logic, linguistics, mathematics, and psychology). They had a great impact on my scientific taste. I also have grown a lot through endless interdisciplinary discussions with my fellow students. For that, I especially thank: Tadeusz Ciecierski, Nina, Justyna Grudzińska, Witold Kieraś, Maria
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In the second year of my studies I met the person who had the biggest impact on this thesis and my research in general. Marcin Mostowski not only taught me logic and suggested research topic, which first led me to MA thesis and then directly culminated in this dissertation, but it was also thanks to him that I started to be surrounded by logicians. I was lucky to learn from, study, and discuss logic with: Zofia Adamowicz, Mikolaj Bojańczyk, Cezary Cieśliński, Marek Czarnecki, Nina, Joanna Goliaska-Pilarek (she was the first to show me Hintikka’s sentence), Witek, Leszek Aleksander Kołodziejczyk, Eryk Kopczyński, Henryk Kotłarski, Michał Krynicki, Filip Murlak, Damian Niwiński, Paula Quinon, Jerzy Tyszkiewicz, Dominika Wojtyniak, Łukasz Wojtyniak, and Konrad Zdanowski. Especially, Leszek and Konrad explained to me uncountably many things about logic and inspired me with their attitude to work. I think that it is very likely that I would have never become a scientist (although I could have easily become a parody of a scientist) if I had not met Marcin Mostowski and his group.

Then, at the beginning of 2006, I took a great decision and came to Amsterdam to join ILLC as a PhD student in the GloRiClass project. I was brave enough to jump in, partially because I had met some ILLC members before at Szklarska Poręba Workshop on the Roots of Pragmasemantics. In connection to this I want to thank Reinhard Blutner and Henk Zeevat for organizing the conference and giving us a chance to meet on the top of Szrenica every year. I had very soft landing in Amsterdam thanks to many people. First of all, the ILLC staff deserve many thanks for their support and incredible ability of solving all problems without letting me feel importunate: Marjan Veldhuisen, Ingrid van Loon, Tanja Kassenaar, Jessica Pogorzelski, Peter van Ormondt and Karin Gigengack. GloRiClass coordinators: Krzysztof Apt, Paul Dekker, Benedikt Löwe, Ulle Endriss and my friends from the first GloRiClass generation: Andreas Witzel and Daïsuke Ikegami created extremely friendly atmosphere from the beginning, even though we were struggling with some problems in the project at that time. Moreover, I was introduced to ILLC and Amsterdam by many colleagues, among others: Tikitu de Jager (he took me on my first tour around Amsterdam and borrowed a map which I have lost, sorry for that!), and Merlijn Sevenster (we had discussed branching quantifiers long before I arrived to Amsterdam), René Tsarfaty, and Jelle Zuidema who were “forcing” me to have lunches (although it was usually just after I had breakfast) with other ILLC members integrating me with the Institute. Soon Amsterdam became my home when Nina, against some difficulties, decided to move to the Netherlands.

Obviously, the thesis profited a lot from my Amsterdam supervisors: Johan van Benthem and Theo Janssen. I enjoyed working with them and benefited a
lot from the ways they complemented each other.

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ILLC is a great place for research and Amsterdam is a beautiful place to live in. I was indeed very lucky to do my PhD here. There were many people who contributed to the great atmosphere, on both scientific and social levels, and all deserve my most grateful thanks.

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