The phonology of contrast

Review of The Phonology of Contrast

Reviewer: Joseph W Windsor
Book Title: The Phonology of Contrast
Book Author: Anna Lubowicz
Publisher: Equinox Publishing Ltd
Linguistic Field(s): Phonology
Issue Number: 24.34

SUMMARY

This new book by Anna Lubowicz is an updated version of her 2003 dissertation which, as she states in the acknowledgements, retains the thesis of her dissertation, but with many new ideas and extensions from that work. The book puts forward the idea of Preserve Contrast theory (PC) theory, which is a refinement on what is commonly called classical or standard Optimality Theory (Prince & Smolensky 1993 [2004]) (OT), and is divided into five chapters. In the introduction to the book, Lubowicz advises the reader that Chapters Two, Three, and Four can be read in isolation and suggests a specific reading of Chapter Two for anyone only interested in an introduction to the new theory.

The first chapter introduces the work by outlining some of the key problems that the book tackles, such as opacity, recoverability, chain shifts, and contrast transformation. Given that "the sound of a word," according to Saussure, 'is not in itself important, but the phonetic contrasts which allow us to distinguish that word from any other'. That is, a phoneme is identified not only by its positive characteristics [...] but also by what it is not - that is, by the sounds it contrasts with" (Saussure 1916: 166 qtd in Dresher 2009: 1) Lubowicz frames one key question for her book, which is to ask: Where does contrast fit into the grammar? She argues throughout the work that it is a formal property of the grammar and is therefore a key component, rather than a by-product of phonological rules (for a history of contrast in phonology and its necessity, the interested reader is directed to Dresher 2009). At the end of this section, she outlines the rest of the book and notes specifically that it is intended for an audience who already possesses an understanding of OT. The intended audience of this book is a crucial point, as the author's writing, although coherent and concise, is jargon-heavy and captures the author's familiarity with OT previously.

The second chapter of the book is dedicated to providing the core concepts of PC, outlining the theory, and providing illustrations of the types of constraints that the theory will make use of: a Preserve Contrast family of constraints which may be input-oriented, output-oriented, relational or domain specific, and of the tokenized markedness or generalized faithfulness/recoverability varieties (18). To illustrate how each of these families of constraints interact and to provide evidence for their
while also predicting partial neutralizations, the author demonstrates a full factorial typology of possibilities of shifts, and emphasizes how PC rules out illicit possibilities and, with the constraints ranked properly, not only makes the correct predictions, but also provides an explanation as to why the shift would occur in the first place. This is presented as a problem for standard OT, as there is no easily identifiable markedness constraint to force a chain shift.

Chapter Three is dedicated not only to providing evidence for PC, but also to providing an explanation for the interaction of stress displacement and epenthesis in various dialects of Arabic. The key component of this section is to show that stress is a method of recoverability of contrast between underlying and epenthetic vowels (at least for some dialects). Once again in this section, Łubowicz outlines the problem and carefully walks the reader through the proposed solution by showing a full array of logical possibilities. She uses PC to show that with the proper re-rankable constraints, the correct output can be predicted and illicit forms can be ruled out. This analysis will be one of the crucial points raised in my evaluation below.

The fourth chapter of the book is called "Morphological Contrast" which does not delve into morphological contrasts, but rather deals with phonologically conditioned allomorphy in the Polish locative suffix. Since underlying vs. derived palatal consonants are not predicted to have different behaviors under an output based standard model of the author uses this phenomenon to provide strong evidence for her proposed theory. Because of the strength of this argument, I will return to a specific discussion of this chapter in the evaluation below.

Chapter Five is a short conclusion which summarises the mechanics and arguments provided in favor of PC.

EVALUATION

I now turn to an overall evaluation of the work as a whole raising a few points of contention, but remaining more generally convinced that PC is an important part of the phonological system, and of the grammar.

There are a few troublesome areas of the book where a skeptic would not be immediately convinced that PC is a viable theory in phonology. There are several aspects of the theory that would be uncomfortable to someone trained in standard OT, such as the notion of a two-stage Eval where Preserve Contrast and Tokenized Markedness constraints apply on a strata which is separate from the Generalized Faithfulness constraints which operate in the second stage. This concept is, of course, not without precedent from various forms of stratal OT (e.g. Burmúdez-Otero to appear) and is intended to "avoid redundancy between PC and generalized faithfulness" (18). However it is not entirely clear that this redundancy needs to be avoided. Regardless, this does not appear to be a critical part of the theory, but because such strata are not uniformly accepted by all researchers, it leads Łubowicz to take a somewhat defensive stance in her writing. This is positive, as it forces the author to make very clear statements about her theory and to consider every angle, leaving very little room for argument in opposition. This culminates in a very well thought out theory of contrast and a highly readable and organized book.

While reading this book, I must admit to being somewhat skeptical of the theory presented as well. This is because the version of OT that I use does not permit multiple strata, nor does it permit constraints that "take on some of the role of both markedness and faithfulness [and] somewhat blur the distinction between the two seemingly distinct families of constraints" (45) as PC constraints seem to do (see also McCarthy 2007 for a discussion of faithfulness constraints which force change, seemingly blurring the lines between the two families in much the same way). That being said, despite minor skepticism, I found the arguments presented for the theory and for Finnish partial neutralization quite convincing. In the third chapter, skepticism once again took over, and I will present some counter arguments here before commenting on the analysis in Chapter Four, which proved far more persuasive an argument for PC theory.

