

On Phonetics and Phonology: A Broad-Termed Comparison and Contrast between Broad and Narrow Transcription

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Abstract

As a subfield of linguistics, phonetics and phonology have as their main axis the concern of articulation of sounds; that is, how human beings produce speech. Although dated back over 2000 years ago, modern contributions of scientists and scholars regarding phonetics and phonology have involved various fields of science and schools of thought such as philosophy, physiology, psychology, and even American structuralism. So, in line with all this, this study starts with a general view toward phonetics and phonology holding the view of early contributors and the role of aforementioned sciences and schools of thought. Then, thru representing figures and tables, this study continues to consider two major aspects of the field—namely broad and narrow transcription. A broad-termed comparison and contrast between the two, this study aims to imply, indicates the former transcription harmful to the same extent, if not more one should like to emphasize, it could be of assistance. It is because it does not represent the exact subtleties of phonetics and, thus, prevent the person from achieving a native-like pronunciation.

Key words: phonetics, phonology, broad transcription, narrow transcription

Introduction

Phonetics is the study, investigation, and description of sound system in a given language. Articulation of sounds is mostly concerned with the movement of speech organs including lips and tongue; but this is just the beginning. To investigate and describe sound systems, one needs to pierce deeper where other organs and factors are in play. As in the language of Clark and Yallop:

Phonetics and phonology are concerned with speech Talking and listening to each other are so much part of normal life that they often seem unremarkable. Yet, as in any scientific field, the curious investigator finds rich complexity beneath the surface. (1990, p. 1)

Thus, phonetics is not as easy as describing /m/ sound as closing lips and suddenly let the trapped air in mouth out, or to consider /w/ as a simple lip-rounding process and letting the air out. Put simply, a phonologist has to, first and foremost, investigate the place of articulation of sounds, and then find a detailed way to make a sensible representation of all these sound for learners to be able to achieve native-like pronunciation. The places of articulation, and articulatory gestures, manner of articulation in fact, embrace the significance as they are ones to be indicated and represented. En route for doing this, a phonologist has to transcribe what he or she observes for ease of pronunciation. This transcription might have seemed to be in need of a division in two major categories: (a) Broad Transcription, and (b) Narrow Transcription. As the name of each suggests, representation is either general or specific. This is rooted in general or detailed considerations of phonemes as the smallest and independent unit in a sound system. Broad transcription is a term to allocate very simple symbols to indicate the phonetic pronunciation of a given word. Narrow transcription, on the other hand, refers to more phonetic

details in showing the pronunciation of words (Ladefoged, 2006). Taking a phoneme like /p/ into account, a phonologist prescribes a broad and a narrow transcription for it. Consider the following tables;

Table 1.

Broad and narrow transcriptions of two letters

Letter	Broad Transcription	Narrow Transcription
p	/p/	/p/ and /p ^h /
L	/l/	/l/ and /ɫ /

This table indicates the variation between broad and narrow transcription of two sample phonemes. As with the table, narrow transcription is of more variety and seems to be useful in a wider range of application to show the exact pronunciation of a given word. This is not, on the contrary, what one can say about the application of broad transcription. Although it is a matter of relativity taking the phonetic symbols that dictionaries make use of to represent the pronunciation of words—i.e., they mostly have their own way of phonetic representation—this is an indication of the effort dictionaries make to put non-native speakers at ease when pronouncing words.

Table 2.

Broad and narrow transcription variations in some word samples

Sample	Broad Transcription	Narrow Transcription
Please	/plɪz/	/p ^l i:z/
Kill	/kɪ l/	/k ^h ɪ ɫ /
Snap	/snæp/	/snæp/

Although some samples like the third one in table two differ not even the least in broad and narrow transcriptions, this difference is mostly the case majority of words. Thus, broad transcription would of very little help when the major learners of phonology are English as

foreign language learners (henceforth EFL learners). EFL learners are subject to be guided to the exact path or be misled if the material delivered is inexact. Therefore, using broad transcription to teach them the pronunciation of words would be of no help; maybe that is why dictionaries follow narrow transcription, or one should like to say to the extent they can be in transcription. Having been worked on by a lot of scholars of a specific range of sciences and schools of thought—this will be elaborated on later—phonetics and phonology seem to have a great deal of importance.

