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Introduction to Phonetics I

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Instructor: Karen Steffen Chung 史嘉琳

Associate Professor, Department of Foreign Languages and Literatures

National Taiwan University

13. Phonology and Phonetic Transcription (II)

I. Outline for today:

1. Pre-announcement of assignments
2. *A Course in Phonetics*: Chapter 2: Phonology and Phonetic Transcription
3. Homework

II. Notes

1. Pre-announcement of assignments (see below for all the links)

a. Go to webpage 17 and do the third tutorial on VOT (voice onset time) and aspiration

b. Go to webpage 10 "Writing Chinese in IPA and the International Phonetic Association"

- Read this page carefully
- There are several schemes for transcribing Mandarin into IPA, but please pay special attention to the one suggested by Professor Li Wen-Chao (李文肇). We will basically be using his system to transcribe Mandarin into IPA in the future. Print out p. 3 and p. 4 (with tables of the consonants and vowels of Mandarin) and look them over carefully. Link to Jimmy Lin's useful comparison table: http://homepage.ntu.edu.tw/~karchung/ChineseIPA.pdf

*What are the biggest differences between Romanization and IPA? Focus on the *purposes* each is typically used for.

- Both have varying degrees of objectivity and subjectivity.
- One purpose of Romanization is to enable people who don't read Chinese characters to access personal and place names and other words in Chinese in a written form that they can recognize. For example, in Taiwan, place names were formerly written mostly in the Wade-Giles system; then Tongyong was used in Taiwan in some contexts for a while; but now Pinyin is most commonly used. But there are often many errors, regardless of the system used, since Taiwanese are mostly unfamiliar with Romanization, and usually don't pay much attention to it.
- In earlier times, mostly Wade-Giles was used to spell Chinese loanwords in English; currently Pinyin is most often used, e.g. kungfu 功夫, t'ai chi ch'uan 太極拳 vs. *qi* 氣, fengshui 風水.

c. Go to webpage 13 "Romanization III"

- Read the two essays by Professor Li Wen-Chao about the Romanization systems used in Taiwan.

2. *A Course in Phonetics*: Chapter 2: Phonology and Phonetic Transcription (p. 33-36)

a. Broad transcription: aka *phonemic transcription*

- Uses phonemes rather than allophones → enclose in slashes e.g. water /'wɑtɚ/
- Assumes the reader knows the phonological rules and therefore does not provide a lot of phonetic detail

b. Narrow transcription: (applies allophonic rules; uses a *phonetic* rather than *phonemic* representation)

- Uses brackets, represents allophones → e.g. water **['wɑɾɚ]**
- Will show various levels of detail depending on the purpose of the transcription. Usually we don't want the transcription to be too narrow, or we may end up exhausted. Also, some details are not really necessary.
- For this class, a transcription that indicates the main phonological rules which can help a reader to pronounce a word correctly is narrow enough.

c. A quick review of citation style of speech and connected speech:

- The citation style of speech is (1) what we find in dictionaries and (2) usually used for words uttered in isolation.
- Connected speech is speech in context.

d. Phonology: the study of systems and patterns of sounds that occur in a language.

- Phonemes 音位/音素 vs. allophones 同位音/音值:

(1) A **phoneme** is a category (abstract concept/ideal); under this category there are variations (different phonetic realizations – what one actually produces), i.e. **allophones**. e.g. /t/ is a phoneme, and its allophones include [ɾ] (as in *bo**tt**om*) and [ʔ] (as in *bu**tt**on*).

(2) If replacing one sound with another would **change the meaning of a word entirely**, then the two sounds are different phonemes. e.g. pie /**p**aɪ/ vs. die /**d**aɪ/. If a different word with a different meaning does not result, then the two sounds are allophones. e.g. bit [bɪ**t**] vs. [bɪ**tʰ**] (unreleased 不除阻 vs. released 除阻 final voiceless stop)

In some languages, [t] and [tʰ] may be different phonemes.

→ Whether two sounds are phonemes or allophones is **language-specific**.

e.g. pop [pʰɑpʰ] vs. [pʰɑp̚] (aspirated/released vs. unreleased)

(In English, **voiceless stops** that are in **word-initial** position are **aspirated**; they are usually **unreleased** when in **word-final** position.)

