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BOOK REVIEWS

Daniel Currie Hall: The role and representation of contrast in phonological theory. University of Toronto, Toronto, 2007, 277 pp.
(http://r1.chass.utoronto.ca/twpl/pdfs/dissertations/Hall2007.pdf)

In his dissertation, Daniel Currie Hall aims to explore how phonological segments should be represented and what role phonological contrast plays in determining featural representations. Hall works within the theory of the Toronto school of phonology and contrast, the leading figures of which include Elan Dresher, Keren Rice and Peter Avery. Accordingly, although the title suggests a general overview of phonological contrast, Hall crucially adopts the standpoint of contrastive specification advocated by this school of phonology. To counterpoint Hall's theory and as a basis for comparison, functional approaches are also investigated, but I believe Hall fails to make suitably fine-grained distinctions between different theories of phonetically-based phonology, and therefore often makes unwarranted generalizations concerning this school, as we will see below.

The dissertation is well-structured and easy to follow. Throughout the book, Hall outlines and emphasizes the main points and tenets of the relevant part, provides figures and well-designed tables to help understanding and gives short summaries of various sections. However, the five contentful chapters of the dissertation are sometimes only loosely connected, and some more explicit and clear links would have been beneficial in allowing the reader to follow the flow of the book more easily.

The first chapter introduces the general framework adopted by Hall for contrast and segmental representation, the so-called contrastive specification. This holds that only contrastive features are included in the representation of a phoneme, i.e., features which distinguish a given phoneme from another one within the inventory of a language. Phonological computation is assumed to operate only on such contrastive features. Thus, it is essentially a theory of underspecification. Hall himself suggests a modification to this thesis in chapters 2 and 3 in the light of problematic data,

and claims that while redundant features remain invisible to phonology, they must sometimes be present throughout the computation. Hall calls such redundant features prophylactic features, which carry information that is necessary to phonetically distinguish phonemes of an inventory.

At first glance, the fourth chapter involves a slight departure from the flow of the thesis and investigates forces that shape inventories of the world's languages. Hall, after examining what he claims are two extreme views, argues in favour of Dresher's Successive Division Algorithm combined with some kind of phonetic enhancement as a model of how inventories arise.

The final chapter does not so much add anything to the analysis of contrast, but is rather an exploration of how much Hall's theory of contrast representation is compatible with Optimality Theory. He convincingly argues that although OT concerns derivation and contrastive specification is about representation, the two are at odds in what phonological input they allow in various languages. In addition, Hall also describes how his prophylactic features are problematic to adapt in OT, given that their essence is invisibility to phonology, and thus have to remain intact, while the essence of OT is that any output can be freely generated, even one where a prophylactic feature of the relevant input is missing.

In what follows, I will comment on various aspects and tenets of the book, first turning to Hall's theory of contrast and then moving on to point out some issues relating to Hall's observations concerning phonetically-based phonology. Thereafter, I will move on to reflect on Hall's analysis of voicing assimilation in Slavic languages and that of Hungarian vowel harmony, concluding with some minor remarks and observations.

Apparently, Hall aims to find a phonological representation that (a) does not "duplicate phonetic information that is already physically encoded in the mechanisms of production and perception" (p. 11), and that (b) "limits the granularity of phonological formalism in such a way that it produces categorical phenomena systematically, rather than as accidental outliers at the edges of a phonetic continuum" (p. 12). This specification seems to be at odds with phonetically-based theories, but I suggest that **no** theory of phonology can **fully** comply with criterion (a). Actually, this criterion is rather vague, but if taken in a strict sense, a vowel /i/ should not be specified by the feature [+high], as this duplicates the phonetic information that /i/ is high (has a low F1). Hall might argue that this information is not **only** (or even not primarily) phonetic, but encodes phonological contrast and behaviour. However, for phonetically-based approaches, "more closely phonetic" features encode phonological contrast and behaviour. The difference between theories lies rather in how much "close" they allow features to approach phonetics, how much they leave unspecified for phonetic interpretation. Actually, Hall himself concludes at a point of reflecting on natural classes that "[p]honological features therefore generally represent phonetic characteristics, viewed at a suitable level of granularity" (p. 13).