Literature Review

The field dates back over 2000 years ago when Sanskrit scholars of the time tried to focus on the articulation and pronunciation of ritual and keep them fixed over time and generations (Birjandi & Salmani-Nodoushan, 2005; Clark & Yallop, 1990). But the classification of sounds, in general, and vowels, in particular, seems to date back to 1653 when English mathematician, John Wallis tried to do so. Also, in the late 19th century, scholars of different fields like Jan Baudouin de Courtenay, Ferdinand de Saussure, Leonard Bloomfield, and, perhaps most importantly, Edward Sapir contributed to the phonetic theory. As mentioned earlier, a lot of fields have affected phonetic theory among which philosophy seems to have the most shares. Birjandi and Salmani-Nodoushan (2005) argue that philosophy has influenced almost every branch of science endeavors. One should like to say that this influence is seen way illuminated by the ideas of David Hume who believed the only way to accept and perceive things is thru five sense modalities; if anything fails this principle, it should be “committed to the flames”. In line with his principle, many linguists focused on those aspects which can be experienced thru five sense modalities. Phonology, serving this purpose, was the only tangible part of language to be studied.

There were sciences which contributed to phonetic theory to a great deal. Physiology and psychology are two of the most important ones in this regard. Ivan Pavlov was perhaps one of the most influential figures in the field of physiology who had experiments on dogs to show that they could learn behavior after times of repetition. His experiments ended in the notion of Behaviorism in psychology; a school which according to Williams and Burden (1997), “. . . is an approach to psychology that has its roots within positivism This approach arose out of the ideas of early learning theorists who attempted to explain all learning in terms of some form of

conditioning” (p. 8). Behaviorism seems to have had the greatest influence on phonetic theory as it favors the study of observable behavior (or response) in relation to the context (or stimuli) (Birjandi & Salmani-Nodoushan, 2005). This is generalizable to phonology as it is the study of speech production (a behavior) in different context (stimuli). Although psychology was basically supposed to be the study of inner feelings and experiences, Watson, the first to pose the notion of behaviorism, added the idea of its being measurable regarding all psychological elements as muscular and glandular procedures measurable. This led to the emergence of stimulus-response theory—abbreviated as S-R Theory. This comes no surprise that phonology underwent the principles of the theory as it was a form of behavior observed in some context.

During 19th and early 20th centuries, linguists in America connected language issues with historical matters. This accompanied and was supported by the orientation of the study of American Indian languages which lacked enough written texts regarding the past of the language. The same went true for other types of languages. On the other hand many American linguists at the time were anthropologists. Thus, speech-based study of language went on vogue and linguists turned their focus to form of languages; that is to say emphasis on the production of words on the basis of sounds rather than its other features such as syntax or semantics. They, as a result, studied most immediately observable facet of language which was the sound system—especially that of American Indian languages, since they lacked previous studies as theirs was relatively new. This radical attention to form of language—attention to directly observable traits of it which were the sounds—made American linguistics be known as Structural Linguistics. In short, American linguists’ structuralism thru its attention to the sound system as the most immediately observable and measurable feature of language affected phonetic theory to a great deal. (Birjandi & Salmani-Nodoushan, 2005)

This movement continued to mid- and late-20th century with more detailed description of sound system. It is the focus of phonetics to describe the place and manner of articulation of sounds in a language—as already mentioned. Therefore, as with Yegnanarayana et al. (2008):

The three broad categories of phonation types involving voice source vibration are: (a) modal (the normal vibration type), (b) breathy (where the vocal folds are held apart so that the glottis is not closed completely), and (c) laryngealized (where the folds are held stiffly and vibration is partially inhibited) (p. 1481).

As this categorization of Yegnanarayana and colleagues show, this will not be so easy a job to describe the place and manner of articulation of various sounds sometimes with the least change, sometimes with more than a single place of articulation, and differing from one language to another or from an accent to another. This sheds light on the fact that the more detailed sounds are studied and represented, the better and easier EFL learners can achieve their final goal in a phonology course, undoubtedly native-like pronunciation.

The following section includes some broad-termed information about phonetics and phonology thru the presentation of some figures and tables including the articulatory system, and then draws to transcription of the sounds—some samples were given before.

