Read vs spontaneous speech: Analysis of Obama’s G-20 summit speech in London

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Research on pausing in read and spontaneous speech has been the concern of researchers in the past few decades. While elicited data reveals that in read speech pauses preceding heads of phrases are produced considerably longer by native speakers of English than pauses following heads in read speech, the situation tends to differ in spontaneous speech. Based on this premise, this study reports on President Obama’s audio recording of the speech he made in the G-20 Summit in London in 2009, thus aiming to describe different silent pausing strategies, as they were employed by the President during his address to an international community. The recordings of both the first part of the speech he made during the opening of his address, assumed as a recitation of previously written text and during question-answer session, when he spontaneously responded to questions of international journalists were measured in milliseconds. Measurement was conducted utilizing Goldwave, the sound analyzing software. Each part was analyzed separately in terms of pauses preceding and following the to particle in to-infinitive phrases, and later, a comparison between the two types, read and spontaneous, was made in order to observe any potential differences/similarities between the two types of speeches. Obtained results display significant differences between pausing preceding and following to in read speech, in that the to particle was kept intact with the infinitive phrase while in spontaneous speech, preceding and following pauses did not display any statistically significant differences in terms of duration.

Key words: Pausing, prosody, speech, teaching speaking/reading, principles and parameters theory.

INTRODUCTION

In the history of thought much debate has focused on the overriding principle in the cognition and behaviours of man. While some thinkers including Socrates and Plato argued that some innate faculties were effective in man’s cognitive and psychological growth, some including Locke and Hume advocated the primacy of experience in man’s cognition and psychology. Drawing mainly upon Plato and Socrates, Chomsky tried to account for the development of language capacity in man referring to reason. He elaborated his ideas in what he termed as Universal Grammar Theory (UG) and a subset of this theory –Principles and Parameters Theory (PPT), which aims to explore universal principles in every language and varying parameters across languages.

According to PPT, parameters are certain linguistic features which vary from one language to another. Those parameters are effective not only on how phrases in a sentence are made up but also on how they are uttered. Particularly, the rhythm of the speech is partly determined...
by the formation of phrases. English, as a head-first language, has verbs and prepositions before comple-
mements (Cook and Newson, 1996) and thus the to particle acts as the head of the to-infinitive phrases
(Tuckenbrodt, 2005).

In this paper, we aim to investigate the rhythm of
President Obama’s speech. In particular, we are
interested in the difference between the rhythm of the
read and spontaneous speech. With rhythm, we do not
mean the average speed of the president’s reading and
speaking in general; more specifically, this paper
addresses the issue of pausing times preceding and
following “to” particles in to-infinitive phrases in the read
and spontaneous speech of the President. In another
study focusing on the pausing time difference preceding
and following “to” particle in to-infinitives in the read
and spontaneous speeches of native speakers of English,
Bada and Genc (2008) found that pausing preceding “to”
was significantly longer than in the following position in
read speech and in spontaneous speech it was just the
opposite.

Thus, our motivation for this study is twofold: on the
one hand we are interested in to what extent reading and
speaking patterns of the President exhibit similarities and
differences with those of the participants in Bada and
Genc’s study, which would also provide novel justification
for or contradict the arguments in Bada and Genc’s
study.

Secondly, from a PPT perspective, we see the
strengths or weaknesses of Obama’s speech, in
particular, we see to what extent the integrity of infinitive
phrases were observed in the speech of a president,
considered as an effective speaker by most people.

**RELATED RESEARCH**

Studies on pausing dates back to the late 1960s; since
Goldman-Eisler’s (1968) study, scholars’ attention has
been drawn to the issue of pausing and referring to
Goldman-Eisler more than 250 ms figure has often been
considered as a standard criterion because less pausing
times than 250 ms has been regarded as a necessary
factor in articulation.

