Patrick Honeybone & Joseph Salmons (eds.), *The Oxford Handbook of Historical Phonology* (Oxford Handbooks in Linguistics). Oxford: Oxford University Press, 2015. Pp. xv + 792.

Reviewed by ROBIN MEYER, University of Oxford

Historical linguists will generally acknowledge that phonological developments are the most noticeable, and have for a long time been the most researched sub-discipline within historical linguistics. In view of this, it is ever more curious that a comprehensive treatment of historical phonology in the form of a handbook has remained a *desideratum* for so long; to date, the subject has usually been constrained to chapters in other handbooks, e.g. in Joseph & Janda (2003), or treatments of single languages or language families in a variety of formats as in, for instance, Lynch (2003) and Minkova (2014).

In *The Oxford Handbook of Historical Phonology*, Patrick Honeybone & Joseph Salmons have successfully compiled a collection of 37 chapters, organised in six parts and authored by 47 leading scholars in their respective fields, which introduces, summarises, and critically discusses a great number of key issues of historical phonology, from its scholarly history and scientific methodology to its interactions with other linguistic disciplines.

Part I, 'Introduction and Context', provides the historical background necessary to understanding the development of the field of historical phonology over time.

In Chapter 1, 'Introduction. Key Questions for Historical Phonology', Patrick Honeybone & Joseph Salmons outline the organisation of the volume, emphasising the 'networks of connections across chapters from the first chapter to the last' (3). More importantly, they summarise succinctly the key questions this handbook seeks to answer

or at least to discuss, including 'What Motivates Phonological Change?' (6), 'What Kinds of Phonological Change are Possible?' (7) and, crucially, 'Is Phonological Change Exceptionless? (9).

Following thereon, Robert W. Murray delineates 'The Early History of Historical Phonology' in Chapter 2, sensibly limiting his overview to 'particular protagonists, primarily neogrammarians' (11) rather than commencing with scholars from antiquity. Murray focuses on the process of discovery leading to the formulation of the neogrammarian Regularity Hypothesis and its subsequent criticism by Hugo Schuchardt and others, as well as the modification and complication of this principle over the course of the twentieth century.

In Chapter 3, 'Structuralist Historical Phonology. Systems in Segmental Change', Joseph Salmons & Patrick Honeybone treat the issue of structuralist, viz. system-, contrast-, or symmetry-motivated approaches to phonology. After a discussion of the historical development of phonological structuralism and its key mechanisms (merger, split, chain shift, etc.), the chapter ends in emphasising that structuralist concerns, 'if still fraught' (46), are alive in contemporary research and being integrated into other, e.g. socio-linguistically or contact-driven, approaches to sound change.

Part II, 'Evidence and Methods in Historical Phonology', considers the ways in which linguistic data is evaluated in historical phonological research.

Anthony Fox explains the key tools in the toolbox of historical phonologists – the Comparative Method and Internal Reconstruction – in Chapter 4, 'Phonological Reconstruction'.

Following thereon, Donka Minkova addresses the issue of sources for phonological development in Chapter 5, 'Establishing Phonemic Contrast in Written Sources', which

consists of a discussion of Old English spelling conventions and the evidence they provide for reconstructing Old English phonology. In doing so, Minkova cautions against assuming phonologically invariable inventories in languages exclusively attested in written sources, and calls for close (re-)examination of established inventories.

In Chapter 6, entitled 'Interpreting Diffuse Orthographies and Orthographic Change', J. Marshall Unger takes on a different set of written representations of language, namely those used in languages like Chinese, Japanese, and Korean. He outlines how discovering the phonology underlying these system relies on system-external factors, e.g. extant lists of signs known to rhyme or begin with the same sound (*fanqie*) or transliterations into other, alphabetic scripts in the case of Chinese, or innovative diacritic marks in Korean.

Turning back to alphabetic writing, Roger Lass' Chapter 7, 'Interpreting Alphabetic Writing', turns to the issue of 'mapping between some kind of systemic elements and surface phonetics' (101) and the means by which such mapping can be achieved. On the basis of Middle English, he examines the naturalness of linguistic variation even at the orthographic level, which often results in complex writing-sound-correspondences, and accordingly emphasises the importance of comparative evidence from more archaic and later forms of the phonological system in question, as well as from verse and dialect sources for the establishment of such correspondences.

In Chapter 8, 'The Role of Typology in Historical Phonology', Martin Kümmel uses the example of the Proto-Indo-European stop series to illustrate in what ways typological considerations can and should influence decisions regarding the reconstruction of sound systems. In applying both diachronic and synchronic typological approaches to different reconstructive models, Kümmel shows that both approaches are required to decide between competing accounts of this stop series, but emphasises that 'better and broader

collections of reliable data' (132) are needed to strengthen the reliability of diachronic typology.