Method

Phonetics is concerned with the articulation of sounds. That is, sound system of a language, English in this case, is taken into consideration regarding the place (or organs involved in pronunciation of a sound) of articulation, and manner (or the positioning of these organs) all with palmoneric air as the source of energy. Many think to learn phonetics is just the matter of learning all a phonetician tries to uncover about sounds thru repetition of them. A phonetician, as aforementioned, does the job of transcribing what he or she observes; and this is so vital to the job he or she does. There is good support for this by Ladefoged (2006), “Phonetic transcription is no more than a useful tool that phoneticians use in the description of speech. It is, however, a very important tool” (p. 33). Although Ladefoged suffices to name phonetic transcription ‘a very important tool’, it seems that it really is, for the only way to learn the pronunciation of a language is thru its phonetic transcription—i.e., to study written experiences of a phonetician. The smallest and at the same time independent unit of articulatory phonetics is called *phoneme*. As with the words of Birjandi and Salmani-Nodoushan (2005), “Linguists define phonemes as the minimal unit of sound (or sometimes syntax). . . . The phonemes of a particular language are those minimal distinct units of sound that can distinguish meaning in that language” (pp. 9-10). Phonemes in a language are divided into two major parts: (a) vowels of the language, and (b) consonants in a language. Let us not forget that phonetics is the study of sounds and not spelling of words; to take into consideration the three examples of fat, phone, and laugh all have the sound /f/, they are underlined, but in different spellings. So, as Ladefoged puts it, “We cannot rely on the spelling to tell us whether two sounds are members of different phonemes” (p. 34). In line with the division of phonemes in a language, a phonetician’s immediate job seems to be the

identification of place of articulation, since it is the most tangible thing to observe. Take the following sample into consideration;

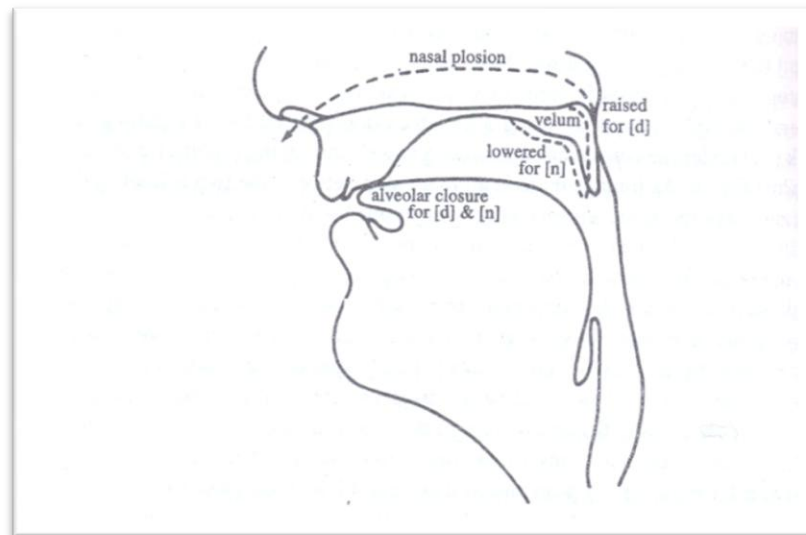


Figure 1. A sample of place of articulation of some consonants, nasal plosions (Reprinted from Ladefoged, 2006; p. 62)

What which is shown in **Fig. 1** is just the place of articulation still too raw to be prescribed for learners and expect them to achieve the exact pronunciation of these. Thus, a phonetician should also tell about the manner of articulation of these sounds. In other words, he or she should tell about the positioning of organs involved in the production of sound—no matter vowels or consonants. Through this, EFL learners get one step closer to the final goal they want to achieve. To transcribe consonants, the easiest way is to find contrasting phonemes in rhyme words such as in *pie*, *tie*, etc. It was already mentioned that spelling is not a good and reliable criterion to transcribe phonemes; so, in the two *italicized* words the opening phoneme, respectively /p/, and /t/ are presented. But all this would end nowhere if the manner of articulation is ignored. That is, manner of articulation of sounds is identically, if not more, significant as the place of articulation. The subsequent figure is an indication of just consonants including their place and manner of articulation.