In any case, the above two criteria are not sufficient for an adequate phonological theory, as SPE, for example, seems to fulfil these criteria (inasmuch as it is possible) and there has been plenty of criticism of this theory and many shortcomings thereof were brought to light over the past decades. In addition, the relevance of criterion (b) can be debated, as languages are often argued to display gradual phenomena. One type of graduality concerns phonological patterns that cannot be captured by a categorical classification based on natural classes. An example is Egyptian Arabic, which, according to Hayes (1999), bans labial [p] from the series of its voiceless stops.

Another type of graduality displayed by languages is non-discrete phenomena, like the incomplete neutralization of voicing in syllable-final position in Standard German, as described by Port–Leary (2005), where speakers identify voicing correctly in about 60 to 70 percent of the cases, which is both above chance and below true phonological contrast. While such cases could be claimed to lie outside the domain of phonology, they do at least provide some ground for not restricting phonology to categorical phenomena on principle.

As an approximation to defining the restrictions on phonological representation, Hall formulates the Contrastivist Hypothesis, according to which "the phonological component of a language L operates only on those features which are necessary to distinguish the phonemes of L from one another" (p. 20). Hall fails to note at any point in the book the problems relating to the exact definition and the theoretical loadedness of the term "phoneme". The definition of a phoneme traditionally involves the minimal pairs test, which Hall rejects as an algorithm for establishing contrastive features, and which might be equally problematic as a means of determining the phonemes of a language. In English, for instance, syllabic [n̩] could be argued to be a phoneme on the basis of the pair *evening* /iːvnɪŋ/ – *evening* /iːvn̩ɪŋ/, not to mention the problematic status of the velar nasal /ŋ/. Thus, there is no theory-independent and well-defined characterization of a phoneme, and building the contrastivist hypothesis on this concept, I maintain, casts doubt on the reliability and theory-independent usefulness of this criterion on phonological contrast and features.

The same point can be raised concerning Dresher's Successive Division Algorithm (SDA), to which Hall subscribes as an ideal means of constructing the featural representation of the phonemes of an inventory. Although a beneficial trait of SDA is that the issue of what features are used to characterize phonemes of a given language "can be resolved only by considering the phonological behaviour of the consonants, not by examination of the inventory alone" (p. 181), the SDA is characterized by the "once a phoneme, always a phoneme" approach, as it essentially considers the whole of an inventory in assigning features to sounds. Thus, as Hall points out concerning Pulaar ATR-harmony, "the possible existence of underlying /e/ and /o/ makes all the difference in the world" (p. 125), while "the status of these vowels is clearly no more than marginal; even if they are phonemic, they occur in only three morphemes" (p. 126). Owing to this reliance on an "absolute" inventory, the SDA cannot capture position-bound contrasts, and positional neutralization has to be encoded in phonological rules instead.

Another aspect of the SDA, which is not emphasized by Hall, but is, I believe, important, is that although it "provides a mechanism for selecting features" (p. 30), it does not determine **what** those features should be. Put another way, the SDA can only select features from a set determined prior to the computation, but does not provide a means of determining those features based on phonological behaviour. As such, the success of SDA heavily depends on how well features are chosen beforehand, and it has nothing to say on the universal status or characteristics of various features. As opposed to that, phonetically-based approaches in a way also make predictions on the cross-linguistic patterning of features (as did, for instance, Steriade (1999) on the patterning of laryngeal contrasts).

Such universal predictions can only be made in Hall's theory using additional tools, such as Clements's feature accessibility or robustness scales discussed by Hall in section 4.3.3.2. Hall himself writes: "There may also be restrictions extrinsic to the algorithm

itself that limit the number of possible orders in which features may be used to make divisions. For example, if the acquisition sequence [...] is [...] determined either by the relative phonetic salience of the contrasts or by some formal stipulation in UG, then the order of divisions in the SDA should be determined in the same way" (p. 35).

