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English phonology

An introduction

Heinz J. Giegerich

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This is an introduction to the phonology of Present-day English. It deals principally with three varieties of English: 'General American', Southern British 'Received Pronunciation' and 'Scottish Standard English'. It offers a systematic and detailed discussion of the features shared by these major accents, and explains some major differences. Other varieties of English – Australian and New Zealand English, South African English and Hiberno-English – are also discussed briefly. Without focussing on current phonological theory and its evolution, the author demonstrates the importance of 'theory', in whatever shape or form, in phonological argumentation. The book also includes a helpful introductory section on speech sounds and their production, and detailed suggestions for further reading follow each chapter.

This clear and helpful textbook will be welcomed by all students of English language and linguistics.

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ENGLISH PHONOLOGY

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PREFACE

This is a textbook intended to introduce students of English, of English linguistics and of linguistics to the phonology of Present-day English. It is not a reference manual on the subject; nor is it an introduction to current phonological theory (in relation to English or otherwise).

To qualify for the former, it would have to be less selective in its coverage. In particular, the coverage of different accents of English is highly selective, for the ones treated here (Southern British 'Received Pronunciation', 'General American' and 'Scottish Standard English') can hardly be claimed to form a 'representative sample', whatever such a sample may be representative of. While this choice of reference accents is advantageous in many respects (not least in practical terms), it covers only part of the typological spectrum. Some of the rest, which is neither small nor, in typological terms, insignificant, is dealt with on a mere handful of pages appended to chapter 3. I do not pretend to do justice to those other varieties of English; I merely hope to make the reader aware of the fact that varieties of English exist which are different from those that I focus on, and that those differences are of considerable phonological interest.

Perhaps the most glaring omission in this book is intonation. This topic might have warranted an at least chapter-long treatment; but such a treatment (especially if it had been of a formal-analytical rather than merely descriptive kind, in line with my assumptions regarding the proper nature of phonological study) would have necessitated formalised input into the phonology from a variety of other areas of linguistics: from syntax (to a greater extent than is suggested in chapter 9), and also from semantics and pragmatics. The subject of intonation is in this sense too different from the rest of the phonology to be easily incorporated in what is intended to be a reasonably homogeneous analytical framework. Moreover, a satisfactory treatment of intonation would have required a more detailed phonetic grounding than is given here – especially one in acoustic phonetics; and if one also considers the fact that the three reference accents display marked

differences in their intonation patterns then my reasons become clear for excluding the topic, with some reluctance, rather than merely scratching its surface. I do believe, however, that chapter 9 lays the foundations for the study of intonation; and I make suggestions there for further reading on the subject.

The selectivity of my approach to English phonology is even more evident on the theoretical side. There I am making a deliberate attempt at minimalism: the phonological theory used in most of this book is an extremely simple one – so simple, indeed, that it cannot be taken seriously as a contender in the ongoing and ever-intensifying theory debate in phonology. It is phonemicist and as such open to criticism from most theory-sensitive quarters; and it allows itself no access to nonphonological information – a limitation that phoneme theory itself has long since abandoned. I nevertheless take this theoretical stance in most of this book, for the following reasons.

First: being avowedly introductory, this book is concerned with a range of phonological phenomena of English that I view as central to the subject, uncontroversial and amenable to analysis in terms of a simple theory such as this one. Such phenomena make no great demands on one's theoretical machinery; and since the development of such machinery is not the main concern of this book, its relative lack has few – if any – adverse effects on my treatment of the subject.

Second: the simplicity of this theory enables me to be explicit about it at this level – and it is the responsibility of the writer on a subject such as this one to preach methodological rigour, and to make the reader aware of his dependence on specific theoretical assumptions in whatever he says about 'facts'.