*Sound changes: perception and production

- It is very common for younger children whose first language is English to have difficulty making the [ɹ] sound; some will say [w] instead. After they grow up, at some point they will switch to saying [ɹ]. e.g. A child used to call Ms. Chung ['kɛwən] instead of "Karen" ['kɛɹən].
- Although these children cannot make the [ɹ] sound, they can often distinguish whether adults (or older children) pronounce this sound correctly. If we pronounce the /r/ the same way they do, we may get corrected. e.g. If we say *write* [waɪt] *a letter*, such a child might correct us by saying "No, I

want you to write [waɪt] a letter."

- For some adults, it is also common that they can hear the difference between [ɑ] and [ɔ] although they may not distinguish them in their own speech.

*Homework: Read course webpage 15 (see below for the link)

(3) Analogy:

i. A person with different aspects to their personality

phoneme	**allophones**
you	the different ways you talk/behave when you are with different people, e.g. your teacher, your friends, your little sister/brother, a department store cashier, etc.
/t/	word-initial position – [tʰ]; between vowels - [ɾ]; word-final position – [t̚], etc.

ii. A family with different members: A phoneme is more like a family; it is not a single sound but a group of sounds. It is like a family name that family members – the allophones – share.

(4) The concept of a "phoneme" is basically a phonological (the structure of sound systems) notion. We need the concepts of phonology to do phonetics, and we also need phonetics to do phonology, though they are separate sub-fields of linguistics.

- Allophones:

(1) Spelling is not a reliable clue for us to judge whether two sounds belong to different phonemes or not.

e.g. **c**ar vs. **k**ey: Though spelled differently, the two initial consonants belong to the same phoneme /k/. In addition, the /k/ in *car* is lower and more back because of the following low back vowel [ɑ]; the /k/ in *key* is higher and more front because of the following high front vowel [i]. You can hear this difference by whispering just the /k/ in these two words (difference in the second formant).

Please see Unit 10 for the discussion of **formants**.

(2) Other examples of allophones:

e.g. **t**rue vs. **t**ea: the /t/ in *tea* [tiː] is more front (high front vowel [i])

e.g. te**n** vs. te**n**th: the /n/ in *ten* is alveolar; it is more interdental in *tenth* [tɛn̪θ] (interdental fricative [θ] → dentalized /n/ [n̪])

e.g. pi**t** [pɪt̚] (unreleased) vs. pi**t**y ['pʰɪɾi] (between vowels → voiced tap 閃音 [ɾ], sounds like a very short *d*)

e.g. **l**ay [leɪ] (voiced) vs. p**l**ay [pʰl̥eɪ] (aspirated stop [pʰ] → voiceless [l̥])

e.g. **l**isten ['lɪsən] (clear /l/) vs. pu**ll** [pʰʊɬ] (word-final + after vowels → [ɬ] –velarized /l/; dark /l/)

These differences are due to the effects of **coarticulation**/assimilation 同化.

*_pity_: a comparison between Standard American English (AE) and Standard British English (BE)

- In AE, the short vowel [ɪ] is followed by a schwa offglide and is thus lengthened, and the /t/ is a voiceless tap. Please see Unit 11 for the discussion of **diphthongization of short vowels in AE**.

(It is not very common for voiceless stops to become voiced, like the tap in English. And many other dialects of English do not have an allophonic tap.)

- In Standard British English, there is no schwa after [ɪ] (which makes the vowel shorter than it is in AE), and there may be some degree of affrication in the stop /t/. → ['pʰɪtʰi]
The tap is, however, becoming more and more common in the speech of young BE speakers.

(3) Allophonic variations and speakers' awareness

- Native speakers of any language are often not aware of the allophonic variations they have in their speech; e.g. many of us do not notice the allophonic rules of Mandarin.
e.g. 一萬 vs. 萬一: If said carefully, our tongue will touch the alveolar ridge for the 萬 in the two phrases, but often in connected speech, we pronounce 萬 with a nasalized vowel in 萬一 (→ [wãji]). Such allophonic variation also applies to other situations where a final n is followed by a glide, e.g. 一萬五 [iwãwu].
e.g. 計程車 [tɕìtʂə́ŋtʂə̄] (citation style) vs. [tɕìə̄tʂə̄] (connected speech): contraction
- The allophonic variations of Southern Min can be more complicated, especially due to **tone sandhi** 轉調 (the tone of a word changes when followed by different words). e.g. goa 我 in isolation is pronounced with a high falling (41) tone; in a phrase like 我是, 我 is pronounced with a high level (44) tone.
Most people do not know about the rules. In most Southern Min classes we have for children now, these rules may not be taught at all, probably because many of the children already speak Southern Min and do the tone sandhi very naturally. Mainlanders 外省人 who do not speak Southern Min can be very confused if they have not learned the rules, and may often use incorrect tone values when speaking Southern Min.
- It is universally the case that although we are often not aware of the allophonic rules in our native language, we can apply them very naturally. In addition, we may unconsciously apply these allophonic variations to other languages that we are learning, resulting in incorrect forms.
e.g. Ms. Chung once applied an allophonic rule of English –unstressed vowels are often reduced – to Georgian when she wanted to say "arian" (in Roman letters) ['ɑrɪɑn] but said ['ɑrɪən] instead, and was corrected by her teacher.
e.g. Many Taiwanese students will say [wɐ̃'jiɹ] for the phrase one year [wʌn 'jiɹ], applying the allophonic rule we have (when we say 萬一) in Mandarin but that is **not used in English**.