This quotation also shows that Hall is willing to accept that phonetic factors can have a potential effect on phonological patterning (as they determine what features there are and what their universal salience is). Arguably, if phonetic factors are allowed at a higher level (and as such, seep down into lower levels), they could also be hypothesized to appear at the level of phonology. The resistance of Hall against such a role of phonetics (as witnessed by what I dubbed criterion (a) above) seems unfounded if he admits that they do play some role in shaping phonology.

Hall's theory also levers much work on the phonetic implementation module. He argues for the use of his innovation of prophylactic features in accounting for Yowlumne vowel harmony. Although the role of prophylactic features is to prevent the neutralization of an underlying phonemic contrast, it appears that the phonetic module can always be hypothesized to disregard such distinguishing features when need be. Hall writes, concerning Yowlumne, "we must assume that phonetic implementation realizes all non-high [Peripheral] vowels as [ɔ], **regardless of whether they are specified with the prophylactic [Low] feature**" (p. 115, emphasis mine). This move, I believe, disrupts the system and undermines the role of prophylactic features as essential markers of difference.

In the foregoing discussion, I aimed to highlight some issues that I find relevant to the theory of contrast Hall put forth in his dissertation. I would now like to contemplate on some remarks Hall makes on phonetically-based theories of phonology, which serve as a basis for comparison to his theory. In general, Hall tends to reduce the plethora of phonetically-based theories to a single and sometimes artificial theory, and makes generalizations about it without emphasizing at any point that some relevant theories might not be subject to a particular observation. For instance, Hall notes that "there are conceptual and empirical problems inherent in the attempt to reduce phonology to phonetics, and even in the apparently natural pairing of this approach with the formalism of Optimality Theory" (p. 6). It is vital to note that not all functional and phonetically-based approaches reduce phonology to phonetics—indeed, there is ample debate among researchers on the exact nature of the interaction between these two components. In addition, although OT did in fact become the primary tool of formalising the ideas of phonetically-based phonological approaches, it is by far not the only possibility (only one example is Hayes (1999), who uses standard SPE-like features while aiming to utilize phonetically-based insights in phonology).

Hall notes that the "phonological component does not need to know whether the features it is manipulating refer to gestures or to sounds" (p. 17). Although this seems to be against phonetically-based approaches, even these do not rely on the phonological component **knowing** what kind of features or constraints it manipulates. Thus, even in the case of Boersma's constraints like F1(|a|) > 600 Hz that Hall cites (p. 7), there is no need to know what phonetic fact it encodes to arrive at the ideal phonological output. Hall also argues against encoding phonetic variability in phonology, arguing that "[h]uman motor control is imperfect; [...] there is no need to derive the resulting variability in the articulation of speech sounds from a model of the phonological component" (p. 8). While I agree with Hall that what the actual phonetic realization of a sound in an utterance is is irrelevant to phonology, I maintain that there is at

least some rationale in assuming that variability plays some role in phonology. It is not variability that is important, but the closely related phenomenon of **robustness**, which is related to the fact that the actual realization of a sound can substantially vary without compromising its phonological categorization.

Hall makes a remark on the inability of cue-based approaches to determine the direction of neutralizations. In particular, he claims that "Steriade's (1997) phonetic approach has little to say about the direction of laryngeal neutralization, although Steriade (2001) discusses the question as it applies to the neutralization of place of articulation" (p. 58). I contend the view that cue-based approaches have little to say about directions. In any case, Hall's account using the SDA would not fare better in predicting the direction of assimilations. Hall has to state directions explicitly in the rule he sets up for voicing assimilations, which, I maintain, has little explanatory power.

