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Laura Colantoni, Jeffrey Steele, and Paola Escudero
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SECOND LANGUAGE SPEECH

Second language acquisition has rapidly grown as a field over the past decade, as our knowledge of the ways in which children and adults learn and use a second language has become crucial for effective language teaching. In addition to this important ‘applied’ function, research into second language acquisition has also informed the fields of linguistics and psychology in general, as it has shed light on the differences between native and non-native models of human language and cognition. The focus of this accessible new book is second language speech – that is, how speakers perceive, process, understand, and pronounce the sounds of a second language. Each chapter includes review questions, and most chapters include ‘tutorial’ and ‘lab’ sections with practical exercises based on the University of Toronto Romance Phonetics Database (available online for free). The book also has a companion website, containing illustrated answers to the exercises, scripts for running acoustic analyses, and useful weblinks.

LAURA COLANTONI is Professor in the Department of Spanish and Portuguese at the University of Toronto. Her research focuses on sound change and categorization and the second language acquisition of variable phonetic parameters.

JEFFREY STEELE is Associate Professor in the Department of French at the University of Toronto. His research focuses on second and third language acquisition as well as language assessment.

PAOLA ESCUDERO is Associate Professor in the MARCS Institute at the University of Western Sydney. Her research focuses on speech and visual development in diverse populations, including human infants, children, and adults, and zebra finches.

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Theory and Practice

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Preface

The understanding of second language (L2) speech is increasing in importance for researchers and practitioners in linguistics, psychology, education, speech-language pathology, and computer science due to the growing contribution of research on non-native language acquisition to models of human language and cognition. The present volume provides a state-of-the-art overview of non-native speech research including in-depth discussion of theoretical frameworks and experimental studies. Given our training and intellectual orientation, the book is situated within laboratory phonology, which draws on a variety of fields including theoretical and experimental phonetics and phonology. What unites research within this approach to the study of human speech is its experimental orientation. To the greatest extent possible, we have kept discussion theory-neutral so as to make the book accessible and of interest to the widest audience possible.

In writing this volume, we have had two main objectives and two principal target audiences. As concerns the former, we wished to offer the reader an in-depth introduction to the major L2 speech research themes and questions, the theoretical frameworks and methodologies used to investigate these, and, finally, the rich range of experimental research that has been conducted on a vast array of topics. We also wanted to produce a research manual that would provide present and future researchers with the practical tools and some of the experience necessary for conceptualizing an experiment, formulating research hypotheses, designing an experiment to test these hypotheses, and analyzing the results. In terms of target readership, we have written for two main groups – for young researchers new to the scientific study of L2 speech and, potentially, less familiar with experimental research, as well as seasoned language acquisition specialists wishing to understand or undertake research on non-native speech perception and production for the first time. We have assumed that both groups of readers will have a basic background in phonetics, particularly acoustics, phonology, and statistics. However, all core

concepts and phenomena are defined with illustrating examples the first time that they are encountered.

This book's structure is based on our individual and collaborative experience teaching courses on second language speech and experimental phonology in North America, Europe, and Australia. The content and structure also reflect the needs of the advanced undergraduate and graduate students whom we have supervised undertaking their first independent research on non-native phonetics and phonology. Conceptually, the book is organized into three main sections. Part I, *Questions and frameworks for the study of second language speech*, comprises two chapters intended to provide a broad framework for the understanding and planning of experimental speech research. After defining a series of fundamental L2 acquisition concepts, Chapter 1 situates L2 speech research within the broader discipline of second language acquisition research via discussion of a series of major research themes and questions. We return to these guiding questions again and again in the research discussed in Part III in order to highlight the commonalities in work on perception and production as well as on a variety of segmental and prosodic structures. Chapter 2 provides an overview of the principles of scientific research and the theoretical frameworks and concepts underlying L2 speech research in particular. In Part II, *Research methodology*, the focus changes to all aspects of conducting experimental speech research for both perception and production studies. Part III, *Case studies and analysis of L2 speech perception and production*, comprises four core chapters dedicated to a range of vocalic, consonantal, and prosodic structures that L2 learners including those of English, French, and Spanish must acquire. The particular focus on these three languages reflects not only our expertise but also the importance of these languages as some of the most widely studied second/third languages in Canada, the USA, and much of Europe. Each chapter in this section has a theoretical and practical component, and begins with the necessary background in experimental phonetics and phonology, then provides an in-depth overview of previous experimental studies, and ends with a set of review questions and a practical tutorial followed by a series of lab exercises designed as mini-experiments to allow the reader to undertake studies of his or her own. In the final chapter, along with a summary of the research discussed in the rest of the book, we highlight understudied areas and forward a series of research questions for future study.

A particular feature of the present work is its link with the University of Toronto Romance Phonetics Database (<http://rpd.chass.utoronto.ca>; ID: rpd, password: romphon), which includes L2 learner and native speaker data for five of the major Romance languages (French, Italian, Portuguese, Romanian, and Spanish) as well as English data specifically collected for the present volume. The website accompanying this book (www.cambridge.org/colantoni) provides the reader with answers to the review questions, tutorials, and lab exercises as well as a variety of

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supplementary materials including sample scripts for use in acoustic analyses using the Praat software and links to a range of useful websites for L2 speech research.

Writing this book has been a stimulating experience that has allowed us to share our experience and passion about L2 speech research all the while learning more about the field. We hope that it will provide a similarly stimulating learning experience for you, the reader.

Laura Colantoni, Jeffrey Steele, and Paola Escudero
Toronto, Canada and Sydney, Australia