In the studies on speaking, researchers seek to find out
the correlation between boundaries and pausing. For
instance, Hansson (2005), studying native Swedish
speakers’ oral discourse, showed that about 73% of the
pauses in spontaneous speech occur in one of the
following three positions: a) between sentences, b) after
discourse markers and conjunctions and c) before
accented content words. In another study Esposito et al.
(2004) revealed that like the adults’ oral discourse, the
children’s oral discourse pausing, marks the boundaries
of narrative units. In yet another study on pausing in
speech Van Donzel and Koopsman-Van (2005) found
that both in spontaneous speech and in prepared
speech, pausing is employed to structure the
continuation of the discourse.

Oral discourse has not been the sole investigation in
pausing studies: researchers have also dealt with
pausing in reading or which is sometimes termed as read
speech. In two separate studies for instance Megyesi and
Gustafson-Čapková (2005; 2005) found that while silent
pauses in professional reading occurred mainly at
sentence boundaries, in non-professional reading most of
the silent pauses occurred at phrase boundaries. In
another study on pausing phenomenon in read speech,
Fant et al. (2003) compared pausing times between
novel reading and radio bulletins. They found that while
the average pausing time between sentences in radio
bulletin was 0.530 s; in novel reading, it was found to be
1.100 s. From a quite different standpoint, Krivokapic
(2007) investigates the possible factors playing a role in
determining the duration of pauses between utterances
or phrases. With reference to the results, she argued that
while preboundary effects are due either to linguistic
structure or to information load, linguistic structure and
cognitive factors are effective on the post-boundary
pause length.

Bringing a new aspect to pausing studies, Bada (2006)
investigated the pausing difference preceding and following
“that” in the use of that clauses by English native speakers
and Turkish speakers majoring in English. He found that
although pausing preceding that was much longer than in
the following position in the production of native speaker
group, it was observed to be just the opposite with the
Turkish group. Again, comparing native speakers and non-
native speakers’ pause patterning,
Riazantseva (2001) in her study divided Russian
speakers of English into two proficiency groups as high
and intermediate and compared their pause patterns with
those of 20 native speakers of English. She found that
the advanced students’ pause patterns were in line with
those of the native speakers.

Trask (1999) argues that prosodic phenomena are
notoriously difficult to study; researchers however, have
made progress in examining at least some of these
phenomena. Our endeavour with this study is yet another
progressive step in examining the pausing aspect of
prosody. This study is concerned with the pausing stra-
geties of a native English speaker, the President of the
US. We specifically focused on pausing times preceding
and following “to” in to-infinitive phrases in Mr. Obama’s
press conference speech in London following the G-20
summit. Since the study only focuses on intrasentential
pausing regarding to-infinitives, intersentential pauses
were not taken into consideration.

To the best of our knowledge no president’s prosody
has been the subject of either a single study or a part of
larger studies. Therefore, in this study there is no equivalent point of reference to compare and contrast the speech analyzed.

To-Infinitives

With its chief role as a complementizer preceding infinitive forms of verbs, the infinitive marker to, which unlike most other words, does not fit into any category, also precedes two complex infinitive markers in order to, so as to, which introduces adverbial clauses expressing purpose. Finally, the infinitive marker to occurs as part of other multi-word lexical units including ought to, used to, have to (Biber et al., 2007). Below are three sentences exemplifying the three uses of to mentioned earlier:

She did not hesitate to tell the boss that some employees were stealing office supplies.
The doctor operated in order to save his patient’s life.
The teacher ought to give them a test this week.

Research questions

In our analysis, we aim to investigate the following questions:

Does length of a pause preceding to in to-infinitive phrases differ from a pause following to in President Obama’s read and spontaneous speech, delivered at G-20 summit in London? And, if so, is the difference statistically significant?

What may be the potential reasons for any difference, if there is any, between pausing time preceding and following to in to-infinitive phrase?