Some remarks are due on Hall's actual analyses of phonological phenomena. In analysing voicing assimilations in various Slavic languages, Hall argues that a phonetically-based analysis of the anomalous behaviour of the Czech /v/ is not possible, and underpins his claim with reference to the sonority of /v/. However, Hall fails to contemplate the possibility of alternative phonetically-based approaches that do not rely on the sonority of /v/, but rather on some other idiosyncratic characteristics. Indeed, the phonetic correlate of sonority is rather elusive (Clements 1990, 290–1), so a truly phonetically-based analysis would not use this notion in itself. Hall only considers Padgett's analysis and, solely based on that, jumps to the unfounded conclusion that phonetically-based approaches could not deal with the Czech data.

Kiss–Bárkányi (2006), for instance, propose a phonetically-based analysis of the similarly behaving Hungarian /v/ which they propose can be extended to some other Slavic languages (and they actually extend it to the Slovak /v/ in Bárkányi–Kiss to appear). They build on the conflicting articulatory requisites inherent in maintaining voicing in a labial fricative. Their account, which can easily be carried over to cover Czech /v/, can explain the characteristics of /v/, including why it is this segment that is idiosyncratic with respect to voicing assimilation and why it behaves as it does. I assume that a similar account could be given for Czech /r̰/, but an in-depth phonetic analysis and research needs to be carried out to demonstrate this. Hall assumes that "the phonetic implementation rules that realize /v/ as a fricative or as a narrow approximant are irrelevant, in the formal approach, to its phonological behaviour" (p. 67). This is a heavily theory-dependent remark, as this dual behaviour forms part of the phonological analysis provided by Kiss–Bárkányi (2006).

In addition, Hall's treatment of Russian, Czech and Slovak voicing assimilation does not offer an insight into why /v/ universally tends to behave in the way it does, as opposed to Kiss–Bárkányi (2006), who make relevant predictions concerning when this segment will show anomalous behaviour with regard to voicing and why. Actually, the analysis of Kiss–Bárkányi (2006) of the Hungarian /v/ (which easily extends to the Czech data) is much more convincing than Hall's analysis, in which no independent motivation is given for the representation of various phonemes and for the phonological rules. In phonetically-based phonology, the basic physical facts themselves can provide independent motivation.

A more specific problem with Hall's analysis of Czech is that, since the whole chapter is devoted to showing that /r̰/ and /t/ are distinguished by a prophylactic feature invisible to phonology, "[s]o far as the phonological component of the grammar is concerned, a devoiced /r̰/ is indeed identical to a /t/" (p. 88). This will constitute

a problem for Hall if he wants to explain why palatalization by /i/ only applies to the latter, but not the former. In addition, while the sequence /pr̝/ is no violation of the Sonority Sequencing Principle, the sequence /pt/ is (though admittedly, in Czech, both sequences are licit word-initially). Both palatalization and phonotactics should be accounted for by phonology, and thus /r̝/ and /t/ would have to be distinguished, but as mentioned, for phonology, /r̝/ and /t/ are indistinguishable.

In discussing Slovak data on cross-boundary voicing before sonorants, Hall remarks that "the assimilation facts [...] are, if anything, even more difficult to account for in cue-based approaches such as those of Steriade (1997) and Padgett (2002). Steriade's positional markedness constraint hierarchy [...] and Padgett's positional faithfulness constraint hierarchy [...] both predict that voicing contrasts should be preserved in presonorant position if they are preserved anywhere at all" (p. 72–3). This is a radical simplification of facts. To begin with, Hall notes that "it would be necessary to overrule the preference for preserving underlying voicing contrasts on presonorant obstruents in the appropriate morphological environment [which] is already problematic for the cue-based approach, as there is no obvious functional reason for a morphological boundary to condition assimilation." (p. 73). Hall, again, jumps to an unwarranted conclusion on the basis of considering a single aspect of the facts on which a phonetically-based analysis could build.

