Pausing preceding and following prepositions in prepositional phrases of Obama's inaugural speech

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Abstract

In read speech, it was observed that pauses preceding heads of phrases were produced considerably longer by native speakers of English than pauses following heads. Recorded data supporting this phenomenon does well exist in literature. As an extension to studies conducted in this field, this particular research aims at investigating to what extent the length differs when heads of prepositional phrases differ in function. As an investigation point, English prepositions uttered in President Obama's inaugural speech were selected and categorized in terms of their functions in phrases. Categorization was made from a grammar/lexical and a phonological perspectives. Pauses preceding and following prepositions were measured in milliseconds. Measurement was conducted utilizing Goldwave, the sound analyzing software. Findings of this research suggest that overall pauses in preceding position were measured to be considerably longer than in following position, and grammar/lexical categorization did not have a significant effect on pause length, while calculations made in terms of phonological analysis yielded rather intriguing results in that in places where there was linking between the last sound of the preceding word and the beginning sound of the preposition and no linking in the following position, pauses measured with no statistically significant differences, whereas in all other linking situations, differences were in line with the total pause length in both positions. The study may have significant implications for the field of L2 learning and teaching in that appropriate identification of syntactic/lexical chunks in a language enables the reader/speaker to

sound more meaningful and emphatic, and the listener to be logged on to the message intended.

Key Words: speech, rhetoric, prosody, pausing

Introduction

When we study speeches given by political leaders, we are quite naturally driven to study rhetoric which is, along with grammar and logic, defined using oral/written language as a means to persuade. In the fourth century, Martianus Capella, one of the earliest developers of the system of the seven liberal arts that structured Early Medieval education, classified seven liberal arts as: *trivium* (grammar, rhetoric, logic) and *quadrivium* (arithmetic, geometry, astronomy, and music), which later on was adopted by the Christian church to be taught in monastic and cathedral schools and remained virtually unchanged for six hundred years (Bowen, Madsen, Hilferty, 1985). During the Middle Ages, trivium courses were the first three subjects students had to study as a preparation for the quadrivium courses. Students following the completion of their trivium courses got the Bachelor of Arts degree, and after the completion of quadrivium they got the Master of Arts degree (Hughes and Duhamel, 1962).

Those studying on rhetoric argue that in order to give effective speeches one has to take the following factors into consideration:

- at word level: usage and dictionary, precise language and mass language, jargon, euphemism, worn-out metaphors, concrete and abstract words, popular and learned words, connotation and denotation, literal and figurative use of words.

- at sentence level: unity of sentence, coherence, loose sentence, periodic sentence, subordination, parallelism, rhythm of the sentence, and euphony (Hughes and Duhamel, 1962).

Regarding the "rhythm of the sentence" factor, we believe pausing is one of the essential components of the rhythm of a sentence

because pausing *per se* plays a very important role in having a speech affect the audience and create a persuasive tone in the speech. We, however, in this study have not dealt with pausing for its role in determining the rhythm of a sentence or its role regarding the persuasion of a speech. From a linguistic perspective, we have studied pauses for their functions in signaling phrases and chunks in a sentence.

Related Research

Before looking at the studies on the pause phenomena in read or spontaneous speech it is necessary to mention the two important functions of pauses as argued by Oliveira (2002: a) they give the speaker time to adequately formulate the next group of information, b) they are very significant in speech perception, because they help the audience to cognitively digest the input.

In pausing studies Goldman-Eisler's (1968) more than 250msec figure has often been considered as a standard criterion because less pausing times than 250msec has been regarded as a necessary factor in articulation. Bada & Genç (2008), on the other hand, argued that not only pauses longer than 250msec be taken into consideration but also shorter pauses have more significance than merely providing time for breathing. Figures less than 250msec within sentences indicate the beginning and ending of phrases, whereby they illustrate a vital difference between native and non-native speakers: while native speakers quite unconsciously give more pause preceding heads of phrases than in the following position, non-native speakers can not reflect this pausing pattern to their speech (cf Bada, 2006; Bada and Genç, 2008).

