PREFACE

The present work discusses the notion of the basic phonological segment from the perspective of selected European and American phonological theories. The discussion consists in the analyses of selected phonological problems from the perspective of a given framework, starting with the Kazan School and ending with the Optimality Theory. The goal of this study is to show the differences in the methodology and predictions of each framework that prove significant in the process of establishing the basic phonological unit. The work elaborates on the data from English, Polish, German, and Russian. The analyses dealing with the selected phonological problems are either classic cases in the field or conducted by me on the basis of the tenets of a given framework.

The book consists of five chapters. Chapter 1 presents the theoretical background relevant for the discussion in the following chapters. Chapter 2 focuses on the structuralist principles of biuniqueness and overlapping, the discussion centring around the status of a *flap* and *angma* in English. Moreover, the notion of the syllable proves to be significant in the analyses. The principles of interest in Chapter 3 are biuniqueness and the ideal of the symmetry of a system. Nasal Assimilation and Nasal Gliding in Polish constitute the basis for the discussion. Chapter 4 deals with the issue of levels of representation and morphology––phonology interface. In particular, it discusses the notion of a juncture phoneme and the Structure Preservation Principle, with

the analyses of Voice Assimilation in Russian and the problem of German *ch* serving as examples. Chapter 5 summarizes the conclusions. The principal issues that come to light while discussing the basic phonological segment are: the phoneme with its basic and subsidiary variants, distribution, decomposition into features, morphological and syntactic interface in phonological analysis, and the notion of the syllable.

The notion of the phoneme seems to be the most natural association while discussing the concept of the basic phonological segment. The origins and the authors of the term "phoneme" are debatable. Some linguists, e.g. Daniel Jones (1967: VI), attribute the term "phoneme" to the Polish linguist Mikołaj Kruszewski, who allegedly coined it in 1879 as a notion distinct from a "phone". The opinions, however, seem to differ. Roman Jakobson, for instance, argues (1967: XX) that Kruszewski took the notion of the phoneme from de Saussure in 1880, but Kruszewski's meaning assigned to it was slightly different. Ferdinand de Saussure, on the other hand, is said to have taken this term from a Romanist, Louis Havet in 1878 (Jakobson 1967: XXIII). Thus, pinpointing the sole inventor of "the phoneme" seems to be a difficult task.

What is crucial, however, is the evolution of its meaning in the twentieth century, for it covered a whole range of interpretations: physical, functional, abstract (i.e. abstracted from a number of utterances), and finally, mental, i.e., "psychologically real". One of the essential points in the debate was whether the phoneme should be analysed as a unitary object, or as a set of characteristic features. As a consequence of adopting the latter approach, the issue of the type of features that should be analysed emerged. Should the phoneme be fully-specified, or is it enough to have only distinctive features in its representation? What is the correlation between phonetics and phonology in defining the features? How abstract can representations be? What is the relation between the basic phonological unit and morphology or syntax? Can the establishment of this unit be interrelated with the analysis of syllable structure? These questions have

posed problems for phonologists and opened heated debates in the field.

In the present study, I base the analyses on the works that have become classic within each framework, and thus in the history of phonology. Phonological theories selected[1] for this study, and their most significant architects are listed below.

1. The Kazan School: Jan Niecisław Baudouin de Courtenay and Mikołaj Kruszewski
2. The Prague School (functionalist structuralism): Nikolai Trubetzkoy
3. Distributional structuralism: Leonard Bloomfield, William G. Moulton, Edward Sapir, Daniel Jones
4. Early Generative Phonology (*Sound Pattern of English* phonology): Noam Chomsky and Morris Halle
5. Natural Generative Phonology: Joan B. Hooper, Theo Vennemann
6. Lexical Phonology: Paul Kiparsky, Jerzy Rubach
7. Optimality Theory: Alan Prince and Paul Smolensky, John McCarthy

Trends in Phonological Theory by Eli Fischer-Jørgensen (1975) and *Phonology in the Twentieth Century* by Stephen R. Anderson (1986) constitute the basis of some analyses, as they provide the general theoretical picture for the debate.

The Kazan school of linguistics, with Baudouin de Courtenay and his student Kruszewski as its key figures, had its peak of activity in the 1870s and 1880s. Baudouin de Courtenay was the predecessor of mentalistic phonology. He emphasised the distinction between sounds, which are composed of physical features, and phonemes, which are abstract units with only those features that

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[1] In particular, I will not consider Natural Phonology (Stampe 1979, Dressler 1984, Dziubalska-Kołaczyk 1995) and Government Phonology (e.g. Kaye 1990, Harris and Gussmann 1998).

differentiate the meaning. In other words, the phoneme is a "psychological equivalent of a speech sound". Baudouin de Courtenay differentiated between, on the one hand, divergents—alternations that are conditioned contextually and psychologically are unitary phonemes, e.g. *k-g* in *róg*, "horn" (nom.sg.) – *rogu*, "horn" (gen.sg.), and, on the other hand, correlations that are different phones that share a psychological reality, e.g. *plotę*, "plai'" (1st .sg.) –*plecie*, "plait" (3rd p.sg.). Baudouin and Kruszewski notice that alternations can be conditioned phonetically and morphologically, Kruszewski's distinction being strikingly similar to the types of rules in Natural Generative Phonology (see Chapter 1, section 1.1).

