

Introduction

Irene Vogel

It was my intention to provide, in this volume, an update on a variety of issues related to stress and rhythm in a number of languages, as well as different theoretical approaches used in analyzing stress and rhythm. As far as the variety of issues and diversity of languages are concerned, this volume does provide the richness originally sought. Even the brief sketches of the papers below attest to this. Listing Australian, Native American, Bantu, Germanic and Romance languages only begins to provide an idea of the broad range of languages investigated. Some of the studies provide in-depth analyses of the language in question such as Buckley's study of Kashaya and Peperkamp's study of Italian. Others provide a cross-linguistic analysis of a variety of languages, such as van der Hulst's study of different types of accent system. Several contributions focus on primary stress, while others are also concerned with secondary stress. Most of the papers deal with the synchronic system of spoken languages, while Hanson's paper deals with the historical development of poetic meter.

As far as theoretical approaches are concerned, this volume represents somewhat less differentiation than would probably have been found in a similar volume published 5 years earlier. Although this is not intended as an Optimality Theory volume, six of the nine papers adopt this framework. Their authors generally use this forum for advancing arguments intended to provide demonstrations that a constraint based theory is superior to a derivational theory as far as stress phenomena are concerned. In several cases, specific modifications of OT are proposed in order to handle the phenomena in question.

The remaining three papers do represent substantial diversity in topic and theoretical approach. Two are concerned with extensions of fundamental issues of linguistic stress and rhythm beyond the usual types of data: Idsardi and Purnell's extension of metrical analysis to pitch accent and Hanson's extension of metrical theory to the development of English poetic meter. Van der Hulst returns to a basic question of crucial importance to anyone studying stress – is primary stress a function of foot assignment in a language, or of some other

mechanism? Regardless of whether one adopts OT or not, such a fundamental question needs to be resolved.

The contributions in this volume are arranged in alphabetical order by author. As a type of orientation to the volume, a brief description of the contents of each paper now follows.

In "Optimal Iamb in Kashaya", Eugene Buckley provides an in-depth examination of rhythm in Kashaya, a Pomoan language of northern California. He demonstrates that there are three separate ways of maintaining the iambic rhythm of Kashaya. First, it is the basic foot structure within the word, and in a series of light syllables, alternate syllables are lengthened. Second, in specific contexts, if a heavy syllable is followed by a light one, the weight "flips" so as to achieve a perfect iamb. Third, stress placement follows iambic structure within the phrase, as opposed to the basic lexical footing, since the phrase is the relevant domain for stress.

It is precisely for this type of situation – where there are several phenomena that appear to "conspire" for a single outcome – that Optimality Theory is most able to provide insightful accounts. The rhythmic facts of Kashaya involve an interaction between phonology and morphology, however, raising potential difficulties for OT. Nevertheless, Buckley argues that the analysis of Kashaya offered by OT is, in fact, superior to the rule based account of the same data within the framework of Lexical Phonology, as long as certain modifications are introduced. In particular, Buckley proposes two types of enrichment of OT: output-output correspondences and the possibility of distinct constraint domains, each of which may be subject to different constraint rankings. These, he argues, allow us to avoid the intermediate representations used in derivational accounts, but excluded by OT.

Kristin Hanson, in her paper "From Dante to Pinsky: a theoretical perspective on the history of the modern English iambic pentameter" also examines the iamb, but from a different perspective – that of the development of iambic pentameter in modern English poetry. As Hanson demonstrates, while the English tradition is derived from the Italian endecasillabo, it differs crucially from it with respect to stress placement and syllable count. On the basis of her analyses of the poetry of Petrarch, the model for the English poets, and the subsequent poetry of Sidney, Shakespeare and Donne, Hanson explains why the rhythm of the endecasillabo evolved as it did into the iambic pentameter of English.

Hanson's account is developed within her phonological theory of meter according to which the natural rhythmic structures of a language are stylized. The metrical structure of poetry represents the

optimization of the periodic rhythmic structure of the phonology of the spoken language. In the case of English, Hanson argues that it is quite predictable that all that remains of the endecasillabo is the five head-final feet. First, instead of requiring phrasal stress in the final strong position of each colon, English prohibited the occurrence of strong syllables in the weak position of a foot. In addition, the limitation of one syllable per position in a line of meter was replaced by the appearance of trisyllabic feet not found in the endecasillabo. The changes observed in English meter over time, according to Hanson, constitute realizations of the formal claims made by the phonological theory of meter about possible metrical forms and a language's preferences among them.

While a number of papers in this volume are concerned with how to assign stress to specific languages within OT, Harry van der Hulst steps back in his contribution, "Primary accent is non-metrical" and addresses a more basic question about the nature of stress systems in general. Is primary stress assigned on the basis of foot structure as has been commonly believed, or is some other mechanism involved. In his survey of a large number of languages representing different types of accent systems, van der Hulst concludes that primary accent assignment is determined by a strictly edge-based theory. This applies to both bounded and unbounded accentual systems. The overall rhythmic structure of a language is accounted for independently of primary accent, as a secondary phenomenon. Van der Hulst suggests that it may even be assigned phrasally.

After motivating his edge-based approach to primary accent assignment, van der Hulst devotes special attention to a number of accentual systems in which the assignment of primary accent still appears to require the parsing of entire words into binary feet, or count systems. Although such systems are relatively uncommon, they need to be accounted for. The claim advanced here is that count systems do differ significantly from the more common accentual systems, but not because they require binary footing for the assignment of primary accent. In fact, according to van der Hulst, they are just like the other systems in not requiring binary feet for primary accent location. The difference lies instead in the fact that they lack the notion of word level primary accent. In such systems, other factors such as intonation or foot extrametricality may be responsible for the location of primary accent. In speculating about these languages, van der Hulst suggests that polysynthetic morphology or a change in progress within the accentual system may be conditions that especially favor the count systems.