MATERIALS AND METHODS

President Obama met the members of the press at the news conference at ExCel Center in London at the conclusion of the G20 summit on April 2, 2009. His speech at that conference consisted of two parts: in the first part, he spoke about his plans to deepen international connections, which we assume was pre-prepared and thus considered as read speech text (RST) and the second during which he answered the questions of journalists of different nationalities—question/answer session—considered as spontaneous speech text (SST). The conference started at 6:44 PM and ended at 7:36 PM at local time. His read speech text consists of 1368 words and spontaneous speech, of some 4300 words. The transcription of the President’s speech, questions directed by the journalist and Mr Obama’s answers were published by the website www.whitehouse.gov and the video of the press conference can be accessed at the web site http://www.americanrhetoric.com/speeches/barackobama/barackob amag20summitpressconference.htm.

Data analysis

The US President’s news conference speech following the G20 summit held in April, 2009 in London was analyzed in a twofold procedure. Upon determining the use of to in read speech and spontaneous speech sections, we conducted a t-test between preceding and following times of to in to-infinitives, in read and spontaneous speeches. Measurement was conducted utilizing Goldwave, the sound analyzing software. The instrument utilized in the study is GoldWave Version 4.26, “a comprehensive digital audio editor, rated as one of the best on the ZDNet Software Library, receiving 5 stars!” features, of GoldWave can be cited as below:

1. Plays, edits, mixes, and analyzes audio;
2. Applies special effects, such as fade, equalizer, doppler, mechanize, echo, reverse, and more;
3. Digitally remasters and restores old recordings with noise reduction and pop/click filters;
4. Records audio from cassettes, records, radio, etc. through computer’s line-in;
5. Makes digital copies of audio CD tracks using the CD audio extraction tool;
6. Views a variety of real-time graphs and VU meters;
7. Converts files to/from different formats, such as wav, mp3, ogg, aiff, au, vox and even raw binary data

RESULTS AND DISCUSSION

In the first part or step of our analyses, we initially conducted an analysis on the preceding and following pausing times that is, we analysed and conducted a t-test on the preceding and following times of “to” in President Obama’s read speech text. In Table 1, we can observe the frequency of to-infinitives, mean pausing times and significance of the difference between preceding and following pausing times in read speech text.

As seen in Table 1, the total frequency of “to” as infinitive marker in read speech was only 39. The mean pausing time preceding prepositions was 0.0855 s and

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\[ N \times x^2 \quad SD \quad Df \quad t \quad p \]

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\[ 1 \text{ For more information the reader is referred to www.goldwave.com} \]
the following time 0.0175 s. The t-test result for both measurements, \( p = 0.016 \), suggests a significant difference. Below are a few verbatim examples of infinitive phrases from the President’s read speech text:

Faced with similar global challenges in the past, the world was slow to act, and people paid an enormous price.

The United States is also partnering with the private sector to clean out the troubled assets,…

And we also agreed on bold action to support developing countries, so that we aren’t faced with declining markets that the global economy depends on.

In the sentences above and other sentences with to-infinitive phrases, Mr. Obama gave significantly more pausing time in the preceding positions and subconsciously hinted at the integrity of infinitive phrases. The President’s pause patterns are in line with those of the native speaker participants in Bada and Genc’s (2008) study in that both the President and the other native speakers gave more pausing time in preceding to in their read speech. In the second part of our analyses, we conducted an analysis on the preceding and following pausing times. Again we analysed and conducted a t-test on the preceding and following times of to in President Obama’s spontaneous speech text. In Table 2, we can observe the frequency of to-infinitives, mean pausing times and significance of the difference between preceding and following pausing times in spontaneous speech text.

As seen in Table 2, the total frequency of “to” as infinitive marker in speaking was 100. The mean pausing time preceding prepositions was 0.1230 s and the following time 0.1287 s. The t-test result for both measurements, \( p = 0.902 \), does not suggest a significant difference. Below are a few verbatim examples of infinitive phrases from the President’s spontaneous speech text:

We wanted to make sure that we had a strong, coordinated response to growth.