A phonetically-based approach might be given for this particular aspect of Slovak phonology if it is taken into consideration that voicing contrasts are suspended word-finally **even disregarding cross-boundary voicing**. Thus, cross-boundary voicing by sonorants does **not** neutralize voicing contrast, and there is thus no strain to achieve exact gestural alignment of the onset of voicing with the segment boundary. Thus, in accordance with Flemming's (2004) functional goal of minimizing articulatory effort (while at the same time not diminishing either the number or the distinctiveness of contrasts), obstruents are voiced before sonorants morpheme-finally. Since voicelessness has no contrasting function on obstruents word-finally, voicing these segments does not compromise contrast. (Admittedly, this is a largely oversimplified view, if only for disregarding the difference between morpheme and word boundaries, but I only seek to highlight the possibility of a functional explanation of Slovak facts.) This analysis, as opposed to the putative phonetically-based analysis Hall considers, would **not** predict the wrong result *[pragz#a#dɛoːria], instead of [pragz#a#tɛoːria] 'practice and theory', as voicelessness is contrastive morpheme-internally, and cue-based approaches correctly predict that it is maintained in the advantageous pre-vocalic position.

Another actual analysis Hall provides concerns the representation of Hungarian vowels. Hall includes Hungarian data in his linguistic analysis because it allegedly poses a challenge to the SDA. However, Hungarian only constitutes a challenge to the SDA inasmuch as short /ɛ/ patterns as a front vowel with respect to frontness harmony. Hall here draws on an analysis by D'Arcy, and accepts the data provided therein without considering alternative views. Although some authors (e.g., Ringen–Vago 1998) together with Hall (p. 195), assume that "[i]n Hungarian, the long vowel /eː/ is transparent to place harmony, but short /ɛ/ patterns as a front vowel", there is convincing ground for arguing that short /ɛ/ in Hungarian, in fact, patterns with neutral vowels together with /iː/ and /eː/ (see, e.g., Hayes–Cziráky Londe 2006; Nádasdy–Siptár [1994] 2001). Admittedly, Hall is right in considering the worst case scenario for SDA, but I believe some mention of alternative analyses would have been beneficial, if only because analyses that take /ɛ/ to be a front vowel as opposed to a neutral one,

must resort to additional tools to account for cases where a word with /ɛ/ as its last vowel takes a back vowel suffix (e.g., [hɒvɛr+ok] 'pals', instead of *[hɒvɛr+ɛk]), which is never possible for "true" front vowels.

Concluding the review of Hall's dissertation, some minor remarks and comments are due. Although the theory of contrast and representation Hall defends has some drawbacks, and Hall himself does not give due consideration to alternative, phonetically-based approaches, his exploration of the topic is truly thorough and provides some interesting insights into contrast. A quite interesting observation of Hall's is that "Mackenzie and Dresher's algorithm for translating a feature hierarchy into a constraint ranking [...] goes beyond the contrastivist hypothesis *per se* to predict that the contrastive scope of a feature is directly related to its resistance to being changed by phonological processes" (p. 327). On the other hand, in order to contrast the Pairwise Algorithm to Liljencrants and Lindblom's dispersion model, he does exaggerate its effects and nature in claiming that it would "prefer inventories that minimize phonetic contrast" (p. 166). What the Pairwise Algorithm (described on p. 160) I believe disfavours are inventories which are **too redundantly specified**. In this, it seems quite unnatural, as an important aspect of human language is redundancy.

In conclusion, Hall's doctoral thesis is a good survey of the contrastive specification of segmental representations. Its restricted viewpoint is due to the fact that the author works within a given framework, and a truly in-depth analysis of competing approaches would naturally lie beyond the scope of the book. Consequently, those who seek more general insights into the notion of contrast will be disappointed. However, even those working in different frameworks can benefit from Hall's enlightening survey of the specification of inventories and his discussion of feature economy. The book is ideal for those who would like a detailed view on underspecification in representation and on contrast encoded by phonological features.

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David Odden: Introducing phonology. Cambridge University Press, Cambridge, 2005, 348 pp.