Brett Kessler, in turn, outlines in which ways technology can aid the historical phonologist in Chapter 9, 'Computational and Quantitative Approaches to Historical Phonology', excepting those treated by other authors later. This includes brief discussions of the algorithmisation of the Comparative Method, phonetic phenetics – the classification of 'objects based on their synchronic similarity' (144), used e.g. in dialectometry – and cladistics, programmes for which are still at an early stage.

Still within the field of computational approaches, Andrew Wedel explores 'Simulation as an Investigative Tool in Historical Phonology' in Chapter 10. In three case studies, he describes and analyses how simulations can help us understand the circular causality often found in sound change, or the propagation of initially isolated changes throughout a community, emphasising that simulations are most useful as a means of testing models in greater detail than otherwise possible.

In Chapter 11, Warren Maguire considers the value of 'Using Corpora of Recorded Speech for Historical Phonology'. Next to highlighting the obvious advantages of using sound recordings from different stages of a language, Maguire points out the underlying issues of such recordings: the well-known Observer's Paradox; the fact that recordings represent only a snapshot of an individual's linguistic behaviour; and, more philosophically, that recorded 'speech is not phonology [… but rather] encodings of speech sound waves'.

The final contribution of Part II is Matthew J. Gordon's Chapter 12, 'Exploring Chain Shifts, Mergers, and Near-Mergers as Changes in Progress'. The chapter focuses on discussing modern variationist approaches to testing for active changes and what new

perspectives they bring to the question of how chain shifts and mergers proceed historically. Still, as Gordon points out, even such approaches cannot guarantee consensus on a single interpretation of the mechanisms of ongoing change.

András Cser's Chapter 13, 'Basic Types of Phonological Change', forms the beginning of Part III, which deals with 'Types of Phonological Change'. Cser uses a great number of helpful examples to elucidate essential categorical distinctions, e.g. between conditioned and unconditioned or featural and prosodic change, and clearly defines the major types of sound change, including assimilation, deletion, metathesis, and many others.

In Chapter 14, entitled 'Analogy and Morphophonological Change', David Fertig discusses, among other things, the interaction between sound change and morphological paradigms, especially with regard to the importance of the latter on the occurrence of analogical formations. Fertig emphasises that the line between analogical and phonetic change is not clear-cut, particularly when considering non-proportional processes as apply in, e.g., folk etymologies.

Aditi Lahiri lays out the key issues concerning 'Change in Word Prosody. Stress and Quantity' in Chapter 15. After an introduction to stress parameters and the problems surrounding their opacity in surface forms, Lahiri provides a case study of changes in the English stress system from Old to Early Modern English based on metrical data. She emphasises the complex diachronic interactions resulting from the pertinacity of different elements in grammar, specifically those of both abstract rules and surface forms.

Turning from prosody in general to 'Tonoexodus, Tonogenesis, and Tone Change', Martha Ratliff outlines the main processes leading to loss, creation, and change of tone in Chapter 16. While tone is most commonly lost through reanalysis as accent or radical

tone merger, the creation of tone is mainly linked to different features in a syllable, e.g. the transfer of a contrast in onset consonant features. She goes on to discuss tonal change as the result of phonetic change, mergers and splits, and in language contact.

Laura Catharine Smith & Adam Ussishkin explain 'The Role of Prosodic Templates in Diachrony' in Chapter 17. After an introduction to the concept of prosodic templates – a conventionalised unit imposing constraints on a word's surface form and encoding a particular relationship between such words (cf. Macken & Salmons 1997: 37) – they continue with case studies of templates in morphophonological changes in Semitic, Highlands Mixtec, and Germanic before moving on to template blocking and complications arising from dialect data. All this goes to show that templates are a 'crucial factor in shaping […] morphological classes and licensing features and segments in various template positions' (284).

Part IV considers 'Fundamental Controversies in Phonological Change'.

Paul Foulkes and Marilyn Vihman discuss 'First Language Acquisition and Phonological Change' in Chapter 18. After an historic overview of the question, they provide summaries of past developmental and sociolinguistic studies of the question before moving on to a discussion of new data from British English L1 acquisition. Their analysis suggests that the types of change found in child language acquisition differ in several respects from those normally observed in diachronic change, which entails that the former is not a prime influence on the latter.

In Chapter 19, Tobias Scheer asks 'How Diachronic Is Synchronic Grammar? Crazy Rules, Regularity, and Naturalness'. In his discussion of the role of naturalness in sound change and the relevance of diachronic changes for understanding synchronic patterns in a generative framework, Scheer illustrates at the hand of data from Sardinian that

'synchronic phonology stores quite some diachronic events, but in flattened, or telescoped manner' (335), that is, synchronic patterns cannot be understood out of diachronic context, and rules of sound change can live on in modified, often simplified forms.

