

Proposal for *Precedence Based Phonology*

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Brief Explanation

Precedence Based Phonology presents a complete and coherent model of the role that precedence information plays in linguistic structure (especially in phonological representations) and the diverse methods that can be used to investigate properties of precedence. In previous work, we have proposed that precedence not only needs to be independently represented in linguistic structures but that precedence information itself can also be manipulated by linguistic processes. The scope of this previous work was limited primarily to the phenomenon of reduplication and related processes but we show in this work that having a theory of precedence is important for the understanding of syntax, morphology, phonology and phonetics, and also for paralinguistic phenomena such as language games and poetry.

Importance of work

This book is important primarily for its expansive nature in that it demonstrates the importance of precedence across different grammatical modules and the different ways in which precedence can be investigated. The particular case studies of how precedence must be represented in different modules and how different phenomena are derived clearly demarcate the relevant sources of explanation which constrain grammatical models. Another important feature is the introduction of computational, diachronic and the acquisitional approaches to understanding precedence based phenomena.

The breadth of both the topical and methodological aspects of this work also provide strong arguments that the main proposals in Raimy (2000) are in essence correct. Other approaches to reduplication which are compared to the *precedence based phonology* approach do not scale up to cover these different issues of computation, diachronic analysis and language acquisition issues nor do the other models have clear interfaces with morphology, syntax and phonetic modules.

Structure of the book

The book is structured to contain 9 chapters.

Chapter 1 Temporal aspects of language

This chapter serves as the introduction to the book and demonstrates the distinct role that linear order plays in different grammatical modules. The narrow syntax is devoid of linear order (precedence) (Chomsky 2004) relying strictly on hierarchical representations, the morphosyntax crucially requires both hierarchy and precedence (Marantz 1984), the morphophonology contains precedence graphs but no hierarchical structure and finally the phonetics module only operates on fully serialized strings. Analyses of data from Kannada (Lidz 2001), French (Marantz 1984) and Washo (Jacobson 1964) provide the arguments for this modularized approach to linear order.

Chapter 2 Contemporary models of reduplication

The most substantial work on reduplication since the publication of Raimy (2000) falls into two main categories: how the shape of reduplicants are determined (Hendricks 2000, Kennedy 2005, Spaelti 1997, Urbanczyk 2001, 2006) and what the nature of reduplicative copying is (Inkelas and Zoll 2005, Kiparsky 2007, Struijke 2002). The chapter will contain a brief review of the framework and findings in Raimy (2000) and will critique the other recent proposals.

The general move in analysis of reduplicative templates within Optimality Theory (Prince and Smolensky 2004) has been to attempt to derive the shape of reduplicants from language specific but typologically general methods. Urbanczyk (2001, 2006) argues that reduplicant shape can be derived from simple morphological status (e.g. root vs. affix). Hendricks (2000) and Spaelti (1997) derive reduplicative templates through Generalized Alignment constraints restricting or compressing the amount of phonological material that reduplication can add. Kennedy (2005) argues that the shape of reduplicants is affected by the overall surface prosodic patterns of the language in question, and Riggle (2006) also examines infixing reduplication.

Struijke (2002) and Inkelas and Zoll (2005) disagree on the nature of reduplicative copying. Struijke (2002) stays within the Correspondence Theory (McCarthy and Prince 1995) of reduplication and argues that reduplication is the fissioning of phonological segments (e.g. Raimy and Idsardi 1997) due to morphological pressure. Reduplication remains a phonological process though. Inkelas and Zoll (2005) reject the phonological Correspondence Theory of reduplication and argue for a morphological copying approach. Kiparsky (2007) follows Inkelas and Zoll's proposals and provides further evidence against the Correspondence Theory model.

Chapter 3 Serialization

Serialization (the process previously termed "linearization") is the conversion of morpho-phonological graphs to phonological strings. Recent proposals by McClory and Raimy (2007) and Idsardi and Shorey (2007) form the basis of revisions to previous serialization algorithms. The novel serialization algorithm is demonstrated and defended by case studies of Javanese Echo reduplication, Indonesian interfixing reduplication, Lushootseed double reduplication, Marshallese triplication and Akan double reduplication.

Chapter 4 Case study: Reduplication patterns in Sanskrit

This chapter will be a case study of the phonology active in the reduplication patterns found in Sanskrit. The main thrust is to provide a precedence based phonology analysis of all of the patterns of reduplication which is both diachronically and synchronically coherent. The adequacy of this analysis will also provide a benchmark for comparison of other models of reduplication discussed in chapter 5.

Chapter 5 Other analyses of Sanskrit reduplication

This chapter compares the precedence based phonology analysis in chapter 4 with proposed analyses of Sanskrit reduplication by Steriade (1988), Struijke (2002) and Kiparsky (2007). One immediate result is that none of these analyses provide the same empirical coverage as the analysis in chapter 4. Other results demonstrate that the Struijke (2002) analysis can not be expanded adequately to cover the same data as the analysis in chapter 4 nor can it explain the relationships between the different reduplication patterns. The Kiparsky (2007) analysis is also shown to be inferior to the analysis in chapter 4 based on similar criteria and Kiparsky's critique of the precedence based model of reduplication is addressed and deflected.

