1. A thought experiment

What does it take to pronounce the following sequence (adapted from Keating & Shattuck-Hufnagel 2002)

Japanese antique nineteen twenty-five motorcars

Things to keep in mind

- metrical grid of each word in isolation
- application of English Rhythm Rule
  - constraint: NoCLASH
  - possible repair: move grid-mark left
    cf. Vogel, Bunnell & Hoskins 1995: phonetically, the Rhythm Rule is more de-accenting than accent shift (but no comparison to underlying σσ̀)
- could some chunks of this be pre-memorized?
- how might the process differ depending on time pressure or amount of preparation?

Closest relevant study: Hammond 1999 (judgments from English-speaking linguists)

- more shift for prefixed word1 (málfòrmèd thing)
- if word1 not prefixed, more shift when word1 is higher frequency (antique book vs. urbànè world)
  - opposite trend in prefixed word1s!

---

1 picture: a 1925 Otomo, from www.inmygarage.com. According to Japanese wikipedia, the brand name was inspired by the word Automobile (thanks to Roslyn Burns for pointing this out) and the inventor’s ancestral surname Omotoro.
2. Similar case but longer-distance: Dutch adverbial stress retraction

Gussenhoven & Jacobs 1998

- *altijd* ‘always’ becomes *ál altijd* because if there is a following major stress within same Intonational Phrase:

(Naar de *wá* tértanden luistert ze *altijd*)_{IntP} \textit{no shift: altijd after other stress}

to the water-level-reports listens she always
‘To the water level reports, she’ll always listen.’

(Áltijd luistert ze naar de *wá* tértanden)_{IntP} \textit{shift}
always listens she to the water-level-reports
‘Always she’ll listen to the water level reports.’

(Ze luistert *ál altijd* naar de *wá* tértanden)_{IntP} \textit{shift}
she listens always to the water-level-reports
‘She’ll always listen to the water level reports.’

(Waar ze *altijd* naar luistert)_{IntP} (zijn de *wá* tértanden)_{IntP} \textit{no shift: IntP boundary}
where she always to listen are the water-level-reports
‘What she’ll always listen to are the water level reports.’

---

2 picture: a Dutch water level meter, by Niels Bosboom, from Wikimedia Commons, https://commons.wikimedia.org/wiki/File:Normaal_Amsterdams_Peil_-_Woerden.jpg
3. Same thought experiment, different phenomenon

- Raddoppiamento Sintattico in Standard Italian and non-Northern similar varieties

Data from Absalom, Stevens & Hajek (2002)

- Doubling of word-initial consonant, if preceded by...
  - stressed vowel
    
    \[
    \begin{align*}
    /dúe káni/ & \rightarrow [dú:e ká:ni] \quad \text{‘two dogs’} \\
    /tré káni/ & \rightarrow [tré kká:ni] \quad \text{‘three dogs’}
    \end{align*}
    \]

- plus certain function words
  
  \[
  \begin{align*}
  /a \text{miláno}/ & \rightarrow [a \text{mmilá:no}] \quad \text{‘to Milan’} \\
  /kóme \text{vá}/ & \rightarrow [kó:me vvá] \quad \text{‘how’s it going’}
  \end{align*}
  \]

- What would it take to decide how to pronounce these?

\[
\begin{align*}
/tʃittá bélla/ & /vítá bélla/ \\
\text{‘beautiful city’} & \text{‘beautiful life’}
\end{align*}
\]

Things to keep in mind

- How is this different from the Rhythm Rule example?
- What kind of **planning window** is necessary/relevant?
4. One last thought experiment

- 3rd tone sandhi in Standard Chinese—a case we’ll come back to later in the quarter!!
  - When two “third tones” (low dipping) in a row, first one becomes “second tone” (rising)
    
    \[
    \text{/xiao3 ma3/} \rightarrow \text{[xiao2 ma3] ‘little horse’}
    \]

  - What would it take to decide how to pronounce these? Differences between the two cases?
    
