Introduction

Haike Jacobs and Paula Fikkert

The prosodic system of a language can be defined as the set of organizing principles that govern suprasegmental structure, that is, the structure above the individual sounds of the language. The theory that studies prosodic systems of languages is often referred to as metrical phonology, whereas prosodic phonology is often used as a cover term for phonological adjustments involving more than one word. The studies collected in this book are all written in the framework of metrical phonology or metrical theory, deal with various aspects of change in prosodic systems, and, aim to enlarge our understanding of the range of variation and the types of change that are attested in languages.

Metrical phonology, though, does not consist of one single theory in a definite form, but rather consists of a number of alternative descriptive frameworks (such as, most prominently, the bracketed-grid theory proposed by Halle and Idsardi (1995), the trochee-iamb theory proposed by Hayes (1995)). Furthermore, phonologists have different opinions on how phonological adjustments have to be accounted for. Derivational theories (relying on the use of phonological rules transforming underlying forms into surface representation) compete with constraint-based models (most prominently, Optimality Theory) where the relation between underlying form and surface manifestation is taken care of by relying on a set of universal innate constraints that can be ranked differently in different languages.

We will not attempt to provide an overview of all the different theories currently available (a good and comprehensive overview can be found in Van der Hulst 1999), but rather point where the papers collected here deal with fundamental issues in metrical theory. Broadly, the following four different categories can be distinguished:
1. Tone, stress and quantity

The prosodic structure of a language can be studied and inferred from different perspectives. For one thing, typically in languages, a number of phonological phenomena occur, such as, syncope, epenthesis, diphthongization and tonal rules which are sensitive to and therefore directly related to prosodic structure. As such prosodically conditioned segmental processes thus shed light on the prosodic structure of a language.

Also, there is a close relationship between tone, stress and quantity, which becomes particularly evident in change. When tonal distinctions are lost, they are often compensated by vowel quantity distinctions. Another frequently found process involving change in tonal systems is that the loss of inflectional endings can result in new stress contours, which may in turn influence vowel length.

Of particular interest are the changes in languages that have both stress and tone, as is the case in several (southern) Dutch and Scandinavian languages/dialects. If these languages change, do they change in the direction of the standard language or is change determined by other factors such as markedness, frequency, etc? Issues such as these are addressed in the papers by Heijmans, Kwon, Lehiste and Riad.

Heijmans shows that two rather similar neighboring dialects express similar distinctions in different ways: Accent I and Accent II words of the tonal Roermond dialect are rendered by quantity distinctions in Weert.

In a similar vein, Kwon discusses the development from tonal Middle Korean to non-tonal Modern Korean and discusses how and under what conditions tonal distinctions were replaced by vowel quantity distinctions, identifying four factors involved in the prosodic change from tone to length in Korean: tone, word-initial strengthening, abrupt syllable cut and compensatory lengthening.
Lehiste's paper is devoted to a change that Estonian is currently undergoing. Historically, Estonian is assumed to be essentially identical to Finnish with respect to prosodic structure. Due to vowel deletion processes (syncope and apocope) a three-way system of oppositions occurred. Lehiste argues that Estonian is undergoing a change from a quantity language to an accent language, that is, the durational contrasts are still present, but their occurrence is dependent on stress, and their manifestation employs contrastive pitch patterns in addition to contrastive duration.

Riad delves into the diachrony of Scandinavian tone accent. Starting from the hypothesis that Accent II originated from stress clash, Riad adduces arguments supporting the archaic character of the central Swedish (CSw) dialects, both as regards tonal values and the presence of connectivity and sets up a tonal typology for the Scandinavian tones, based on a single set of functions: lexical, prominence and boundary tone.

2. Evidence from Metrics

Another way to study the prosodic structure of older stages of the language is by looking at metrical systems, particularly in poetry with an iambic meter or alliteration. Previous studies have shown that particularly complex words show a considerable amount of prosodic variation in poetry, and this may reflect the changing prosodic structure. The contributions by Cable, Redford and Zonneveld can all be placed in this perspective.

The process of resolution, known as Kaluza's Law, forms the central topic of Cable's paper. Cable discusses the intricacies of resolution in Beowulf and shows that vowel quantity and syllable weight follow precise patterns. The Beowulf meter is best described as a 'four-position' meter in which stress, quantity and syllable count interact.

Redford addresses the question whether "stress doubles", that is, words that have sometimes initial stress and sometimes final stress, in Chaucer's Canterbury Tales provide evidence for Middle English stress or evidence for Chaucer's metrical style. Redford shows that the distribution of stress doubles is very regular: SW line internally and
WS at line-internal phrase boundaries and at the end of a line. He then argues that this specific distribution is caused by to prominence mismatches created at the right-edge of phrasal domains due to the influence of the Romance Stress Rule at the phrasal level.