		Place of articulation						
		bilabial	labio-dental	dental	alveolar	palato-alveolar	palatal	velar
Manner of articulation	nasal (stop)	m			n			ŋ
	stop	p b			t d			k g
	fricative		f v	θ ð	s z	ʃ ʒ		
	(central) approximant	(w)			r		j	w
	lateral (approximant)				l			

Figure 2. Place and manner of articulation of consonants in English (Reprinted from Ladefoged, 2006; p. 43)

Now, one's only job is to get familiar with concepts like *approximants*, *fricatives* as manners, and *bilabials*, *palate-alveolars*. Let us take into account that the main axis of this study is comparison and contrast between Broad and Narrow Transcription of sounds. These sounds are to be emphatically called raw to a great extent (c.f., Table 1). To propose these as final result of observations and experiences of a phonetician is to introduce broad transcription as the only way to the phonation of sounds in a language.

Part one of the job done, a phonetician should go through vowels and do the same with them. That is to say that place and manner of articulation to introduce raw and broad transcription of vowels seems to come next; but apparently this is too much of a burden in comparison with consonants. There is good deal of support by Ladefoged (2006) in this regard. He suggests:

The transcription of contrasting vowels (the vowel phonemes) in English is more difficult than the transcription of consonants for two reasons. First, accents of English differ more

in their use of vowels than in their use of consonants. Second, authorities differ in their views of what constitutes an appropriate description of vowels (p.38).

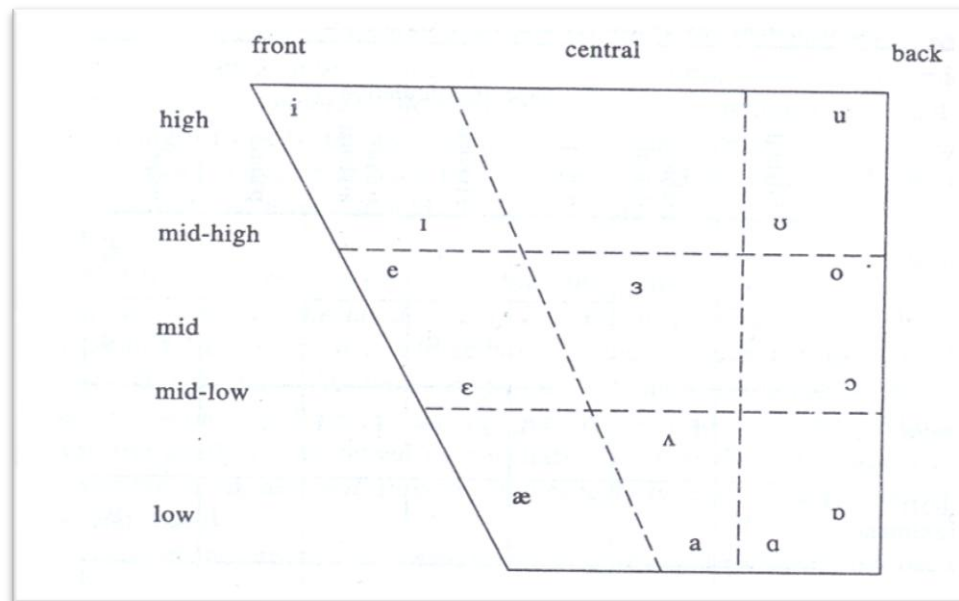


Figure 3. A vowel chart representing relative vowel qualities thru some symbols (Reprinted from Ladefoged, 2006; p. 44)

In contrast with what a phonetician transcribes for consonants, what he or she shows in vowel chart seems to be narrower in the sense that factors like being tense and lax, fronted, centered, and back, etc. all along with the length of vowels have been taken into account in this chart.

One should constantly bear in mind that to achieve the final aim of phonetic theory, gaining native-like pronunciation, necessitates a phonetician to transcribe these raw symbols in a generally understandable approach. The most immediate thing that crosses a phonetician's mind is that there are two approaches to do this—namely broad and narrow transcription. The former is concerned with presenting very simple symbols for the pronunciation of words whereas the latter is more detailed in doing the same job.