Chapter 6 Case studies: language games

This chapter will demonstrate the utility of precedence based phonology to the study of different aspects of language games such as rhyme, alliteration and assonance in English poetry and different English ludlings. The basis of this chapter is an unpublished manuscript.

Chapter 7 Learning precedence relations

Computational modeling of the acquisition of reduplication, infixation and language games based on precedence based phonology proposals began with Iba and Nevins (2004) and Fitzpatrick and Nevins (2004). Their proposals were revised by Chinn and Raimy (2006) who were also able to reduce the computational complexity of the acquisition process (see also chapter 8). The success of these models is due to the constrained hypothesis space involved in the learning problem (as also argued in Pearl and Lidz 2006). Anchor Point Theory (Raimy in press) provides the constraint and when paired with a selectionist learning (Yang 2002) algorithm aspects of language change can be produced.

Chapter 8 Computing precedence relations

A common misunderstanding of precedence based phonology is the computational complexity of graph based phonological representations. The constraints on reduplication patterns through Anchor Point Theory (Raimy in press, Yu 2007, Fitzpatrick to appear) discussed in chapter 7 will be discussed and shown to restrict computational complexity of graph based phonological representations to the same computational complexity as previous linear representations. Derivational linear models of phonology are known to be computationally tractable (i.e. within the complexity class P, polynomial-time algorithms) and thus so is precedence based phonology. Other models of reduplication based on OT grammars are not computationally constrained in this manner.

Chapter 9 Conclusion and future prospects

The proposals in this book provide specific questions about the general nature of reduplication and the specific model of reduplication proposed here. Different methods of evaluating these claims will be

proposed as concrete typological investigations, computational experiments and language acquisition experiments. The fact that particular narrowly defined projects that will provide corroborating evidence for the proposals in this book can be identified should be construed as strong evidence in favor of it.

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Target audience

The audience is advanced undergraduate students, graduate students and professional linguists who work on syntax, morphology, phonology, formal language acquisition and related fields.

Similar potential competing publications

From a quick search of amazon.com on ‘reduplication’, ‘reduplicative’ and ‘infixation’ the following books were found. The books have been organized into three categories: ‘general monographs’, ‘language specific’ and ‘compendiums’. The only true competition for this work are the four works in the ‘general monographs’ section. This proposed work will supersede and address the arguments presented in all of these works. The other works are all either too narrow in focus (the language specific ones) or too broad and lacking in focus (the compendiums of various papers) to be considered appropriate competition for this proposal.

General monographs:

Reduplication: Doubling in Morphology, by Sharon Inkelas and Cheryl Zoll, Cambridge University Press. \$96.00.

The Phonology and Morphology of Reduplication, by Eric Raimy, Mouton de Gruyter, \$118.80.

Existential Faithfulness: A Study of Reduplicative TETU, Feature Movement and Dissimilation, Caro Struijke, \$95.00.

A Natural History of Infixation, by Alan C. L. Yu, Oxford University Press, \$39.95.

Language Specific

Patterns of Reduplication in Lushootseed, Suzan Urbanczyk, Taylor & Francis, Inc. \$135.00.

The Development of Verbal Reduplication in Indo-European, Mary Niepokuj, Institute for the Study of Man, \$48.00.

Reduplication in the Chadic Languages: A Study of Form and Function, Bello S. Y. Al-Hassan, Peter Lang, \$54.95

Morphology of Jakarta Dialect, Affixation and Reduplication, Muhadjir, NUSA, \$35.00.

Insights into Tagalog: Reduplication, Infixation, and Stress from Nonlinear Phonology, Koleen Matsuda French, Summer Institute of Linguistics, \$192.77

Form and Meaning in Word Formation: A Study of Afrikaans Reduplication, Rudolf P. Botha, Cambridge University Press, \$32.99.

Morphology at the Interfaces: Reduplication and Noun Incorporation in Uto-Aztecan, Jason D. Haugen, John Benjamins \$149.00.

Compendiums

Studies On Reduplication, edited by Veronika Mattes and Bernhard Hurch, Mouton de Gruyter, \$179.20.

Twice as Meaningful: Morphological Reduplication in Contact Languages, edited by Silvia Kouwenberg, Battlebridge Publications, \$61.90

Main selling points

The work not only builds on our empirical understanding of different aspects of morphology and phonology, it demonstrates how theoretical phonology can benefit from and address topical issues in the areas of computational complexity, formal language acquisition, diachronic analysis and other linguistic modules such as syntax and morphology.

Approximate length

9 chapters with approx. 35 pages per chapter = 315 plus front matter, notes, index and biblio