And how each individual nation acts to deal with that is still going to be vitally important.

And a crisis like this reminds us that we just have to put in some common-sense rules of the road.

Mr. Obama’s pausing pattern following and preceding “to” in spontaneous speech in the above examples and other sentences including to-infinitive phrases differed from the pausing pattern in read speech. From the two analyses, the results of which are displayed in tabular forms, we can observe that while pausing following and preceding to, in to-infinitive phrases in spontaneous speech did not yield a significant result, the difference pausing preceding and following to in read speech was significant.

The role the “to” particle plays as head as argued by the PPT, asserts itself in prosodic features of the President. We were able to observe that pausing strategies implemented by the President were partly in line with this principle. While the President produced pauses in read speech displaying the head function of to in to-infinitive phrases, in spontaneous speech however, there was no significant difference between pausing preceding and following to. Thus there was no indication of the head role of to in the spontaneous speech of the President.

Thus our findings in this study are partly in line with the findings of Bada and Genc (2008) in that, as with the native speakers participating in their study who gave more pausing time preceding “to” in read speech, so did Mr. Obama in read speech. Unlike the patterns in spontaneous speech of the participants in Bada and Genc’s study, however, Mr. Obama’s preceding and following pausing times did not reveal a significant difference. The findings of Bada and Genc’s (2008) study revealing more pausing time following to in to-infinitives in spontaneous speech and again more pausing time preceding to in read speech provide partial support for PPT since strategies of the participants in their study of English in reading and speaking were found to be in agreement with PPT. Thus pausing times in Mr. Obama’s spontaneous speech and those of the native speakers in Bada and Genc’s study contradict, which would mean that while on the one hand we see some native speakers being aware of phrase integrity in their native tongue, on the other, we see one native speaker who does not emphasize this integrity due to his rapid cognitive processes.

The context of the speeches also accounts for the pausing patterns differences between Mr. Obama and the native speakers of English participating in Bada and Genc’s study. While the participants of Bada and Genc’s study first watched a movie and then elaborated on various aspects such as themes, characters, plot and messages in the film, Mr. Obama was conversing with

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<th>Pausing time</th>
<th>N</th>
<th>( \bar{x} ) s</th>
<th>SD</th>
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<th>t</th>
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<tbody>
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the journalists. Therefore, although the participants’ speech was more like of a monologue kind, the President did get involved in dialogues. Regarding effects of different tasks on pausing patterns, Schönpfug (2008) argues that specific patterns of pauses are linked to specific cognitive processing in a plausible way, is supported by measure of mean pause length. The child participants of Schönpfug’s study were asked to either retell the story verbatim or retell its gist. The results showed that mean pause lengths were longer when verbatim retrieval was asked for, as compared to gist retrieval and high correct gist recall was characterized by more and shorter pauses.

Conclusion

In this study we focussed on a speech given by the US President, Hussein Barack Obama at the news conference held at EhCel Center in London at the conclusion of the G20 summit on April 2, 2009. Our aim was to investigate whether there was any significant discrepancy between pausing time preceding and following “to” in to-infinitives in the read speech and spontaneous speech of the President’s press conference.

Findings of this study reveal that while preceding pauses in to-infinitives phrases in read speech were significantly longer than the following ones, in spontaneous speech; however, there was not a significant difference between the preceding time and following time pausing figures. Thus, one interesting outcome of this is that while the President’s pausing patterns in read speech comply with the PPT, the pausing patterns in spontaneous speech contradict with those of read speech with the PPT. We argue that the difference in pausing patterns between spontaneous speech and read speech might either be due to individual differences (some people could have faster cognitive process than others) or to the context of the speech.

In conclusion, this study reveals, albeit referring to only one person, that read speech and spontaneous speech have different dynamics. Upon an analysis of the President’s speech this difference is made clear; regardless of the fact that “to” functions as the head of infinitive phrases, pausing time preceding and following to in read and spontaneous speeches display differences.

REFERENCES