    \[
    \text{/lao3 li3 mai3 hao3 jiu3/ ‘Old Li buys good wine’\(^3\)}
    \]
    old Li buy good wine
    
    \[
    \text{/xiao3 ma3 hen3 you3-hao3/ ‘The small horse is very friendly’}
    \]
    small horse very friend-good
    
    (Lin 2015)

- Depending on whose theory you believe (Lin 2015), the options could include:
  
  \[
  \begin{align*}
  &\text{[2 3]}[3 [2 3]] \\
  &\text{[2 2]}[3 [2 3]] \\
  &\text{[2 3]}[2 [2 3]] \\
  &\text{[2 2]}[2 [2 3]]
  \end{align*}
  \]

Things to keep in mind

- How might the outcome change depending on the planning window?
- If you wanted to avoid overapplication (counterbleeding), how would your planning needs change?
- Lin observed many patterns that were not predicted by any theory and speculates that local speech planning could be responsible

\(\Rightarrow\) Variation in all these rules could be sensitive to what information is available at the point where the rule has to decide whether it’s applying

\(^3\) The classic sentence—Cheng 1973 is earliest source I found.
5. Wagner’s Production Planning Hypothesis

Wagner 2011, bulleting added (p. 161):

“The hypothesis that across-word-boundary phonological processes (sandhi phenomena) are constrained by the locality of production planning

- can explain why they tend to be variable
  - speakers don’t consistently encode the next phonological word
  - so the conditioning environments may not be present
- and makes new predictions for what types of processes should obey what type of locality pattern
  - regressive processes should tend to be more variable than progressive ones
  - processes should be more local when sensitive to low-level segmental information than higher level information since it is encoded later”

6. Things that are thought to affect the planning window

I cheated from overviews in Kilbourn-Ceron 2017a ch. 1—we will read more about most of these claims later, so see there or then for references

- Detail increases during planning
  - a word’s syllable pattern is retrieved before its segments
  - /wSw/ before /bənæŋə/
- Windows with sharp edges are an idealization
  - we can start planning antique before we’re finished planning Japanese
  - words further out are planned with less detail
  
Japanese antique motorcars

- Phonological content might be retrieved only about one word ahead
  - Sternberg et al. 1978: when given a list of words to prepare and say, speakers take longer to start talking when the list has more words
  - they’re also slower when the first word in the list has more syllables
  - but length of second word doesn’t matter

<table>
<thead>
<tr>
<th>banana</th>
<th>peach</th>
<th>takes longer than</th>
<th>peach</th>
<th>banana</th>
<th>pears</th>
<th>pineapple</th>
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• Planning window gets longer when the first word in it is short
  • Japanese nineteen-twenty-seven motorcars
  • Japanese antique motorcars
  • Finding (Griffin 2003) comes from just naming pairs of objects though, so more like octopus knife owl knife
• The more frequent (or predictable, including syntactically) an upcoming word is, the sooner it’s available
• Strain on working memory, and other “cognitive load”, can slow down planning, reduce size of window
  • We can experience this consciously in daily life: if someone asks me a question while I’m playing guitar, I can only answer about one word at a time
  o If time, let’s discuss predictions of these findings for the phenomena above

7. Outline with sample works
  1. The Production Planning Hypothesis
     see below
  2. Speech planning basics: models and findings
  4. Planning and directionality
     Tsay & Myers 1996, Politzer-Ahles & Zhang in press, Chen & Chen in press
  5. (Self-)counterbleeding (and self-counterfeeding) as planning failure
  6. Look-ahead (and its limits?)
     Advance planning of fo (thanks to Susie Curtiss for this idea)
  7. Phonetic and phonological paradigm uniformity
     Bermúdez-Otero 2010, Seyfarth et al. 2017
  8. Speech planning and word structure
     Himmelmann 2014
  9. Proposals about the relationship between grammar and planning
     (Zuraw 2009), (Bermúdez-Otero 2012), (MacKenzie 2012), (Smolensky & Goldrick 2016), (Tamminga, MacKenzie & Embick 2017)
- This will adapt as we go and you can suggest readings. In some cases I have more readings in mind than we can realistically cover and we can decide together which ones look best.