- Phonemes and writing systems of languages:

(1) When designing a writing system for a language, we need to identify all of the phonemes of that language to make the system well-organized and systematic. The phonemes serve as symbols that can convey meanings unambiguously.

(2) Other applications:

i. Making up a new language for science fiction:
e.g. Elvish languages in *The Lord of the Ring* (maybe partly based on Old English)
e.g. the Klingon language in *Star Trek* (Some people are learning it, and a father even tried to make his son bilingual in English and Klingon. Find these stories on the Internet!)

*Interesting facts about bilingualism

- It is not always easy to bring up children to be bilingual. Peer pressure and society as a whole will influence your children's choice of the languages they want to use.
- Some children of Taiwan immigrants in the U.S. or Canada can only speak English and Southern Min. While some children may be cooperative and go to (Mandarin) Chinese school on Saturdays, some may end up hating Chinese if they are pushed too hard, because most of the people they are connected with do not speak Mandarin. If they come to Taiwan, maybe to study, they may have no trouble communicating with local people in southern Taiwan, but they will need to learn Mandarin fast if they want to live in northern Taiwan.

ii. Regarding choice of a Romanization system, or of an orthography for an unwritten language, or for a language that has many competing writing systems that haven't yet stabilized:
e.g. Choosing a Romanization system for Mandarin: Tongyong Pinyin 通用拼音 (Taiwan) vs. Hanyu Pinyin (China) → Support for Tongyong may have been due to purely political reasons.
e.g. Many of the aboriginal languages of Taiwan (which belong to the Austronesian family of languages 南島語系) now have writing systems, but these have not yet stabilized completely.
e.g. Some languages in Southwest China, South East Asia, Nepal, and India which belong to the Tibeto-Burman 藏緬 branch of the Sino-Tibetan family 漢藏語系 have not yet been written down or studied. These languages need linguists to design good writing systems for them.

*Linguistic field work

- A lot of outstanding linguistic field work in unwritten languages has been done by American or European missionaries 傳教士. An organization, SIL (Summer Institute of Linguistics), has a great abundance of material on unusual languages, many of which were collected by missionaries. SIL's website: http://www.sil.org/

(3) When we design a written system for a language, we need symbols that record *all* and *only* the sounds that can differentiate meaning – the phonemes. e.g. We do not use a separate tap symbol in English spelling; it will not affect the meaning of the word *water* if we say ['wɑtʰɚ] instead of ['wɑɾɚ].
We only want as many symbols as we need to distinguish words that have different meanings, i.e. we want an economical system to describe the language. A broad/phonemic transcription can fulfill this goal. e.g. The writing systems of many languages of Africa are very close to a phonemic transcription because they were created relatively recently, i.e. in the past century or so.
Some languages have undergone spelling reforms and thus have a more phonemic writing system. e.g. Spanish.

*Spelling of Spanish

- If you know how to speak Spanish, you will probably make very few spelling mistakes since Spanish orthography is largely phonemic; however, in Mexican Spanish. e.g. double *l* and *y* are homophones, and are often confused.

English has existed as an independent language since about 450 A.D. At first, English was spelled pretty much the way it was spoken. However, while English pronunciation changed a lot after ca. 800 or 900 A.D., the writing system did not change as much.

→ The spelling system of English is not very phonemic; letters are used that are not pronounced at all, and some letters have more than one sound.

*Why have efforts to reform English spelling been largely unsuccessful?