When we have a look at pause studies, we see that researchers have investigated both read and spontaneous speeches. For instance in studies conducted by Gustafson-Čapková and Megyesi (2005) and Megyesi and Gustafson-Čapková (2005), the researchers 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. Similarly, in a study by Fant *et al* (2003) on pausing times between novel reading and radio bulletins, while the average pausing time between sentences in radio bulletin was 0.530s; in novel reading, it was found to be 1.100s. Furthermore, Bada (2006) investigated read speech of English native speakers and Turkish speakers majoring English, and found that while pausing preceding *that* was measured to be 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.

Focusing on the correlation between boundaries and pausing, Hansson (2005), investigated native Swedish speakers' oral discourse and found that about 73% of the pauses in spontaneous speech occur a) between sentences, b) after discourse markers and conjunctions and c) before accented content words. Krivokapic (2007), on the other hand, investigated possible factors playing a role in determining duration of pauses between utterances or phrases. With reference to the results, she argued that while pre-boundary effects were due to either linguistic structure or information load, linguistic structure and cognitive factors are effective on post-boundary pause length.

In his study on the role of filled pauses (FPs), which are thought to be indicative of the mental processes underlying speech generation and signaling hints to a speaker's word-searching problems, Swerts (1998), in indicating the structure of discourse, analyzed twelve spontaneous monologues in Dutch and found that phrases following major discourse boundaries more often contain FPs, and FPs after stronger breaks tend to occur phrase-initially, whereas the majority of the FPs after weak boundaries are in phrase-internal position. Similarly Oliveira (2002) studied 17 narratives told in the course of a spontaneous interview and tried to reveal the functions of silent pauses in signaling the narrative boundary.

Regarding the prosody of public speaking, the participants in Strangert and Deschamps's study (2006), suggested that a "good speech" has the following characteristics:

1. clear articulation
2. sufficient volume, voice level
3. non-monotonous voice
4. variation of volume, voice level
5. adequate prominence and focus
6. *well-adjusted pausing* [emphasis added]
7. well-adjusted tempo, not too fast
8. varied speech tempo
9. fluency
10. varied prosody, expressiveness

Thus, the purpose of our study is to examine President Obama's inaugural speech in relation to the sixth criterion listed above; in particular, this study focuses on pausing in prepositional phrases which could be defined as functional phrases headed by any of the class of prepositions. For this purpose, the prepositions were analyzed separately in terms of meaning (grammaticised vs. lexical prepositions) and linking before and after prepositions.

Grammaticised vs. lexical prepositions

In terms of meaning, prepositions are divided into two categories: grammaticised and lexical (Downing & Locke, 2006). Grammaticised prepositions are also labeled as "bound" because their usage is determined by the verb, noun, or adjective preceding them. Lexical prepositions, however, are chosen freely in accordance with the speaker's intention. Below, are some examples for grammaticised and lexical prepositions:

Grammaticised: I agree *with* you; I have confidence *in* you; fruit is good *for* you.

Lexical: We flew/*in/into/out of/through/above/below/close to/ near/a long way from* the clouds (Downing & Locke, 2006).

Linking

Fluent spontaneous speech flows with a rhythm and at times words seem to combine and form integral unities. Linking occurs in spontaneous speech between two words when the first word ends in a vowel and the next begins with a vowel or when the first word ends in a consonant and the next begins with a vowel. In other words the two different linking types in English are "vowel to vowel linking" and "consonant to vowel linking".

In teaching linking, course books mainly present information on how sounds are added or dropped from words when there is linking between two words. Presentation of this information, regardless of phrase 'chunking' leads learners of L2 to link every possibly 'linkable' word endangering the entirety of phrase meaning. In this study, we also tried to reveal the effects of linking on pause durations. The researchers treated the duration between the coda of the preceding word and the onset of the following word as a pause.

Research Questions

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

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1. Does length of pauses in preceding position of prepositions in prepositional phrases differ from that of the following position? If so, what may be the dynamics affecting the emergence of such a difference?

2. Does grammar or lexical dependence of prepositions have a part to play in length of pauses in preceding and following positions of prepositions in prepositional phrases? If so, what underlying reasons may be functioning in such a finding?