Third: it follows from the theory's simplicity that it has scope for development – development whose possible directions are to some extent mapped out in the final chapter, but which are also to a large extent left to the reader (and especially to the teacher). I merely try to set the stage for further study. By presenting phoneme theory as a simple derivational framework I hope to prepare the reader for the study of more sophisticated derivational theories: Generative and Lexical Phonology are seen as developments, perhaps as necessary ones, that may evolve from the core of derivationalism introduced here. Moreover, the theory of Contrastive Underspecification is but the logical consequence of a view of the phoneme as a redundancy-free underlying unit. To understand the attraction of such theories the reader must first grasp the basic principles behind them; and, in my view, a simple phonemic theory (albeit one with the derivational bias

that I impose on it) embodies all these basic principles. As for the representational side of phonological theory, this too is in my view best introduced in a framework that keeps derivational devices to a minimum; and my relative emphasis on (suprasegmental) representations is in part driven by personal interest (which will of course determine the shape of anybody's book) and in part by the recognition, by now a fairly widespread one, that this is where phonological theory is going and perhaps has already gone.

Finally, I must record my gratitude to John Anderson, Linda van Bergen, Derek Britton, Karen Corrigan, Edmund Gussmann, Bob Ladd, Roger Lass, April McMahon, Donka Minkova and Jørgen Staun. They have helped me write this book by commenting on parts or all of it in the earlier stages of its long history; and they have corrected more errors than I can admit to without embarrassment. The remaining ones are my responsibility, not theirs. Ginny Barnes typed most of the manuscript; she decided to move to the Middle East shortly after this experience.

Innerleithen, November 1991 HEINZ GIEGERICH

CONTENTS

1
Speech sounds and their production

1.1 Organs and processes

Most speech is produced by an air stream that originates in the **lungs** and is pushed upwards through the **trachea** (the windpipe) and the **oral** and **nasal cavities**. During its passage, the air stream is modified by the various organs of speech. Each such modification has different acoustic effects, which are used for the differentiation of sounds. The production of a speech sound may be divided into four separate but interrelated processes: the **initiation** of the air stream, normally in the lungs; its **phonation** in the larynx through the operation of the vocal folds; its direction by the velum into either the oral cavity or the nasal cavity (the **oro-nasal** process); and finally its **articulation**, mainly by the tongue, in the oral cavity. We shall deal with each of the four processes in turn. (See figure 1.1.)

1.1.1 *The initiation process*

The operation of the lungs is familiar through their primary function in the breathing process: contraction of the intercostal muscles and lowering of the diaphragm causes the chest volume to increase and air is sucked into the lungs through the trachea. When the process is reversed, air will escape – again through the trachea. Apart from recurring at regular intervals as breath, this air stream provides the source of energy for speech. In speech, the rate of the air flow is not constant; rather, the air stream pulsates as the result of variation in the activity of the chest muscles. Major pulses are associated with stress – as in the second syllables of *A'merica*, *ma'chine* etc.; and syllables may to some extent be manifestations of minor chest pulses.

In English (and most other languages), all speech sounds require a **pulmonic** (lung) **air stream** for their production; alternative means of producing an air stream are occasionally used in certain languages, but need not concern us here. Moreover, the air stream used for speech in English is always **egressive**, that is, moving out of the lungs and up the trachea. Again,

