Underlying Representations

At the heart of generative phonology lies the assumption that the sounds of every language have abstract underlying representations, which undergo various changes in order to generate the 'surface' representations; that is, the sounds we actually pronounce. The existence, status and form of underlying representations have been hotly debated in phonological research since the introduction of the phoneme in the nineteenth century. This book provides a comprehensive overview of theories of the mental representation of the sounds of language. How does the mind store and process phonological representations? Krämer surveys the development of the concept of underlying representation over the last 100 years or so within the field of generative phonology. He considers phonological patterns, psycholinguistic experiments, statistical generalizations over data corpora and phenomena such as hypercorrection. The book offers a new understanding of contrastive features and proposes a modification of the optimality-theoretic approach to the generation of underlying representations.

Martin Krämer is Associate Professor of Linguistics in the Department of Language and Linguistics at the University of Tromsø.
KEY TOPICS IN PHONOLOGY

Key Topics in Phonology focuses on the main topics of study in phonology today. It consists of accessible yet challenging accounts of the most important issues, concepts and phenomena to consider when examining the sound structure of language. Some topics have been the subject of phonological study for many years, and are re-examined in this series in the light of new developments in the field; others are issues of growing importance that have not so far been given a sustained treatment. Written by leading experts and designed to bridge the gap between textbooks and primary literature, the books in this series can either be used on courses and seminars, or as one-stop, succinct guides to a particular topic for individual students and researchers. Each book includes useful suggestions for further reading, discussion questions and a helpful glossary.

Already published in the series:
Neutralization by Daniel Silverman

Forthcoming titles:
Variation in Phonology by Marc Van Oostendorp
Modularity in Phonology by Thomas Purnell, Eric Raimy and Joseph Salmons
Intonation and Prosody by Caroline Féry
Phonological Markedness by Elizabeth Hume
Distinctive Features by Christian Uffmann
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Acknowledgements

The topic of this book is quite wide, even though I tried to narrow it down to keep it within moderate limits, that is, around 300 pages rather than the length of a novel by Dan Brown. This cutting-down process led to the omission of several aspects of underlying representations and the discussions around them, which will be sketched in the first chapter. More sadly, trimming the subject matter led to the necessity of simply ignoring the work of some authors. Some omissions, I admit, are surely the result of my ignorance. However, the nature of underlying representations is a central issue in phonological theorizing and the numbers of those doing research on the topic are legion; there is also many a good insight to be found about the nature of underlying representations in books and articles that do not primarily set out to contribute to this discussion but are focusing on some other issue. Furthermore, my task here was to provide an overview of a central topic in phonological theorizing but give it my own slant. Since I was asked for it I wrote a book that is biased. And because of all this I feel the need to start with an apology, an apology to all those excellent and hardworking scholars whose work didn’t get acknowledged here. Sorry! If I ever get to write volume 2, I will try to make up for it.

My heartfelt apologies also go to the students who will read this book as part of a course in phonology. Some passages are quite challenging, even though I have tried to explain complex issues as clearly as possible.

Quite a few people deserve a warm thank-you for their help and support. Anna Endresen, Madeleine Halmøy, Laura Janda, Tore Nesset, Dave Odden, Marc van Oostendorp, Albert Ortmann, Roland Pfau, Peter Svenonius, the CASTL phonologists, the phonologists in Toronto and in Budapest, participants of the OCP in Marrakech, of GLOW in Nantes and at various Manchester Phonology Meetings all contributed with discussion, questions, challenges, suggestions, data.
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All errors and shortcomings of this book are my own.
## Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AP</td>
<td>Articulatory Phonology</td>
</tr>
<tr>
<td>ASL</td>
<td>American Sign Language</td>
</tr>
<tr>
<td>C</td>
<td>consonant</td>
</tr>
<tr>
<td>CM</td>
<td>Comparative Markedness</td>
</tr>
<tr>
<td>CON</td>
<td>constraint set</td>
</tr>
<tr>
<td>ET</td>
<td>Exemplar Theory</td>
</tr>
<tr>
<td>EVAL</td>
<td>Evaluation function</td>
</tr>
<tr>
<td>FFC</td>
<td>Fully Faithful Candidate</td>
</tr>
<tr>
<td>fMRI</td>
<td>functional Magnetic Resonance Imaging</td>
</tr>
<tr>
<td>FUL</td>
<td>featurally underspecified lexicon</td>
</tr>
<tr>
<td>GP</td>
<td>Government Phonology</td>
</tr>
<tr>
<td>KISS</td>
<td>'Keep it simple, stupid!'</td>
</tr>
<tr>
<td>L1</td>
<td>first/native language</td>
</tr>
<tr>
<td>L2</td>
<td>second language</td>
</tr>
<tr>
<td>LO</td>
<td>Lexicon Optimization</td>
</tr>
<tr>
<td>LP / LPM</td>
<td>Lexical Phonology and Morphology</td>
</tr>
<tr>
<td>MEG</td>
<td>Magnetoencephalography</td>
</tr>
<tr>
<td>MMN</td>
<td>mismatch negativity</td>
</tr>
<tr>
<td>OCP</td>
<td>Obligatory Contour Principle</td>
</tr>
<tr>
<td>OT</td>
<td>Optimality Theory</td>
</tr>
<tr>
<td>PR</td>
<td>phonetic representation</td>
</tr>
<tr>
<td>RotB</td>
<td>Richness of the Base</td>
</tr>
<tr>
<td>RROC</td>
<td>Redundancy Rule-Ordering Constraint</td>
</tr>
<tr>
<td>SDA</td>
<td>Successive Division Algorithm</td>
</tr>
<tr>
<td>SCC</td>
<td>Strict Cycle Condition</td>
</tr>
<tr>
<td>SPE</td>
<td><em>The Sound Pattern of English</em> (Chomsky &amp; Halle 1968)</td>
</tr>
<tr>
<td>SR</td>
<td>surface representation</td>
</tr>
<tr>
<td>UG</td>
<td>Universal Grammar</td>
</tr>
<tr>
<td>UR</td>
<td>underlying representation</td>
</tr>
<tr>
<td>V</td>
<td>vowel</td>
</tr>
<tr>
<td>VOT</td>
<td>voice onset time</td>
</tr>
<tr>
<td>$</td>
<td>syllable</td>
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