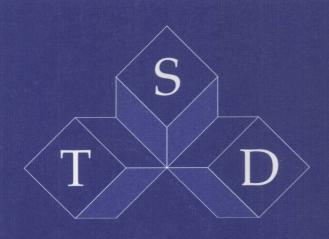
Václav Matoušek Pavel Mautner (Eds.)

# Text, Speech and Dialogue

10th International Conference, TSD 2007 Pilsen, Czech Republic, September 2007 Proceedings





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# Text, Speech and Dialogue

10th International Conference, TSD 2007 Pilsen, Czech Republic, September 3-7, 2007 Proceedings







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# Lecture Notes in Artificial Intelligence

4629

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#### **Preface**

The International Conference TSD 2007 presented state-of-the-art technology and recent achievements in the field of natural language processing. It declared its intent to be an interdisciplinary forum, intertwining research in speech and language processing with its applications in everyday practice. We feel that the mixture of different approaches and applications offered a great opportunity to get acquainted with the current activities in all aspects of language communication and to witness the amazing vitality of researchers from developing countries too. The financial support of the ISCA (International Speech Communication Association) enabled the wide attendance of researchers from all active regions of the world.

This year's conference was the 10<sup>th</sup> event in the series on Text, Speech, and Dialogue, originated in 1998, and it was partially oriented towards language modeling, which was chosen as the main topic of the conference with the aim to celebrate the forthcoming 75th. birthday of the general chair of the conference Frederick Jelinek. All other invited speakers (Eva Hajičová, Heinrich Niemann, Renato De Mori and David Nahamoo) read the lectures celebrating mainly the above mentioned jubilee of the founder of our conference. Also several appendant actions of the conference were dedicated to this celebrational aim.

This volume contains a collection of the papers presented at the conference organized by the Faculty of Applied Sciences of the University of West Bohemia in Pilsen in collaboration with the Faculty of Informatics, Masaryk University in Brno, and held in the new Primavera Conference Center in Pilsen, September 3–7, 2007. Theoretical and more general contributions were presented in common (plenary) sessions. Problem oriented sessions as well as panel discussions then brought together the specialists in limited problem areas with the aim of exchanging the knowledge and skills resulting from research projects of all kinds. Each of the submitted papers was thoroughly reviewed by three members of the conference reviewing team consisting of more than 40 top specialists in the conference topic areas. A total of 80 accepted papers out of 198 submitted, altogether contributed by 215 authors and co-authors, were selected for presentation at the conference by the program committee and then included in this book.

We would like to gratefully thank the invited speakers and the authors of the papers for their valuable contributions and the ISCA for its financial support. Last but not least, we would like to express our gratitude to the authors for providing their papers on time, to the members of the conference reviewing team and program committee for their careful reviews and paper selection, to the editors for their hard work in preparing this volume, and to the members of the local organizing committee for their enthusiasm in organizing the conference.

June 2007

Václav Matoušek

#### Organization

TSD 2007 was organized by the Faculty of Applied Sciences, University of West Bohemia in Plzeň (Pilsen), in cooperation with the Faculty of Informatics, Masaryk University in Brno, Czech Republic. The conference Web-page is located at URL:

http://www.kiv.zcu.cz/events/tsd2007/.

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#### About Plzeň (Pilsen)

The New Town of Pilsen was founded at the confluence of four rivers – Radbuza, Mže, Úhlava and Úslava – following a decree issued by the Czech king, Wenceslas II. He did so in 1295. From the very beginning, the town was a busy trade center located at the crossroads of two important trade routes. These linked the Czech lands with the German cities of Nuremberg and Regensburg.

In the 14<sup>th</sup> century, Pilsen was the third largest town after Prague and Kutna Hora. It comprised 290 houses on an area of 20 ha. Its population was 3,000 inhabitants. In the 16<sup>th</sup> century, after several fires that damaged the inner center of the town, Italian architects and builders contributed significantly to the changing character of the city. The most renowned among them was Giovanni de Statia. The Holy Roman Emperor, the Czech king Rudolf II, resided in Pilsen twice between 1599–1600. It was at the time of the Estates revolt. He fell in love with the city. He even bought two houses neighboring the town hall and had them reconstructed according to his taste.

Later, in 1618, Pilsen was besieged and captured by Count Mansfeld's army. Many Baroque style buildings dating to the end of the 17<sup>th</sup> century were designed by Jakub Auguston. Sculptures were done by Kristian Widman. The historical heart of the city – almost identical with the original Gothic layout – was declared protected historic city reserve in 1989.

Pilsen experienced a tremendous growth in the first half of the 19<sup>th</sup> century. The City Brewery was founded in 1842 and the Skoda Works in 1859. With the population of 175,038 inhabitants, Pilsen prides itself on being the seat of the University of West Bohemia and Bishopric.

The historical core of the city of Pilsen is limited by the line of the former town fortification walls. These gave way, in the middle of the 19<sup>th</sup> century, to a green belt of town parks. Entering the grounds of the historical center, you walk through streets that still respect the original Gothic urban layout, i.e., the unique developed chess ground plan.

You will certainly admire the architectonic dominant features of the city. These are mainly the Church of St. Bartholomew, the loftiness of which is accentuated by its slim church spire. The spire was reconstructed into its modern shape after a fire in 1835, when it had been hit by a lightening bolt during a night storm.

The placement of the church right within the grounds of the city square was also rather unique for its time. The church stands to right of the city hall. The latter is a Renaissance building decorated with graffiti in 1908–12. You will certainly also notice the Baroque spire of the Franciscan monastery.

All architecture lovers can also find more hidden jewels, objects appreciated for their artistic and historic value. These are burgher houses built by our ancestors in the styles of the Gothic, Renaissance or Baroque periods. The architecture

#### X Organization

of these sights was successfully modeled by the construction whirl of the end of the  $19^{\rm th}$  century and the beginning of the  $20^{\rm th}$  century.

Thanks to the generosity of the Gothic builders, the town of Pilsen was predestined for free architectonic development since its very coming to existence. The town has therefore become an example of a harmonious coexistence of architecture both historical and historicizing.

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