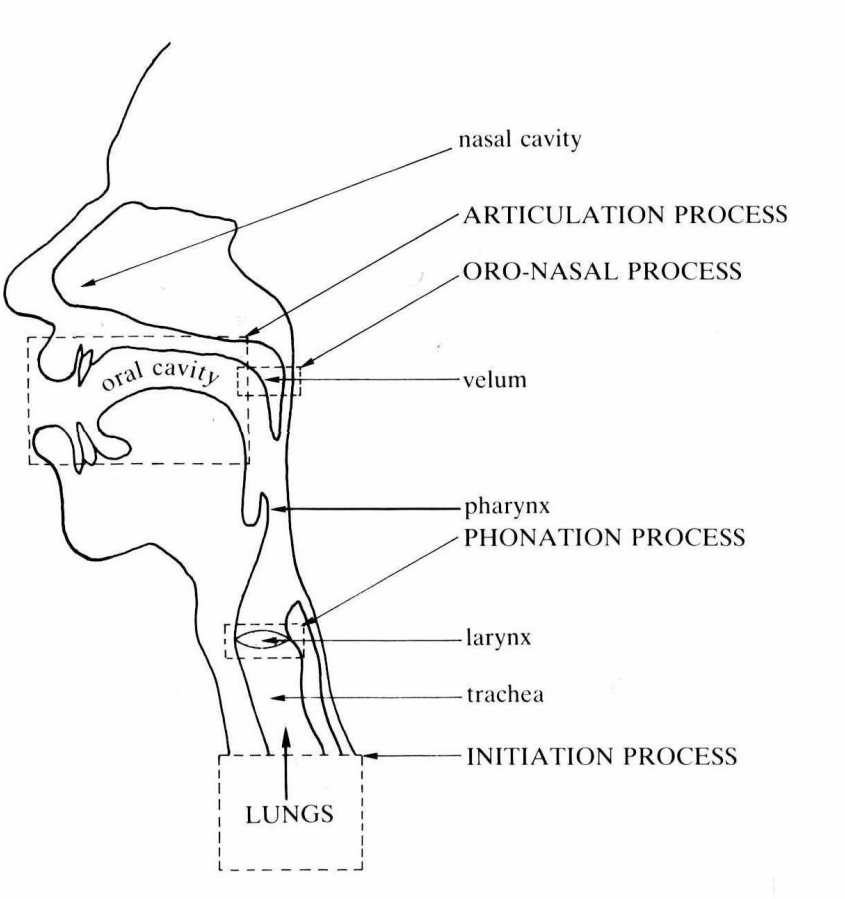

Figure 1.1 The organs of speech

some languages have sounds in which the air stream takes the opposite (ingressive) direction, but we need not concern ourselves with those. For our purposes, it is sufficient to state that in English, *speech sounds are initiated by a pulmonic egressive air stream.*

1.1.2 *The phonation process*

At the upper end of the trachea, the air stream passes through the **larynx**, a cartilage casing whose forward part (the Adam's Apple) can be felt just below the chin. The larynx contains two horizontal folds of tissue, which protrude into the passage of air from the sides: the **vocal folds**. The gap between the vocal folds, through which the air stream passes upwards into the pharynx and the mouth, is called the **glottis**. This is where the process of phonation takes place. The vocal folds can be manipulated by the speaker and brought into a variety of different positions, thus altering the

shape of the glottis. At least three such positions are linguistically significant.

1 *Closed glottis*. The vocal folds are brought close together so that no air can pass between them. The speech sound resulting from this closure of the glottis and subsequent release is called **glottal stop**, sometimes heard in English preceding a forcefully pronounced vowel (as in *Out!*). In many accents of English, the glottal stop can replace [t] in words such as *football*, *bottle*, *bit*.

2 *Narrow glottis*. When the vocal folds are brought together in such a way that only a narrow gap is left for the air stream to pass through, the passage of air makes them vibrate. This vibration of the vocal folds in turn causes vibration on the part of the air column above the glottis. The resulting sound waves characterise **voiced sounds** of speech. The vibration of the larynx can usually be felt by laying a finger on (or just above) the Adam's Apple when producing a sound like [v] (as in *vine*) – contrast this with [f] (as in *fine*), a voiceless but otherwise very similar sound. All vowel sounds are voiced, as are sounds like [m], [l], [v], [b] etc.

3 *Open glottis*. This is the state that the glottis assumes in normal breathing as well as in the production of **voiceless sounds**. The vocal folds are spread and do not vibrate; the glottis is sufficiently wide open so as to allow the air stream to pass through without obstruction. Voiceless sounds are, for example, the [st] sequence in *stone* – the rest of the word is voiced – the [k] in *kill* etc.

Once again, there are a few more states of the glottis that are linguistically significant in certain languages. We ignore these here, as in English and related languages only the three-way distinction made above is systematically used: the closed glottis for the glottal stop, the narrow glottis (with vibrating vocal folds) for voiced sounds and the spread glottis for voiceless sounds (see figure 1.2).

1.1.3 *The oro-nasal process*

Having passed through the larynx and the back of the throat (the **pharynx**), the air stream can go either into the **nasal cavity** or into the **oral cavity**. In normal breathing, it will usually pass through the nasal cavity and emerge at the nostrils; in many – but by no means all – speech sounds, the nasal cavity is blocked off in the back of the throat and the air stream is