

Preface

This volume features the proceedings of the International Workshop on “Language, Music and Computing” that was held in St. Petersburg, Russia, during April 20–22, 2015. The workshop was organized by two leading universities of St. Petersburg— St. Petersburg State University of Aerospace Instrumentation and St. Petersburg State Conservatoire, named after N.A. Rimsky-Korsakov. The organizers intended to bring together scientists in different fields (linguistics, musicology, and computing) to discuss interdisciplinary problems. The workshop focused on such issues as language and music acquisition; influence of music skills on language acquisition and language processing; influence of linguistic skills on music acquisition; relationship between music and language training; linguistic and music knowledge, their structure and functioning; explicit and implicit knowledge of music and language; similarities and differences in understanding of music and language; automatic classification of linguistic and musical knowledge; formal models of linguistic and musical knowledge. This interdisciplinary (music/language/computing) workshop has become the first event of its kind in Russia.

The audience at the conference (about 70 participants from 18 countries) included researchers in the field of linguistics, music theory, and music history, computer science, mathematics, ethnography, performing arts, etc. The keynote speakers were distinguished specialists in these fields: Tatiana Bershadskaya (St. Petersburg State Conservatoire); David Pesetsky (Massachusetts Institute of Technologies, USA); Andrej A. Kibrik (The Institute of Linguistics, Russian Academy of Sciences, Moscow/Moscow State University); John Frederick Bailyn (Stony Brook University, New York, USA); Martin Rohrmeier (Dresden Technical University, Germany). In all, 23 submissions were chosen for oral presentations and 15 submissions were presented at the poster session. Each submission was reviewed by three reviewers who are well-known specialists in their field. The program of the workshop also included a concert of electronic music and a chamber concert of Russian romances. Only 13 full papers were selected for this volume.

The volume consists of five parts representing the variety of issues discussed at the conference. The papers in the first part briefly describe the state of the art in research on the relation between language and music in Russia. Tatiana Bershadskaya’s article provides new arguments for the point that surface parallels in terminology reflect the structural analogies in syntax, morphology, and logic of subordination both in music and verbal language. The paper by Polina Eismont and Natalia Degtyareva reviews the main issues discussed in Russian studies examining the relation between language and music and discusses the experimental data of a sample case study that proves that the understanding of meaning in music depends on the listener’s familiarity with the music and there is no evidence of any “innate” meaning.

Three papers in the second part represent a new view of the correlation of music and language in education. The first paper of the section by John Bailyn discusses the latest ideas of a critical period in music and language acquisition. The author argues that music skills are a form of advanced human accomplishment, which is not directly

relevant to the issues of maturation and evolution of basic musical perception. Bijan Zelli's paper provides experimental data proving that focusing on the functions of *spatial*, *temporal*, *timbral*, and *dynamic* components of both music and language highlights hidden aspects of these similarities in semantic, syntactic, and pragmatic contexts that may become a helpful tool in music education. Caitlin Johnson explores pattern-thinking and reflective writing as the skills that may help composers in both synthesizing their ideas and arranging their patterns.

The third part describes corpus studies. Olga Mitrofanova's article deals with the problems of the Russian text corpus on musicology annotation. She suggests a new topic model based on latent Dirichlet allocation, which allows one to distinguish general and special topics. This new model helps to describe the conceptual structure of the corpus and to analyze paradigmatic and syntagmatic relations between lemmata within topics. The problem of Brazilian Portuguese pronominal verbs annotation is discussed in Aline Camila Lenharo's paper. The author proposes a way to formalize them based on the theoretical assumptions of functionalism (especially the Dutch current), with a view to treatment of linguistic knowledge into computational-linguistic contexts. The unique corpus of spoken Russian everyday speech containing regularly occurring singing fragments is examined in Tatiana Sherstinova's article. The analyzed data provide new information on people's singing behavior in everyday life. Among the results of the study, one of the most unexpected findings is the lack of singing by participants between the ages of 30 to 40 years, i.e., in the period that is usually considered to be the peak of a person's social maturity, normally characterized by active work and career development.

The main issue of the fourth part is the problem of music notation. María-Teresa Campos-Arcaraz suggests a basic set of new signs based on combinations of nine raised dots to modify Braille musicography, which is now insufficient for representing all the required musical signs. Indranil Roy's paper deals with the problem of communicating music across the boundaries, as different music cultures use different types of notation that need to be translated. The author proposes a new digital audio visual notation system for Indian music to reconcile them while addressing the limitations of printed sheet music through computer software solutions.

The final part of the volume includes three papers that propose new ways of applying linguistic theories and mechanisms in music research. Gregory Martynenko's paper discusses the results of a time series analysis of pitch and stress indices in Russian romances that show the differences in expressing intonation contrasts in a poetry-musical period (strophe). Maria Konoshenko and Olga Kuznetsova's paper suggests a new understanding of the interaction between tone and melody. Using songs in Guinean Kpelle and Guro as test cases, the authors prove that contour tones are less preserved in melody than level tones, and surface tones are reflected in melody rather than underlying tones. The last paper in the volume, by Oğuzhan Tuğral, presents a linguistic generative theory X-bar approach that is used to analyze "early music" repertoires and associates it with Foucault's archaeological approach to historical documents.

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