Odden's textbook was written with the intention of creating a general introduction to the theory and practice of phonology accessible to students with no prior knowledge about the subject. The book is divided into ten chapters, the first two of which give a general introduction to the subject matter while the last three, concerned with language typology, psychological reality and nonlinear representations respectively, may go beyond the scope of an introductory course.

Chapter 1 provides a first introduction to phonology which is, recommendably, somewhat more structured and sophisticated than the average first course in the field. Instead of starting the entire book with a long explanation of virtually all IPA symbols and introducing manners and places of articulation along the way, Chapter 1 of *IP* gives a brief but highly accessible survey of the phonetic background of phonology, thereby familiarizing students with such basic concepts as *segment* or *length* before printing the first phonetic symbols. However, beginning an introductory textbook with the definition of terms such as *formant*, *spectrum* and *sine wave* may well have a discouraging effect on undergraduate students of arts. While such considerations might justify placing such a chapter at a later point in the book it is nevertheless at the discretion of lecturers to what extent they include phonetics in a survey course on phonology.

Chapter 2 enumerates most places and manners of articulation and introduces IPA symbols. This section, while somewhat partial towards consonants, gives an exceptionally large number of examples for all sounds, which makes the text much easier to follow. Besides introducing phonetic transcription, the chapter also discusses the differences between IPA and APA *(American Phonetic Alphabet)*. Key features of both systems as well as possible advantages of one over the other are pointed out, which may prove useful should students come across both alphabets in the course of their studies, yet it may also be somewhat confusing at this point in the book. Although the explanation of phonetic symbols is mostly clear, some tables and charts might have been included here or in an appendix for the sake of practicality.

In the introduction the author expresses his view that linguistic data should be the starting point of all theoretical considerations, therefore the reader will find an excessive number of examples from more than 150 languages accompanying almost all chapters of the book. Furthermore, the textbook is defined primarily as one that will introduce students to the general methods of phonological analysis and as such collects data that is sufficient do demonstrate most aspects of analysis. Following these principles, chapters 3 and 4 teach the basic techniques of phonological analysis by providing a vast amount of data from a great number of languages selected carefully in order to exemplify basic phenomena such as allophony—which makes up the entire third chapter—, as well as alternations in consonant voicing, vowel length and also suprasegmental features like tone. Although these sections are somewhat monotonous, they unquestionably deserve praise for the care with which the exercises have been selected to provide many opportunities for students to practice the most basic analytic skills such as rule induction and rule formalization.

Chapter 5 *(Interacting Processes)* introduces rule ordering and alternative analyses through more complex data that require consideration of several possible explanations. Once again we see numerous examples and exercises demonstrating the interaction of rules, yet both the teacher and the student may at this point find the structure of chapters and subsections overwhelming; the question arises whether such a long and uninterrupted chain of data and analyses could not be more than what is necessary for didactic purposes. Should readers follow the book's syllabus closely it will only be the most motivated who get as far as chapters 8–10 and get acquainted with theoretical considerations which could lead them towards problems that constitute contemporary phonology. However, the chapter deserves praise for the methodological observations which sporadically interrupt these long analyses: readers' attention is called to problems such as the varying sizes of data sets or functional considerations in rule formulation.

Chapter 6 *(Feature Theory)* gives a concise introduction to features employed by classical generative phonology. The section's argumentation for the necessity of phonological features is clear and convincing, however there is very little reference to possible non-articulatory interpretations of features and even those are somewhat dated. Some details of the lengthy enumeration of articulatory features could have been omitted to make room for a longer discussion of acoustic and perceptual factors—the minute detail in which charts describe the use of features to express secondary place of articulation is probably unnecessary in a textbook for undergraduates. The brief allusion to the mathematical properties of classical feature theory and their implications in section 6.4 is a refreshing novelty absent from virtually all textbooks on phonology. The chapter ends with a more advanced discussion of rule formulation and by the end of

this section the reader should be able to state more complex processes in the standard SPE-type rules, a skill which is thoroughly tested in the exercises.