3. Does word linking, when final consonant/vowel links to a word -initial vowel, have a part to play in pause length in both preceding and following positions of prepositions in prepositional phrases? If so, can such a phenomenon be observed wherever word linking exists between prepositions and their preceding and following words?

4. Method

4.1 Materials

On the steps of the nation's Capitol, just a short distance from where Martin Luther King, Jr. delivered his "I Have a Dream" speech, using the same bible Abraham Lincoln did for his inauguration, Barack Obama was officially sworn in as the 44th US president on 20 January 2009. After he sworn in, he delivered his inauguration speech which consisted of some 2400 words and lasted about 20 minutes.

4.2 Data Analysis

The inaugural speech of the US President was analyzed in a three step procedure. First, we determined the use of intersentential prepositional phrases and measured preceding and following pausing times for all preposition occurrences. At the second step we conducted a grammaticised vs. lexical categorization as well as phonological among the preposition types. According to the final sound of the word coming before a preposition and the initial sound of the word coming after the preposition, in this study we classified the prepositions into four categories. Thus in terms of phonological categorization the four types of prepositions analyzed here were: a) no linking in preceding and following positions, b) linking in preceding and following positions, c) no linking in preceding and linking in following positions, d) linking in preceding and no linking in following positions.

5. Results and Discussion

As a first step of our analyses, we initially conducted a general analysis on the preceding and following pausing times, i.e. we analyzed and conducted a t-test on the preceding and following times of all intersentential prepositions in President Obama's speech. In Table 1, we can observe the frequency of prepositions, mean pausing times and significance of the difference between preceding and following pausing times.

Table 1: T-Test result for PP and PF prepositions (General)

Pausing Time	N	$\bar{x}$	SD	Df	t	p
PP	181	0.111	.19	180	5.062	.000
PF	181	0.045	.06			

As shown in Table 1, the total frequency of intersentential prepositions in the speech was 181. The mean pausing time preceding prepositions was measured to be 0.111s and the following time 0.045s. The t-test result for both measurements, p=0.000, suggests a significant difference which can be interpreted as that the president, quite subconsciously, spent more pausing preceding prepositions because he was aware of the integrity of the prepositional phrases and exhibited this clearly in his speech

In order to see if there are significant differences between preceding and following pausing times of prepositions with different meanings and different phonological features we conducted further analyses.

Grammaticised/Lexical (Gramlex) Categorization

Following Downing and Locke's (2006) taxonomy of prepositions in terms of meaning, we determined the meaning of each of 181

prepositions and divided them into two groups: a) grammaticised prepositions, and b) lexical prepositions. Then we investigated the difference between preceding and following pausing times for each group. We first analyzed prepositions according to grammaticised meaning and presented the results of the t-test in Table 2.

Table 2: T-Test result for PP and PF prepositions (Pausing preceding and following in grammaticised preposition types)

Pausing Time	N	$\overline{x}$	SD	Df	t	p
PP	91	0.106	.19	90	2.616	.010
PF	91	0.049	.07			

As can be observed in Table 2, the number of prepositions with grammaticised meanings was 91. The mean pausing time preceding prepositions was measured to be 0.106s and the following time 0.049s, which indicated rather striking similarity to the general results. The t-test result for both measurements, p=0.010, suggests again a significant difference. Below are some verbatim examples for grammaticised preposition from the President's speech:

> *I stand here today humbled* [0.114s] *by* [0.058s] *the task...*
> *because We the People have remained faithful* [0.110s] *to* [0.036] *the....*

The second category in prepositions in terms of meaning was lexical prepositions. As with grammaticised prepositions, we conducted an intragroup analysis on lexical prepositions and investigated the difference between preceding and following pausing times of lexical prepositions.