- A conservative spelling system connects the users of the language better to their past.
  cf. traditional characters of Chinese 繁體字 vs. 簡體字.
- English has many dialects. If we wanted to change the writing system, we would need to choose one variety as the standard, which is very difficult – no variety can represent the entirety of English if we want to have a more phonetic writing system.
- We have an emotional attachment to the current system. e.g. **fight**
  cf. Chinese character components 偏旁 for Mandarin speakers e.g. 果 in 棵, 裸, 踝, etc.
  → Keep in mind the reasons why things happen, why they change, and why they are kept.

e. Transcription of consonants:

- To find the distinctive consonant sounds of English, we can find words that rhyme 押韻: we keep the vowel and only change the consonant.
- We can search for words that rhyme with *pie* and have only a single consonant at the beginning, i.e. we can't use *spy*, *try*, or *spry* – they have more than one consonant sound at the beginning! We can use *tie*, *die*, *bye*, etc.
  → Sets/pairs of words that only differ in one sound are called **minimal set**s/pairs 最小對比組/對. Look at Table 2.1 on p. 36, and you will see a list of minimal sets for English consonants. When you are listing words to contrast, **make sure that you are not confused by the spelling!**
- Some words that rhyme with *pie* start with two consonant letters but in fact begin with a single consonant sound. e.g. **th**igh [θaɪ], **th**y [ðaɪ], **sh**y [ʃaɪ]
  → **digraph** 二合字母
- We can also use words that rhyme with *pea* and have only a single consonant at the beginning, considering that some consonants do not occur in words that rhyme with *pie*. We can use words such as *tea*, *key*, *bee*, etc. Examples are illustrated in the third column of Table 2.1.
  (The letter *z* is pronounced differently in British/Canadian/Australian/New Zealand/South African English: [zɛd]; in American English, it is [zi], and as far as Ms. Chung knows, the U.S. is the only place where people say it this way.)
- There are still some consonant sounds that we cannot find in the set of words that rhyme with *pea*, such as the digraph -ng as in *rang* [ɹæŋ], which only occurs at the end of words. The consonant sound in the middle of the word *vision* ['vɪʒən] usually does not occur in word-initial position – except in French loans (such as *genre* ['ʒɑnɹə]). The two words *vision* and *mission* ['mɪʃən] can form a minimal pair, among the very few pairs of words that we distinguish through a contrast between [ʒ] and [ʃ] in English.

- Sometimes the symbols we use in transcription are not the same as the letters we use in spelling.
  e.g. **c**ake [**k**eɪ**k**], **c**ity ['**s**ɪri], su**cc**ess [sə**k**'**s**ɛs]
  ([c] is an IPA symbol that stands for a voiceless palatal stop, but we do not use it when transcribing English sounds!)
  e.g. **g**uy [**g**aɪ] vs. a**g**e [eɪd**ʒ**]
  → **Each IPA symbol represents only one single sound.**

*Pronunciation of *-cc-*and *-gg-*

- Taiwanese people often pronounce success as [sə'sɛs], dropping the [k] sound.
- e.g. accent ['æksənt], accept [æk'sɛpt], suggest [səg'dʒɛst], etc. (However, in British English, we do say *suggest* [sə'dʒɛst]!) Please see CET 81: http://homepage.ntu.edu.tw/%7Ekarchung/pubs/CET81.pdf

- We need to add a few symbols that the English alphabet does not provide us with. We will be using phonetic symbols from the set established by the IPA, the International Phonetic Association.

*Founding of the IPA

- The International Phonetic Association was founded in 1886.
- The earliest symbols were designed by leading phoneticians from France, Germany, Britain, and Denmark.
  (Do not mix up Germany and German! Germany is the country, and German is the language people in that country speak! So do not say "I am going to German" or "I am learning Germany"!)

- Additional IPA phonetic symbols:
  - [ŋ] – angma, a velar nasal. e.g. ra**ng**
    - ✓ Writing the symbol: Do **not** put a bar under the vertical line on the left like [ŋ]!
  - [θ] – theta, a voiceless interdental fricative. e.g. **th**in, **th**ree (AE), **th**igh, **th**imble, e**th**er, brea**th**, mou**th**
    - ✓ Writing the symbol: Make the symbol **long and thin**! If it is short, it becomes a mid-high central vowel [ɵ].
  - [ð] – eth, a voiced interdental fricative. e.g. **th**y, **th**en, **th**em, brea**th**e
    - ✓ Writing the symbol: The symbol goes **above** the line of writing – it is an **ascender**. (So is [θ]!)
      θ ð ŋ  ([ŋ] is a descender)
  - [ʃ] – esh or long *s*, a voiceless post-alveolar (or palato-alveolar) fricative. e.g. **sh**y, **sh**eep, ra**sh**
    - ✓ Writing the symbol: Make the symbol go both above and below the line of writing – it is a combination of ascender and descender.
  - [ʒ] – yogh or long *z*, a voiced post-alveolar fricative. e.g. vi**s**ion, mea**s**ure, lei**s**ure; at the beginning of foreign loans (especially French loans) as in **J**ean, **g**endarme, **Z**sa **Z**sa
    - ✓ Writing the symbol: Remember that it is a descender!
  - [ɹ] – upside down *r*, a voiced post-alveolar approximant. e.g. **r**ye
    - ✓ Writing the symbol: In the textbook, it is written as the regular [r] for convenience and also because two major dictionaries of American and British English pronunciation use it. We will continue

