## ANALOGICAL MODELING OF LANGUAGE

## **ROYAL SKOUSEN**

Department of English Brigham Young University



## KLUWER ACADEMIC PUBLISHERS

DORDRECHT / BOSTON / LONDON

## TABLE OF CONTENTS

INTRODUCTION	
1. Structuralist Versus Analogical Descriptions	3
2. An Overview of the Book	6
Chapter 1: PROBLEMS WITH RULE DESCRIPTIONS OF LANGUAGE	
1. Three Basic Types of Language Behavior	11
2. Empirical Problems	15
3. Conceptual Problems	19
Chapter 2: AN ANALOGICAL APPROACH	
1. An Overview of the Analogical Model	22
2. Constructing the Analogical Set for a Given Context	23
3. The Exponential Effect in a Saturated Deterministic Field	
4. Predicting the Three Basic Behaviors Analogically	40
Chapter 3: THREE EXAMPLES FROM ENGLISH	
1. Specifying the Data Set	51
2. Categorical Behavior: The Indefinite Article	
3. Exceptional/Regular Behavior: Spelling Initial /h/	60
4. Idiosyncratic Behavior: Voicing Onset Time	71

Chapter 4:	PREDICTING NON-DETERMINISTIC
•	LANGUAGE VARIATION

1. Learning Probabilities			
2. McClelland and Rumelhart's Connectionist Approach			
3. Imperfect Memory and Multivariate Predictions 4. Rule Approaches to Language Variation			
		5. Sociolinguistic Variation in Arabic	97
Chapter 5: ANALOGICAL PREDICTIONS OF THE PAST TENSE IN FINNISH			
1. An Overview of the Verb Types	101		
2. The Past Tense in Standard Finnish	104		
3. Variation in the Past Tense 4. Properties of an Analogically Predicted Past Tense Form 5. Predicting the Past Tense for Infrequent Verbs			
		6. Predicting the Past Tense for Verbs in the Data Set	119
		7. Historical Drift of the Past Tense	
8. A Note on the Historical Development	135		
Chapter 6: CONCLUSION			
1. Massively Parallel Processing of Analogical Sets	137		
2. A Final Analogy	139		
REFERENCES	141		

Table of Contents	
Appendix 1: SYMBOLS FOR THE PHONEMES OF ENGLISH	147
Appendix 2: DATA SETS	
1. The Indefinite Article in English	150
2. Spelling of Initial /h/ in English	
3. Categorical Determination of /b,p/ in English	181
4. Terms of Address in Colloquial Egyptian Arabic	182
5. Past Tense in Finnish	185
Appendix 3: PASCAL PROGRAM	191
INDEX	209