Mark Hale, Madelyn Kissock & Charles Reiss take an 'I-Language Approach to Phonologization and Lexification' in Chapter 20, proposing that 'change' is a misnomer in this context: change does not take place in the I-language, but is the difference between two punctual grammars of a linguistic tradition. In this framework, they explore the processes underlying phonologization and lexification from a largely theoretical perspective.

In Chapter 21, 'Lexical Diffusion in Historical Phonology', Betty S. Phillips sets out by pointing out that lexical diffusion is neither sporadic nor haphazard, but 'refers to a spread of a sound change via the connections the mind forms between words' (360). Her account further discusses and seeks to dispel numerous other preconceptions of lexical diffusion, including the role of frequency effects, age of acquisition, and its role as part of propagating sound change.

Thematically related to Scheer's discussion in Chapter 19, Ricardo Bermúdez-Otero's 'Amphichronic Explanation and the Life Cycle of Phonological Processes', Chapter 22, considers the interaction of diachronic and synchronic change in the life cycle of phonological processes from the perspective of Modular Feedforward Architecture. In his discussion of multiple historical examples, including English /l/-darkening, he concludes that an amphichronic approach leads to the most robust explanations of historical phonological changes.

Mark J. Jones writes about the role of the individual and sources of individual variation in Chapter 23, 'Individuals, Innovation, and Change'. He explains that variation arises at

different levels (perception, production) and owing to different factors (ongoing reanalysis of morphological patterns, language contact, L2 acquisition), and is in its entirety as yet understood imperfectly, although the situation is improving as modern technology facilitates the study of individual variation.

Related to this point, in Chapter 24, 'The Role of Experimental Investigation in Understanding Sound Change', Alan C. L. Yu discusses the fruitful cross-fertilisation between historical and experimental phonology, specifically as regards phonetic and articulation-based approaches to sound change, including production and perception biases, and ways to account for them on a historical level.

Part V, 'Theoretical Historical Phonology', begins with Patricia J. Donegan & Geoffrey S. Nathan's treatment of 'Natural Phonology and Sound Change', Chapter 25. After an explanation of the tenets of Natural Phonology, Donegan and Nathan consider the notion of 'sound' in this framework and how sounds change. From their perspective, phonology is the product of natural processes as constrained by restrictions particular to a speech community, and sound change accordingly the change in such restrictions. In this model language acquisition, perception, and phonetic realisation co-operate closely in effecting change.

In Chapter 26, Robert Mailhammer, David Restle & Theo Vennemann write about 'Preference Laws in Phonological Change'. Building on the notions of markedness and naturalness, they suggest that language change occurs first in structures deemed worst according to one preference law so as to improve on it. Since these structures and preference laws do not exist in isolation, however, improvements in one respect can lead to deterioration in another. Considering multiple such preferences can produce useful probabilistic models for predicting changes.

Joan Bybee outlines the role of 'Articulatory Processing and Frequency of Use in Sound Change' in Chapter 27. Her account underlines that every utterance has the potential to engender sound change since, broadly speaking, simplification of repeated patterns is a natural tendency in the process of articulation. This is borne out by the fact that assimilation and lenition processes are the most common types of sound change, affecting high frequency words first. A coherent theory of sound change which can account for differently motivated changes, however, requires the inclusion of further factors, e.g. lexical and typological properties.

The latter are picked up in Chapter 28, 'Evolutionary Phonology. A Holistic Approach to Sound Change Typology' by Juliette Blevins, who maintains Bybee's line that articulatory and perceptual factors are the main motivators of sound change. At the same time, she provides examples where other considerations, e.g. lexical competition or syllable structure, can impede or facilitate change.

B. Elan Dresher approaches sound change from a different perspective in Chapter 29, 'Rule-Based Generative Historical Phonology'. On the basis of examples from the history of English, he illustrates that acquisition and learnability (in the sense of Universal Grammar) but also considerations of contrast are the key features driving rule-based sound change, understood here as changes in the grammars of speakers.

In Chapter 30, entitled 'Distinctive Features, Levels of Representation, and Historical Phonology', Thomas Purnell & Eric Raimy discuss the role played by segmental phonological representation in sound change. Focusing on vowel sounds, they outline that a detailed distinctive feature analysis, if appropriately calibrated, can provide the most accurate account of how sound patterns change in diachrony.

D. Eric Holt explores 'Historical Sound Change in Optimality Theory. Achievements and Challenges' in Chapter 31. Discussing various views in the literature, he suggests that certain modifications of traditional Optimality Theory are required to make it work in diachrony, particularly the incorporation of functional, perceptual, and listener-based factors as outlined variously in previous chapters.