In "Metrical Tone and the Elsewhere Condition", William Idsardi and Thomas Purnell apply the insights provided by metrical theory for stress systems to a different domain – pitch accent systems. On the basis of detailed analyses of Shingazidja, a Bantu language spoken in the Comorro Islands, and Tokyo Japanese, it is argued that tone shift phenomena provide support for a metrical analysis in both languages. Idsardi and Purnell show how the pitch-accent patterns in question receive more insightful treatment in a system in which metrical constituents are organized into domains and the location of the heads of these metrical domains then determines the location of tones, than in a system that relies solely on the manipulation of tonal associations.

Both the metrical and tonal arguments relating to tone shift phenomena are closely examined in this paper. On the basis of specific rule interactions, Idsardi and Purnell show how a very general principle of phonology, the Elsewhere Condition, can be used to select between the two types of analysis. Specifically, it is argued that the tonal phenomena examined must be manifestations of metrical organization since the Elsewhere Condition effectively rules out the tonal accounts.

The focus of René Kager's paper, "Generalized Alignment and Morphological Parsing" is the well established demarcative property of word stress, and how to account for it in a systematic and principled way, rather than as an accidental constellation of factors. Kager thus examines stress in Shibusu Sama, an Austronesian language of the southern Philippines, and in three Australian languages, Diyari, Dyrbal and Warlpiri.

Arguing against a derivational model of metrical phonology, Kager argues that OT provides a more insightful way of accounting for the prosody-morphology interface, which is at the core of the issue of the demarcative function of stress. The reranking of the different alignment constraints, along with other constraints governing the shape and position of feet, provides the different stress patterns needed to account for the languages investigated here. By comparison, Kager argues, a derivational account reduces the demarcative function of stress to a rule conspiracy. This is an undesirable result since there is no explanation for such conspiracies in the theory.

Michael Kenstowicz, like a number of other contributors to this volume, finds OT to be the best framework within which to analyze the stress phenomena he addresses here. In "Quality-Sensitive Stress", Kenstowicz demonstrates, on the basis of five diverse languages representing both bounded and unbounded systems, that vowel quality can determine the location of stress, as does vowel quantity in the more familiar cases.

Specifically, Kenstowicz shows that lower vowels are more optimal stress-bearing units than higher vowels, and peripheral vowels are more optimal than central vowels. According to Kenstowicz, the distinctions among the vowel systems under investigation are most insightfully characterized within the OT framework in terms of the relative rankings of several constraints. The crucial components of this analysis are height and peripherality, the two factors relevant in determining prominence scales, and alignment constraints, which force stress to one edge of a particular domain. A significant conclusion that must be drawn more generally from Kenstowicz's analysis is that we must take vowel quality into consideration among the other inherent feature structures of phonemes as potentially influencing the distribution of prosodic categories.

In "A Representational Analysis of Secondary Stress", Sharon Peperkamp, too, argues that OT provides the best account of the stress phenomenon under investigation – the placement of secondary stresses in Italian. She contrasts her analysis with earlier analyses which she claims suffer from both descriptive and explanatory shortcomings.

As in several other papers in this volume, Peperkamp's analysis involves an interaction between morphological structure and stress. Her analysis thus crucially invokes alignment constraints, which interact with constraints on the well-formedness of feet, among others. Peperkamp also addresses the alternations observed between differently stressed forms of a single word. She argues that OT is particularly well equipped to handle this type of phenomenon given the possibility it offers of reranking constraints. Thus, it is quite reasonable to expect both the situation typical of southern varieties of Italian, where derived words remain quite faithful to the stress patterns of their base, and the situation typical of northern varieties of Italian, where they deviate more substantially from the stress pattern of the base.

Ellis Visch's paper, "Edge-based Prominence in Phrases and Compounds", also argues for an OT analysis of certain stress patterns, as opposed to a rule-based analysis. While Visch is concerned with structures larger than words, in particular, compounds and phrases, her analysis has in common with the word-level analyses presented in this volume that the alignment of material to the right or left edge of a domain is at the core of stress patterns – in this case, of Dutch and English. As Visch observes, it is the peripheries of domains that tend to be most subject to rhythmic adjustment rules in rule-based systems. It is claimed that the function of such adjustments is to strengthen (morpho-)syntactic constituent boundaries.

The alignment constraints of OT, which single out edges of constituents for particular attention thus provide an especially insightful treatment of the stress patterns examined here.

Differently from Peperkamp, Visch abstracts away from the variability often observed in the location of nonprimary stresses, and bases her analysis on the pattern that is most commonly used in each case. She shows how prominence alignments at the edges of different phonological constituents account for the occurrence of what were previously analyzed as cyclic effects of stress. By proposing differences in the alignment constraints for Dutch and English at the compound level, but not at the phrasal level, Visch succeeds in accounting for the vast majority of stress patterns in both languages. Her analysis thus nicely reveals why, impressionistically, these two languages sound quite similar rhythmically, but nevertheless are felt to differ in crucial ways.

In reading each of the papers in this volume, it is striking that despite the diversity of languages and phenomena investigated, or perhaps because of it, certain issues appear across the various contributions. We are thus reminded that regardless of the approach taken or the languages investigated, the study of linguistic stress and rhythm must not only identify the patterns and alternations themselves, but it must also be concerned with the prosodic domains or constituents within which they are observed, and the nature of the boundaries defining the domains.

Address of the Author:

Linguistics Department, University of Delaware, Newark, DE 19716
e-mail: ivogel@udel.edu.