Zonneveld presents a very interesting case of Middle Dutch poetry (*Leven van Sinte Lutgart*). He demonstrates the existence of a constraint on the contents of S (the strong position in the iambic meter), formulated as "No Schwa in S". Normally, constraints on the contents of S co-occur with a liberal setting of the parameter for metrical position (resolution) (Hanson & Kiparsky 1996). Zonneveld shows that the constraint on S in *Lutgart* does not coincide with resolution, but, rather, that more straightforward means are used to make linguistics material match the requirements of the iambic pattern, most notably, synalepha and syncope. He shows that the distribution of determiners, and other schwa containing function words (*te*, *ge*) is very regular, and that schwa does not occur in a strong position, unless, but very limited, in inversion situations. However, this is only true for schwa in open syllables. He further argues that prosody is independent of metrics (but not vice versa), but metrical patterns do provide insight into the prosodic system of the language, because of FIT: a poet will exploit the vocabulary of the language maximally, under prosodic constraints.

3. Sources of Change: Analogy and Loans

Insight into the prosodic structure of the older stages of the language can also be gained by studying processes that are dependent on prosodic structure, such as, for instance, high vowel deletion and open syllable lengthening in Germanic. Important questions that are addressed in this section are the following. What leads to variation and or change? What is the role of analogy? Which paradigms resist analogical change more than others? What is the role of morphology? What is the role of loans? What triggers change in a prosodic system? Can language contact directly influence prosodic systems?

Hualde, for instance, in his contribution studies the relationship and the historical evolutions of western Basque prosodic systems. Accentual systems different from the basic Gernika-Getxo type, such
as the Bilbao and Antzuola, are arguably due to influence from the Spanish accentual/intonational system, and, are demonstrated to be two different manifestations of one and the same phenomenon: convergence of the prosodic system towards the Spanish model.

In her contribution, Kraehenmann traces the historical development of two Swiss German dialects showing that they reacted differently to Open Syllable Lengthening (OSL), which she argues is not due to compensatory lengthening. The differences between the two dialects are explained by the different interaction of OSL with syllable-closing process and the different role of paradigm leveling due to different application domains of OSL.

Fikkert investigates the prosodic structure of prefixed words in the different West-Germanic languages both in native words and in French loans. She argues that the native system determines how words are borrowed into the language. The fact that verbs like *persist* and *infer* seemed to enter the English language as ‘prefixed’, was not due to the status of these prefixes per se, but because the language did not usually have initially stressed disyllabic verbal stems. This pattern was extended to the borrowed verbs. For (prefixed) nouns the pattern was quite different, as nouns never ended in superheavy stressed syllables if that could be avoided, and this strategy was extended to loans. The situation in Dutch and German was different: not only did those languages have superheavy stressed syllables, they also had a more varied prefix system.

### 4. Sound change as a window on competence

There is yet another way in which changing prosodic systems can be studied. As early as 1968, Kiparsky worded the relevance of linguistic change for linguistic theory as follows:

> What we really need is a window on the form of linguistics competence that is not obscured by factors like performance, about which next to nothing is known. In linguistic change we have precisely this window.

Rather than focussing on the motivating forces or sources of change, the contributions by McCully and Jacobs consider prosodic change in
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this window. McCully studies the prosodic development of English by studying the grammars before and after the changes discussed and tries to provide arguments for evaluating the empirical validity of competing descriptive models.

Jacobs claims that the stress rules of one particular period of the Latin language cannot be adequately described in a rule-based or derivational approach, but instead, require a constraint-based OT-model.

Ghini examines the historical development of the metrical system in the Ligurian (Gallo-Italian) Romance dialect spoken in Miogliola, Northwest Italy. The loss of Latin phonemic length for both vowels and consonants resulted in a new system, where new segmental contrasts developed to compensate the loss of prosodic contrasts. He observes interesting asymmetries between obstruents and sonorants: old prosodic contrasts were maintained as segmental ones among the obstruents through lenition processes. Sonorants, however, did not undergo lenition; nonetheless, they too managed to rescue old prosodic contrasts as new segmental ones, but only for the coronal ones, for an account based on underspecification is provided.

Although quite different in nature that papers in this volume bring together different methodologies and perspectives investigating the same issue – development in prosodic systems – which is still an underresearched area in historical phonology, which so far has mostly focused on sound change.

References

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