In Chapter Three, Łubowicz presents an analysis of stress differences in various Arabic dialects contingent on whether a vowel is present in the mental representation, or whether it is epenthized to reduce a consonant cluster. The crucial background information for the portion of the analysis I wish to comment on is that Syrian is analysed as having "Latin stress" (61) so that the penult is stressed if it is heavy and the anti-penult is stressed otherwise. Final syllables are never stressed unless the word is monosyllabic. The foot structure is analysed as being moraic trochees so that possible foot types are two light syllables with initial stress, or a single heavy syllable. A heavy syllable is defined as containing a long vowel, or being closed. As Łubowicz states, "[a]s has been proposed in the literature, coda consonants in Arabic are moraic and thus closed syllables count as heavy for the purposes of stress assignment and other metrical processes" (62).
For this particular dialect, the analysis that Łubowicz proposes is that in order to maintain a contrast between underlying and epenthized vowels, a syllable with an epenthized vowel counts as a light syllable for the purposes of stress assignment; coda consonants in these instances are non-moraic (67). Crucially, in order to motivate PC over standard OT, Łubowicz argues that standard OT, being output based, predicts that there should be no difference between underlying and epenthized vowels unless contrast preservation and recoverability is taken into account. I argue that in this particular case, standard OT has no problem in capturing the difference between the two. The difference that Łubowicz is trying to capture is that, in Syrian, words with an underlying vowel in a closed penult have penultimate stress as expected. Conversely, words with a closed penult containing an epenthetic vowel have unexpected antepenultimate stress; this is what leads her to argue that these syllables with epenthetic vowels behave as if they are light. Łubowicz’s explanation for this is that Syrian is trying to preserve a contrast that is present in the input. However, if we compare this analysis to the analysis of epenthetic vowels in Lebanese Arabic (Gouskova & Hall 2009), we find out that there are phonetically realized length contrasts between epenthetic and non-epenthetic vowels in that dialect. This would be consistent with an analysis in standard OT which bans epenthizing a mora along with an epenthetic vowel (Dep-µ, see Windsor 2012 for an analysis reliant on this constraint). Under this alternate analysis, a vowel is epenthized to reduce a consonant cluster, and rather than also epenthizing a mora, the epenthized vowel doubly links to the mora present on the coda consonant. This creates a contrast between underlying vowels - which are stored with a mora - and epenthetic vowels which do not also epenthize a mora. This contrast is maintained on the surface in that underlying vowels with coda consonants create a closed (heavy) syllable and attract stress. Epenthized vowels share a mora with their coda and are thus light syllables and do not attract stress. This violates the Weight By Position constraint as Łubowicz defines it (65): A coda consonant must bear a mora, and this mora belongs exclusively to this consonant (i.e. it is not shared with a vowel). However, by adopting this analysis, it crucially avoids mora counting (Mora-Contiguity (74)) and maintains the standard view of the syllable without doubly associating a mora to a nucleus and an onset (McCarthy & Prince 1986, Hayes 1989, Cohn 2003 among others), thus making this analysis more attractive than a PC analysis.

The previous argument aside, Chapter Four goes on to offer an analysis of phonologically conditioned allomorphy in Polish. In Polish, the locative singular suffix of masculine and neuter nouns is [-e], which causes palatalization of the stem-final consonant. However, if the stem-final consonant is already palatalized, the locative suffix [-u] is selected. This type of allomorphy is not limited to this one instance in Polish, and a similar alternation is found in the dative and locative of feminine nouns, nominative plurals of masculine non-personal inanimate nouns, and the nominative singular of neuter nouns. Łubowicz analyses this allomorphy as being a result of the PC constraint PC-in(P) which dictates that a contrast that exists in the input with regards to a particular phonological property (P) must exist in the output along some phonologically definable property, though not necessarily the same P. To allow the recoverability of the underlying palatalization contrast, a different allomorph attaches to those stem-final consonants which are underlingly palatalized from those which have derived palatalization. While we could stipulate that both [-e] and [-u] are locative suffixes that attach to masculine or neuter nouns and underlying palatalized consonants select the [-u] suffix - Łubowicz is correct in that there is no a priori reason why this should be the case and standard OT theories would not predict this alternation since underlying and derived palatals cannot be evaluated separately from one another without a theory of contrast (PC). In this chapter, I can point out absolutely no flaws with the analysis put forward, and it is thus very convincing of the proposed theory.

In conclusion, this book is very well written, leaving few questions unanswered and, despite the fact that not all aspects of PC theory are immediately desirable by a reader trained in standard OT, Łubowicz does provide evidence through carefully structured analyses of several phenomena and predicted typologies that are not only explained by PC theory, but crucially are not predicted under a standard OT (or other) treatment. Thus, the main claim of the book - that contrast is a core component of the grammar - is substantiated by the evidence that Łubowicz presents.

REFERENCES


In phonetics, ejective consonants are usually voiceless consonants that are pronounced with a glottalic egressive airstream. In the phonology of a particular language, ejectives may contrast with aspirated, voiced and tenuis consonants. Some languages have glottalized sonorants with creaky voice that pattern with ejectives phonologically, and other languages have ejectives that pattern with implosives, which has led to phonologists positing a phonological class of glottalic consonants, which includes this book proposes that phonological contrast, in particular the robustness of a phonemic contrast, does not depend solely on the presence of minimal pairs, but is instead affected by a set of phonetic, usage-based, and systemic factors. This perspective opens phonology to a more direct interpretation through phonetic analysis, undertaken in a series of case studies on the Romanian vowel system. Both the synchronic phonetics and morpho-phonological alternations are studied, to understand the forces that have historically shaped and now maintain the phonemic system of Romanian.