As shown earlier in tables 1 and 2, although in some cases broad and narrow transcription do not differ that much, providing EFL learners with directly narrow transcription would be a shortcut to what they want to get. Not only does narrow transcription differ from broad in representing details, but also it is more detailed in waveform. Consider the following;

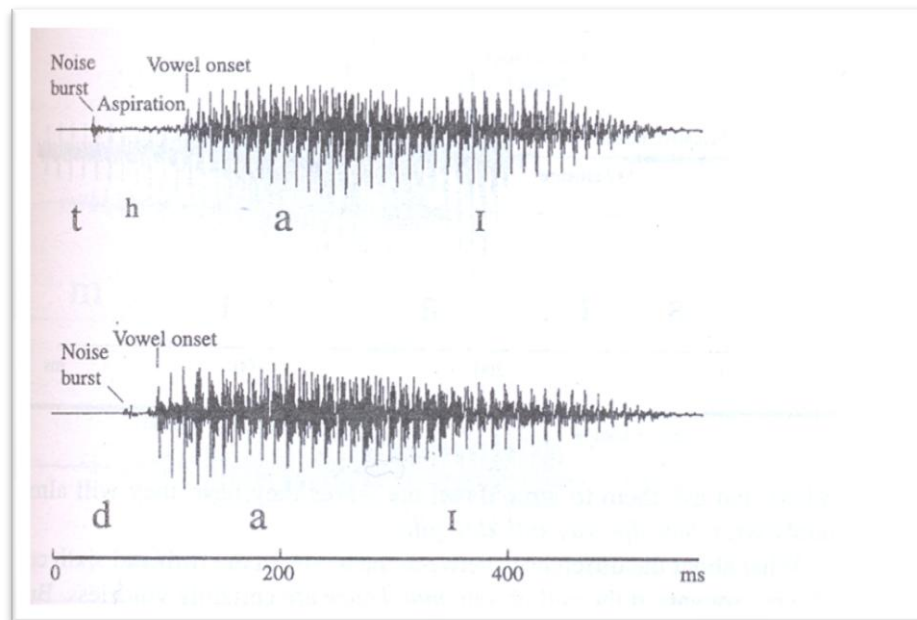


Figure 4. *The waveforms of words tie and die (Reprinted from Ladefoged, 2006; p. 57)*

As it can be easily seen in Fig. 4, even the waveform of a word including a phoneme with narrow transcription is of more variation and more detailed. Another is the following to prove the simplicity of phonemes which do not differ in broad and narrow transcription.

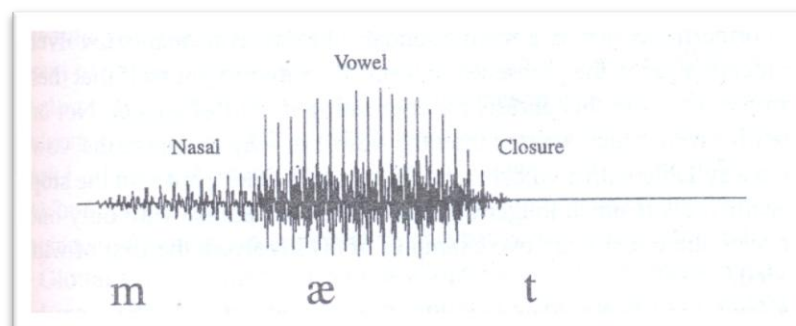


Figure 5. *The waveform of the word mat (Reprinted from Ladefoged, 2006; p. 59)*

Again it is clear from **Fig. 5**, phonemes with the same broad and narrow transcriptions are subject to be simpler in transcribing, waveform, and even pronunciation. But by this is not meant that all transcription should be represented in broad style. But this is a token of how different the pronunciation of words with differing broad and narrow transcription would be even from person to person, closing the eyes to the difference from accent to accent and learner to learner.

Conclusion

This study focused on broad and narrow transcription; basically it described both through tables and figures, and then it started to draw to narrow transcription to prove it more useful—maybe the only approach to gain the final goal of phonetics courses. It did not undermine, neither did it focus, situations in which broad transcription would come handy. But by and large, narrow transcription is more detailed even in the waveforms which represent words.

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