using the upside down *r* for this class as we did when using earlier editions of the textbook.

3. Homework

a. Do the third tutorial – Tutorial on VOT and aspiration on webpage 7
http://homepage.ntu.edu.tw/~karchung/intro%20page%2017.htm #

b. Read about writing Chinese in IPA on webpage 10 (Writing Chinese in IPA and the International Phonetic Association
http://homepage.ntu.edu.tw/~karchung/intro%20page%2010.htm #
Carefully read the paper by Professor Li Wen-Chao (李文肇), print out p.3 and p.4 and bring them to class. You will be asked to transcribe Chinese sounds using IPA.

c. Read the two essays by Professor Li Wen-Chao on webpage 13 (Romanization III)
http://homepage.ntu.edu.tw/~karchung/intro%20page%2013.htm #
Find out the differences/ the purposes of using Romanization and using IPA to transcribe Chinese.

d. Read about phonemes and allophones on webpage 15
http://homepage.ntu.edu.tw/~karchung/intro%20page%2015.htm #

@Pronunciation corrections: framed syllables are stressed; * = tonic stress #

voiced	[vɔːɪst]	→	[vɔɪst] (vowel: [ɔ] is very short)
stop	[stɒp] (BE)	→	[stɑp] (system)
come	[kɐ̃_]	→	[kʌm] (the [m] was missing → close your mouth for [m]!)
In this chapter,	In this *chapter,	→	In *this chapter, (*this* is emphasized as opposed to the previous chapter and therefore is stressed)
we will be	we will be	→	we will be (function word → unstressed)
concerned	[kɔn'sɜɻnd]	→	[kən'sɜɻnd] (vowel) cf. confirm
consider	[kən'sidəɻ]	→	[kən'sɪdəɻ] (vowel)
five	[faɪv]	→	[faɪːv] (vowel: make it longer)
we will	we will	→	we will (function word → unstressed)
For example,	flat	→	continuation rise before punctuation
the	[li]	→	[ði] (stick out your tongue tip for *th*)
others	['ɑðəɻs]	→	['ʌðəɻz] (vowel – put your tongue more to the center of your mouth and make it short; plural s after voiced sounds → [z])
the_other	[ði_'ʌðəɻ]	→	[ði 'ʲʌðəɻ] (linking and the transitional glide) cf. Younger speakers now often say [ðə 'ʔʌðəɻ]
usually	['judʒʊəli]	→	['juʒʊəli] (consonant)