Table 3: T-Test result for PP and PF prepositions (Pausing preceding and following in lexical preposition types)

Pausing Time	N	$\overline{x}$	SD	Df	t	p
PP	90	0.116	.14	89	5.080	.000
PF	90	0.039	.05			

Out of 181 intersentential prepositions in the speech, nearly half of them were prepositions with lexical meanings. The mean pausing time preceding prepositions was measured to be 0.116s and the following time 0.039s. The t-test result for both measurements, p=0.000, suggests a slightly greater significance value than that in grammaticised prepositions. We present some verbatim examples for lexical preposition from the President's speech:

So it must be [0.123s] *with* [0.042s] *this generation of Americans.*

For us, they toiled [0.136s] *in* [0.035s] *sweatshops and settled the West.*

We can clearly observe that in the speech there were significant differences between preceding and following pausing times of prepositions regardless of grammaticised or lexical meaning of prepositions. From a linguistic perspective, then, the President seems to have complied with the integrity of phrases and displayed this by giving relatively more pausing times preceding heads of the analyzed phrases.

Phonological Categorization: Word Linking

As a third step of our analysis, we tried to find out the effects of word linking on pausing times preceding and following prepositions in prepositional phrases. For this analysis, we divided prepositional phrases into four groups: a) prepositional phrases without linking in preceding and following positions, b) prepositional phrases with linking in preceding and following positions, c) prepositional phrases with linking in preceding position but no linking in following position and d) prepositional phrases without linking in preceding position but with linking in following position. This step of analysis begins with the preposition types which do not linking in the preceding or in the following position.

Table 4: T-Test result for PP and PF prepositions (No linking in preceding and following positions)

Pausing Time	N	$\bar{x}$	SD	Df	t	p
PP	51	0.163	.18	50	4.244	.000
PF	51	0.053	.07			

     As can be observed in Table 4, the number of prepositions without linking in the preceding and following positions was 51. The mean pausing time preceding prepositions was measured to be 0.163s and the following time 0.053s. The t-test result for both measurements, p=0.000, yields a significant difference. Below are some examples involving no linking both in the preceding and following positions.

     …Than giving our all [0.172s] *to* [0.045s] *a difficult task.…*

     The instruments [0.182s] *with* [0.048s] *which we meet them may be new.*

Table 5: T-Test result for PP and PF prepositions (Linking in preceding and following positions)

Pausing Time	N	$\bar{x}$	SD	Df	t	p
PP	31	0.082	.12	30	2.578	.015
PF	31	0.023	.02			

     As can be seen in Table 5, the number of prepositions with linking both in the preceding and following positions was 31. The mean pausing time preceding prepositions was measured to be 0.082s and the following time 0.023s. Compared with pausing times displayed, in Table 4, we see that both preceding and following pausing times with linking are nearly half of those of without linking. This difference can only be attributed to the effect of linking in the natural flow of spontaneous speech. The t-test result for both

measurements, p=0.015, indicates a significant difference. Below are some examples involving linking both in the preceding and following positions.

> *whether it helps families find jobs* [0.114s] *at* [0.018s] *a decent wage....*

> *We remain the most prosperous, powerful nation* [0.098s] *on* [0.026s] *Earth.*

Table 6: T-Test result for PP and PF prepositions (No linking in preceding and linking in following positions)

Pausing Time	N	$\bar{x}$	SD	Df	t	p
PP	23	0.131	.24	22	2.203	.038
PF	23	0.016	.02			

As can be observed in Table 6, the number of prepositions without linking in the preceding and with linking in the following positions was 23. The mean pausing time preceding prepositions was measured to be 0.131s and the following time 0.016s. The t-test result for both measurements, p=0.038, yields a significant difference. Again, when we compare preceding and following pausing times, we see that pausing preceding times in Table 6 and Table 4 are very close to each other, and pausing following times in Table 6 and in Table 5 bear significant similarities. Some verbatim examples without linking in the preceding and with linking in the following positions are below:

> *...service* [0.142s] *to* [0.012s] *our nation as well as generosity...*

> *hours than see a friend lose their job which sees us* [0.124s] *through* [0.023s] *our darkest hours.*

Table 7: T-Test result for PP and PF prepositions (Linking in preceding and no linking in following positions)

Pausing Time	N	$\bar{x}$	SD	Df	t	p
PP	77	0.085	.14	76	1.496	.139
PF	77	0.059	.74			

As can be observed in Table 7, the number of prepositions with linking in the preceding and without linking in the following positions was 77. The mean pausing time preceding prepositions was measured to be 0.085s and the following time 0.059s. The t-test result for both measurements, p=0.139 does not indicate a significant difference. We see that measurements in Table 7, unlike those in other tables, do not reveal a significant difference. Some verbatim examples with linking in preceding and no linking in following positions are below:

...you have bestowed mindful [0.092s] *of* [0.065s] *the sacrifices...*

...rising tides [0.075s] *of* [0.052s] *prosperity....*

Besides other features, prosody of speech is one major aspect in characterizing a "good speech". It is true that in order to deliver such a speech, people should pay attention to the speed at which they speak. If the speaker talks too slowly, they bore the audience or causes them to doubt their competence. We, however, believe that talking slow *per se* is not enough for rendering a speech effective. As our analysis of the President's speech has shown, a speaker, native or non-native, should observe the integrity of the chunks and phrases in their speech.

Regarding the integrity of chunks and phrases, Bada and Genç (2008) argue that there are two ways of signaling a chunk in language use:

- through cohesive intonation contour in read speech, and

- through showing coherence in spontaneous speech with a message not uttered yet.

According to Chomsky's Principles and Parameters Theory (PPT) languages are classified as head-initial and head final (Chomsky, 1981). Chomsky suggested that once the relative position of heads and complements are specified in a given language, learners of that language do not need to rote learn a long list of individual rules specifying the position of the heads in each phrase type. Hence, English, being a head-initial language allows prepositions to be employed in head positions of phrases. This characteristic of PPT asserts itself in the President's speech as well, where we observe that pausing strategies in prepositional phrases implemented were, albeit some exceptions, clearly in line with this principle.

Pausing strategies followed here in all types of prepositional phrases and in three of the four various linking groups comply with the PPT. Thus whether grammaticised or lexical or regardless of linking, PPT features could be observed in the President's speech. The only exception was when there was linking in the preceding position but no linking in the following position. In this group of prepositions the effect of linking seems to be so dominant that the speaker violated the integrity of phrases by not giving significantly more pausing time in the following position.

Although most language teachers' main concern regarding linking is the fact that linking sounds in spontaneous speech causes difficulties for language learners. For beginner or even advanced level language learners listening skill means being able to pick out words, understand words as words and where word boundaries are. The way native speaker's link sounds together makes listening skills difficult.

Besides the difficulties for language learners, due to linking sounds, as far as our study concerned, another major aspect of linking is its effect on the integrity of phrases, which also seems to contradict PPT.

Discussing on the effective features of the President's speech, Leanne (2009) deals both with linguistic and non-linguistic aspect which helps Obama make effective and persuasive speeches. Regarding the linguistic and kinesics of the speeches, Leanne (2009) elaborates on how the President's body language, his employing repetition, his voice and intonation, use of first personal singular and plural pronouns, leveraging pace and tone are distinctive factors of the speeches. We believe that this study provides another support for the President's leveraging pace and tone effectively. Observing the integrity of phrase and giving due pauses between words within a sentence are all related with the pace of the speech; and in accounting for how he manages the pace of the speech, these two features supply us with further evidence proving how the President determines the pace of his speech successfully.

6. Conclusion

Our main and only concern in this study was the inaugural speech of the President of US, Hussein Barack Obama. The study has attempted to investigate whether there was significant discrepancy between pausing time preceding and following prepositions in prepositional phrases. Providing valuable information on underlying motives for pausing, the findings of the study may have significant implications for teaching speaking in EFL classes.

Whether prepositions were used with grammaticised or lexical meaning, the fact that more pausing time was given following prepositions in prepositional phrases provides support for PPT. However, the fact that, in situations where there was linking in the preceding and no linking in the following position, no statistically

significant differences emerged contradicts PPT, which implies that the linking phenomenon exerts considerable influence on the rhythm of even read speech. Yet, the President maintains the integrity of syntactic/lexical chunks disregarding sounds conforming to linking rules at phrase boundaries, a finding which should be well stressed in the teaching of foreign languages in general and the teaching of English in specific. Thus, while linking within phrases is to be encouraged, this phenomenon, at phrase boundaries should be discouraged.

This study not only provides researchers with insights on giving persuasive speeches but also offers suggestions for teaching pausing in speaking. The study also reveals new evidence proving why the President should be considered as an effective speaker.

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