Providing a more general account than presented by Hale, Kissock & Reiss above, Paul Kiparsky treats 'Phonologization' in Chapter 32. Expanding on the discussion of Holt, Kiparsky suggests that 'stratal OT [… and] a radical rethinking of the phoneme' (578) provide a framework that can help formalise and predict the processes underlying phonologization, as shown in the example of Old and Middle High German sound changes outlined here.

Part VI considers the 'Sociolinguistic and Exogenous Factors in Historical Phonology'.

Alexandra D'Arcy explains the basic tenets of 'Variation, Transmission, Incrementation' in Chapter 33 in outlining the progression of change as largely non-linear, unpredictable, and often involving extended periods of variability between old and new forms. Her data-driven account bases itself on the works of Weinreich and Labov and emphasises the relevance of the social component in intergenerational transmission and ensuing change.

In Chapter 34, 'Phonological Change in Real Time', David Bowie & Malcah Yaeger-Dror underline the possibility of change in individuals' language usage after puberty and suggest that studies of historical phonology attempt to incorporate data from the same individual at different points in time. They point out the relevance of the observation of

real-time change and its methodology also for written documents, likening an individual's change in phonology to scribal variation.

A different kind of variation, namely that between dialects, is the subject of Chapter 35, 'Historical Phonology and Koinéization', written by Daniel Schreier. After a definition of 'Koinéization' – summed up as 'a sociolinguistic corollary of populations on the move [… and] an important mechanism in externally-induced change' (635) – and the processes involved, Schreier produces two case studies of this mechanism, namely the Northern Cities Shift and koinéization in Tristan da Cunha.

Fred R. Eckman & Gregory K. Iverson produce a very short overview of 'Second Language Acquisition and Phonological Change' in Chapter 36. While they caution that much in this field remains to be explored, they present as key findings the potential influence of L2 learning can have on L1 pronunciation.

In the final chapter of this handbook, Chapter 37, Christian Uffmann deals with 'Loanword Adaptation'. Uffmann argues that the degree of bilingualism found in contact situations is one of the factors determining whether or how a word will be adapted; in this chapter, he discusses a number of motivations, mechanisms, and analyses of such adaptations or lack thereof.

Following the list of references, the volume ends in three useful and extensive indices: 'Languages, Families, and Dialects' (759–765), 'Authors' (767–781), and 'Subjects' (783–792).

If any criticism had to be levelled against this handbook, it would consist exclusively of certain small details. Most contributors make a valiant effort at including linguistic material from a great variety of languages, reflected in more than 300 languages or language families listed in the relevant index; it is noticeable, however, that the clear

majority of data still comes from Indo-European languages, specifically English and the Romance languages. This being said, Asian languages – including varieties of Chinese, Japanese, Korean, Thai, and Vietnamese – are reasonably well represented.

In the 'Subject' index, historical linguists will look in vain for entries such as 'isogloss', '*Stammbaum*', or '*Wellentheorie*', i.e. some key concepts relating historical phonology to issues of linguistic phylogenetics. Many processes involved in this subject area do have entries – 'cladistics', 'conditioned sound change', or 'neogrammarians', to name but a few – but it noticeable that a distinct chapter on the role of historical phonology and its interaction with other linguistic disciplines is missing.

Finally, the publisher has set up a 'companion website' for this book (viii; http://www.historicalphonology.net), which usefully includes the Table of Contents of the volume; beyond this, however, this website is without any value as it contains no pertinent material whatsoever. Given the subject of phonology, it might have been used to make available sound recordings and the like where deemed relevant.

Despite these small criticisms, Honeybone & Salmons have succeeded in compiling a useable, up-to-date, and comprehensive handbook that will prove an essential resource to generations of students and scholars interested in and working on any and all aspects of historical phonology.

REFERENCES

Joseph, Brian D. & Richard D. Janda. 2003. *The Handbook of Historical Linguistics*.
  Oxford: Blackwell.

Lynch, John. 2003. *Issues in Austronesian historical phonology* (Pacific linguistics 550). Canberra: Pacific Linguistics, Research School of Pacific and Asian Studies, Australian National University.

Macken, Marlys & Joseph Salmons. 1997. Prosodic templates in sound change. *Diachronica* 14, 33–66.

Minkova, Donka. 2014. *A historical phonology of English* (Edinburgh textbooks on the English language. Advanced). Edinburgh: Edinburgh University Press.

Author's address: Faculty of Linguistics, Philology and Phonetics, University of Oxford

Clarendon Institute

Walton St

Oxford OX1 2HG

robin.meyer@ling-phil.ox.ac.uk