what_we/ not_realize	rushing through the words, failure to stop at stops	→	stop at stops (what [ʔ]) – remember to stop every time you see /p, t, k, b, d, g/ at the end of a word
what we don't,	flat/ what we don't,	→	**tonic stress** and continuation rise (what we *don't,)
the systems and patterns of sounds _that occur…	rushed through	→	pause after the subject is finished
that_occur	no linking	→	linking (when a final consonant is followed by a vowel)
it_involves			
distinctive sounds,	flat	→	continuation rise
is	[ɪs]	→	[ɪz] (consonant)
for example,	for example,	→	tonic stress and continuation rise (for ex*ample,)
and	[æ̃]	→	ways that we can reduce "and": [æn], [ən], and [n̩]
realize	['ɹɪəlaɪz]	→	['ɹiəlaɪz] (vowel)
these	[ðɪz]	→	[ðiz] (vowel)
two distinct sounds	two dis*tinct sounds	→	two distinct *sounds (tonic stress)
belong	[bə'lɔŋ]	→	[bi'lɔŋ], [bɪ'lɔŋ], [bə'lɔŋ] are all used by native speakers.
phonemic	[fo'nimɪk]	→	[fə'nimɪk] (vowel: schwa)
difference	['dɪfəɹəns]	→	['dɪfɹəns] (schwa elision)
white/right	[waɪːt]/[ɹaɪːt]	→	[waɪt]/[ɹaɪt] (vowel length: make the vowel shorter when it is followed by a voiced consonant)
single sound	*single sound	→	single *sound (adj. + n. → stress on the noun)
For the first of these sounds,	For the first of *these sounds,	→	For the *first of these sounds, (tonic stress on the word with **contrastive** meaning; no stress on the function words and repeated information
these	[ðɪz]	→	[ðiz] (vowel)
lips	[lips]	→	[lɪps] (vowel)
consonant	['kɒnsənənt] (BE)	→	['kɑnsənənt] (system)
not_necessary	['nɑtʰ 'nɛsəsɛɹi]	→	['nɑtʔ 'nɛsəsɛɹi] (We don't need to release the final /t/, but we have to stop. Be careful of the timing of pause.)
could	[kʊ_]	→	[kʊd] (the [d] was missing)
the last word you said_before…	rushed through	→	pause before conjunctions
Both consonants in this word/ between them	Both consonants in this *word/ between them	→	Both *consonants in this word/ between them (intonation; function words and repeated information are unstressed)
different/difference	['difɹənt]/['difɹəns]	→	['dɪfɹənt]/['dɪfɹəns] (vowel)
change/same	[tʃɛndʒ]/ [sɛm]	→	[tʃeɪndʒ]/[seɪm] (vowel
of	[əf]	→	[əv] (consonant)
begin	[bɪ'gin]	→	[bə'gɪn] (vowel)

can	[kæn]	→	[kən] (style – in connected speech, we usually reduce this vowel in *can*)
feel	[fɪɬ]	→	[fiɬ] (vowel)
in_a/of_a/ in_ English	[in_ə]/[əv_ə]/ [ɪn_'ɪŋglɪʃ]	→	[ɪnə]/[əvə]/[ɪn'ɪŋglɪʃ] (vowel; linking)
subtle	['sʌbrəl]	→	['sʌrəl] (the b is not pronounced in this word)

*The pronunciation of *other* in Taiwan English:

- The first vowel in the word is **wedge** (or "upside down v") [ʌ], which is pronounced more like a low back vowel [ɑ] in British English; in American English, on the other hand, it is closer to a mid-central vowel.
- The reason why many people in Taiwan pronounce English [ʌ] as [ɑ] (e.g. cup [kʌp]) may be due to the previous use of the British English-based DJ system in Taiwan English teaching.
- However, the wedge in British English is not as long as the [ɑ], and therefore pronouncing *other* as ['ɑðɚ] is still is not correct.
- In addition, some English reference books 參考書 published in Taiwan say that the wedge is close to the Mandarin sound ㄚ[a], which is not correct; it is closer to ㄜ[ə].
- It takes effort to fix problems like this since some inaccurate information from previous textbooks or teachers has taken root in our brains. If we want to sound more natural and consistent, we should stop operating on automatic pilot and start making an effort to be extra careful of our pronunciation.

*Reduction of *and*

- The conjunction *and* is a function word and can be reduced. We can say [ænd], [æn], [ən], or [n̩], but not [æ̃]. [æ̃] is not an acceptable reduction of the word for native speakers of standard English.
  Practice saying the following phrase: *salt **and** pepper*.
- When we start reducing this word, the first thing we can omit is the final /d/. If we say [ənd] – adding the final /d/ back – it will sound a bit strange. Therefore, it's better to pick one of these realizations.
- If non-native speakers of Chinese randomly reduce Chinese words, they will also cause a similar reaction in native speakers of Chinese.
- No matter which language we are learning, we have to be careful in using phonetic reductions of words.

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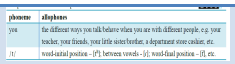
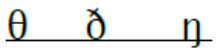
3			National Taiwan University/Karen Steffen Chung 史嘉琳 This work is licensed by Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Taiwan
7			National Taiwan University/Karen Steffen Chung 史嘉琳 This work is licensed by Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Taiwan
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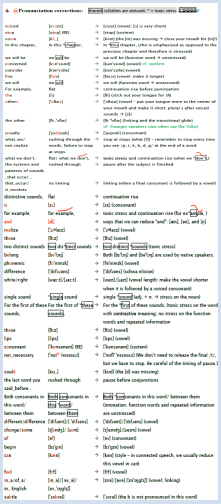
8-9			National Taiwan University/Karen Steffen Chung 史嘉琳 This work is licensed by Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Taiwan