8. **Big-picture questions we probably won’t answer**

- These questions loom behind everything, but I don’t think we’ll answer them
  - Is there a separate phonological grammar (that feeds into the processing system)?
  - Or is the grammar just a different level of description of the processing system?
  - If the grammar is a separate module, what kinds of information does it exchange with speech planning?

- We will check out proposals that incorporate aspects of speech planning into the grammar
  - and see what we think of these instances of breaking down the barrier
  - We’ll also check out proposals on how to keep things separate

- I think that knowing more about speech-planning effects on observable phonological phenomena is a necessary prerequisite to thinking about the above questions

9. **Question that will be largely outside the scope of this course**

- What is the best model of speech planning?
  - Size of look-ahead window
  - Amount of “look-upwards” to, e.g., higher prosodic structure (Keating & Shattuck-Hufnagel 2002)
  - What is stored in lexicon (number of syllables?) and what is computed online (which segments belong to which syllable?)

- ...except insofar as different models have different implications for planning effects in phonology

10. **Course requirements**

- **2 units:** Attend class, do readings, take your turns presenting readings

- **4 units:** That plus some kind of culminating research product
  - It could be a theoretical paper, an experimental design, a corpus study...
  - Meet with me some time in October to discuss what you want to do, then again in November

11. **Plan for next upcoming sessions**

- When it works, 2-person presentation scheme
  - as in Phonology 3
  - one person presents paper
  - the other presents a contrary view, applies the paper’s proposal to some other set of data, etc.

- Not much of this for first topic, because we don’t have a strong opposing viewpoint yet.
<table>
<thead>
<tr>
<th>topic</th>
<th>reading</th>
<th>who presents</th>
</tr>
</thead>
<tbody>
<tr>
<td>English –ing/in’, plus laying out the research program</td>
<td>Wagner 2012 [we read this in Ling 219 2 years ago]</td>
<td>Present:</td>
</tr>
<tr>
<td>English tapping</td>
<td>Kilbourn-Ceron, Wagner &amp; Clayards 2016</td>
<td>Present:</td>
</tr>
<tr>
<td>Japanese high vowel devoicing</td>
<td>Kilbourn-Ceron &amp; Sonderegger 2018</td>
<td>Present:</td>
</tr>
<tr>
<td>French liaison—significant because doesn’t involve lenition</td>
<td>Kilbourn-Ceron 2017b</td>
<td>Present:</td>
</tr>
<tr>
<td>English t/d deletion</td>
<td>Tanner, Sonderegger &amp; Wagner 2015</td>
<td>Present:</td>
</tr>
<tr>
<td>PPH view</td>
<td>Tamminga 2015</td>
<td>Present, and summarize similarity &amp; differences vs. Tanner &amp; al. findings:</td>
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<tr>
<td>includes speech rate</td>
<td>Gahl &amp; Garnsey 2004</td>
<td>Present:</td>
</tr>
<tr>
<td>syntactic predictability and planning</td>
<td>Gahl &amp; Garnsey 2004</td>
<td>Present:</td>
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<td>English is/’s contraction</td>
<td>MacKenzie 2012, ch. 5</td>
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<td>planning view</td>
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<td>syntactic vs. phonological planning</td>
<td>MacKenzie 2016</td>
<td>Present:</td>
</tr>
<tr>
<td>Spanish vowel hiatus</td>
<td>Lamontagne &amp; Torreira 2017</td>
<td>Present:</td>
</tr>
</tbody>
</table>

I’ll post links for all the upcoming readings on a course web page and send you the link (probably tomorrow). In some cases, I’ll e-mail you all the item.
References


Lin, Isabelle. 2015. Over and over and over again: Tone 3 sandhi in Standard Mandarin. Presentation. UCLA, ms.


Tamminga, Meredith. 2015. Modulation of the following segment effect on coronal stop deletion [slides]. Toronto.