Chapter 7 can be seen as a revision of all the material that has been covered in the book up to this point. Large sets of data are cited from a number of languages and the reader is led step by step through the complex process of analysis that will eventually result in a partial grammar of the given language. The focus of this chapter is not only on practicing the use of all the skills necessary to formulate phonological rules but also on teaching students the ability of comparing several alternative solutions to a problem as well as to check and re-check them on the basis of available data. Five different sets of data are carefully selected to achieve these objectives and the exercises present problems from another 12 languages. Handling this chapter as an integral part of the book's implied syllabus would perhaps be a mistake; however, it will certainly prove useful when seen as a kind of separate exercise set and used at teachers' discretion whenever necessary for a particular group of students.

As mentioned before, these first seven chapters form one unit that can in itself be used as a first course in phonology, albeit one that is not in the least concerned with any of the field's developments from the past forty years. The last three chapters, on the other hand, provide an introduction into subfields of phonology which may or may not be covered in a survey course and give both teachers and students the opportunity to explore questions which have substantial effect on contemporary phonological theory. As we will see, however, even these last chapters ignore more recent developments in the theory of phonology and it will remain the job of the teacher to raise most of those questions that have motivated research in the past few decades.

Chapter 8 *(Phonological typology and naturalness)* begins with a discussion of language typology and does an excellent job in pointing out the methodological problems raised by this field. The reader is shown how most claims about language inventories are difficult to test and yet the importance of such findings is not understated. Some typical examples of markedness in phonology are mentioned, however, there are no citations indicating the source of the data. The chapter continues with the typology of phonological rules, a decision which often renders the text unnecessarily theory-dependent. The data, however, is once again rich in detail, the explanations are clear and concise and the demonstrated phenomena are well chosen. Section 8.4 deals with the notion of natural vs. unnatural rules, describing and criticising the approaches of various paradigms. The advanced reader will at this point gain an excellent insight into those controversial methodological questions which are inevitable when dealing with the concept of naturalness.

Chapter 9 *(Abstractness and psychological reality)* intends to discuss the question of how abstract a grammar should be, yet in the greatest part it consists of merely a discussion of what level of abstractness different theories, or rather formalisms of phonology allow for a grammar. Limitations of classical generative phonology as well as Optimality Theory are described, however there is very little mention of relevant findings in psycholinguistics and cognitive science. This is also reflected in the *Further reading* section: no works written after 1974 are mentioned. Nevertheless, this chapter gives an extensive and thorough demonstration of how some theories of grammar may be stretched in order to account for certain phenomena and a novice student of phonology may get acquainted with the shortcomings of such theories, even if this was not the original intention of the author. The title of the chapter, however, does not appear to be justified.

The final chapter deals with Autosegmental Phonology, introducing the field through the obvious example of tone. The core of this chapter is not concerned with theory but rather with one particular, albeit the most well-known application of Autosegmental Phonology. The chapter ends with a very brief introduction to feature geometries and the concluding remarks give a favourable review of the their potential to constrain a theory of phonology.

Odden's textbook gives a clear and accessible introduction to the most well-known and basic methods of phonological analysis. Data sets are carefully chosen, exercises are numerous and of varied difficulty, explanations throughout the book are excellent and easy to follow. A very significant shortcoming of this textbook, however, is the lack of reference to many important theories of phonology. Not only does the book not introduce popular theories of the twentieth century such as lexical phonology but it also fails to even briefly introduce Optimality Theory and thus does not provide the reader with the basic tools for accessing contemporary literature on phonology. As a college textbook, *IP* must deserve praise for all the abovementioned didactic advantages: the clarity of reasoning and the selection of examples and exercises. The presence of a glossary of important terms is also very useful. Some of the book's weaknesses as a primary source for undergraduate students include the small number of references and the very short subject index.

Overall, *Introducing Phonology* is an excellent practical textbook which teacher and student will both find extremely useful in their attempt to cover the core of modern phonological theory. However, students who would later like to pursue any further studies in the field will most probably find the work incomplete and at some points even out-of-date.

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