The most renowned phonologists within The Prague School (the 1920s and 1930s) were Nikolai Trubetzkoy, Vilém Mathesius and Roman Jakobson. They perceived language as a functional system and made a clear distinction between phonetics and phonology, of which only the latter was considered to belong to linguistics. One of Jakobson's main contributions to the history of phonology was his concept of the phoneme understood as "a bundle of concurrent features that differentiate meaning". The theory of distinctive features was later adopted in generative phonology. The concepts of the opposition, minimal pair, morphophoneme and archiphoneme (an abstract theoretical construct that shows the neutralisation of features) are further contributions of the Prague School to the history of phonology (see Chapter 1, section 1.2).

Distributional structuralism is an umbrella term for British structuralism, with Jones as the main representative, and American structuralism (descriptivism).[2] American structuralists were, to a large extent, influenced by behaviourism and, as a result, they tried not to refer to mental processes, speculation and abstractness in their phonological analyses. According to the leading American structuralists (Leonard Bloomfield and post-Bloomfieldians—Bernard Bloch, Zellig Harris, Charles Hockett, Kenneth Pike, Morris Swadesh, George Trager, W. Freeman Twaddell), the

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[2] See e.g. Rubach (1982: 28).

phoneme is a class of sounds rather than a bundle of concurrent features. By and large, with Sapir being an exception, no reference is made to the "mental reality" of phonemes.

Compared with other American structuralists, Sapir's ideas constitute an important exception because of his attitude towards "mental reality". On the basis of the studies that he conducted among American Indians, he states that a human being is equipped with an ideal linguistic system, the patterns of which are realised in an appropriate way depending on the context. In spite of the whole range of variants, however, a given sound is perceived as one entity because of the "psychological image" of the sound in the native speaker's mind. This view, though not shared by other American structuralists, is an essential concept in generative phonology.[3]

Generative grammar has its origins in Sapir's mentalism, Jakobson's universal phonetic features and Bloomfield's item and process morphophonology. It emphasises formalism, as well as the explanatory and predictive power of a phonological theory. The phoneme is a psychologically real underlying form, significantly more abstract than the basic form in structuralism. All surface variants of a given morpheme (allomorphs) are derived from one common underlying form. The classic works that revolutionised phonology are Halle's *The Sound Pattern of Russian* (1959) and Chomsky and Halle's *The Sound Pattern of English* (SPE, 1968). Daniel Kahn (1976) and George N. Clements and Samuel Jay Keyser (1983) develop the linear SPE phonology by recognizing further levels (tiers) of representation apart from the melodic: a segmental one, i.e. the syllable (Kahn) and the skeleton (Clements and Keyser). Processes such as flapping, glottalisation and *r*-deletion (Kahn 1976) can now be accounted for in a more elegant fashion (see Chapter 1, section 1.4).

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[3] See Chapter 1, section 1.3, for the general account of the structuralist principles, and Chapter 2, section 2.2.4.1, for the discussion regarding Sapir's theoretical concepts.

Natural Generative Phonology (NGP) originated in the 1970s. The major difference between the standard transformational generative theory as developed in the 1950s and NGP concerns the abstractness of phonological representations and rules. In the view of NGP, there is little evidence that native speaker competence is correctly represented by abstract analysis. The formal devices of natural generative theory are less powerful than those of previous generative theories (see Chapter 1, section 1.5).

Lexical Phonology (LP) is a development of standard generative phonology that accounts for the interactions of morphology and phonology in a more insightful way. Rules are organised in two components: lexical, where the rules require morphological information, and postlexical, where they require access to syntax and are not conditioned by the internal structure of words. Lexical and postlexical rules have distinct properties, for instance, lexical rules apply within words, whereas postlexical— within words and across word boundaries; lexical rules have exceptions, postlexical rules are exceptionless, and so forth. Three types of boundaries (SPE) are replaced by the concept of brackets that coincide with morphological junctures. At the end of each component Bracket Erasure Convention (BEC) applies, ensuring that the morphological brackets introduced at a certain level are erased before entering the next level (see Chapter 1, section 1.6).

The major "architects" of Optimality Theory (OT) are Prince, Smolensky and McCarthy (McCarthy and Prince 1993, Prince and Smolensky 1993). Generator (Gen), Constraints (Con), Evaluator (Eval) are the basic concepts in this framework. Gen provides each input form with a possibly infinite set of output candidates. Constraints are ranked, universal and violable. Their job is to eliminate all but the optimal, "desired" output candidate. The winner is determined by taking into consideration the language-specific ranking of the constraints. The winning candidate is the one with the least serious violations (see Chapter 1, section 1.7).