

**Pausing preceding and following *that* in *that*-clauses of Obama's G-20 Summit  
Speech in London: read vs. spontaneous speech**

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**Abstract**

Readers or speakers of a particular language break up sentences into lexical/syntactic entities while reading or speaking. Pausing, being one indispensable characteristic of this process, forms a basis for this study. President Obama's address at the G-20 summit was analyzed in terms of intrasentential pausing strategies with due focus on duration of pauses preceding and following the *that* complementizer in noun and adjective type *that*-clauses. Recordings of the speech were analyzed in two separate parts: (1) the first part - assumed as pre-prepared and thus considered as read speech, and the second - question/answer session - considered as spontaneous speech. Pauses were measured in milliseconds utilizing Goldwave™, the sound analyzing software, and later, a comparison was carried out between pauses in the two speech types to observe any potential differences and/or similarities. Overall findings obtained reveal that while preceding pauses in read speech were significantly longer than following ones, in spontaneous speech, however, the difference was statistically insignificant. One interesting outcome was found to be *clause-type specific*, in that while preceding pauses regarding adjective clauses were considerably longer than following pauses in read speech, with noun clauses, however, the difference was insignificant. And, in spontaneous speech, the situation was completely the opposite, such that while following pauses concerning noun-clauses were significantly longer, regarding adjectives, although preceding pauses were observed to be longer, the length did not display any statistically significant difference.

**Keywords:** Speech; prosody; pausing; teaching speaking/reading; principles and parameters theory

## **Introduction**

Prosody in everyday speech plays a vital role in the language acquisition process of infants. It is the first source helping infants to acquire their mother tongue. Infants can also discriminate between their native tongue and a foreign tongue relying on prosodic information. Since it is reasonably believed that infants do not know anything about phonological constructs, stress and syllables in their native language, it is the prosody of the languages that carries some robust help for them (Guasti 2002).

Given the fact that after 8-10 months, infants attune themselves to the prosodic structure and sounds system of their native language and their sensitivity towards foreign sounds begins to decline (Guasti 2002), we argue that prosody of a language could be best acquired during those first 8-10 months. Thus, besides some certain sounds and word stress which differentiate between a native speaker and foreign speaker, prosody, no less important than pronunciation and stress patterns, is yet another significant challenge to be met by language learners.

Prosody is also effective in analysing sentences displaying structural ambiguities. Elaborating on some prefabricated examples, Warren (1999) argues that durational properties of sentences and following and preceding pause times reflect the level of attachment of the prepositional phrase either as a modifier of the noun phrase or the verb phrase whereby we could resolve the ambiguity in such sentences.

Wennerstrom (2001) criticized the attitude of discourse analysts in the preface of *The Music of Everyday Speech: Prosody and Discourse Analysis* with the words “...prosody—intonation, timing, and volume—is central to the interpretation of spoken

language, but that, unfortunately, it is often ignored in actual analyses of discourse” (p.vii). We thus aimed to fill some void in this field and decided to investigate prosody in the US president Mr Obama’s speeches. We particularly dealt with Mr Obama’s speech at the press conference held following the G20 Summit in London in April, 2009.

### **Related Research**

It has been well established that not only intersentential pauses but also intrasentential pauses (between clauses, phrases and even within phrases) carry important functions. They not only reflect the planning of forthcoming verbal output (Kircher et.al 2004), but also reveal the integrity of chunks within the sentence (Bada 2006; Bada and Genç 2008).

Although Wennerstrom (2001) is concerned with the lack of attention regarding prosody, which, to her, mainly is caused by the fact that “much of the current work on prosody, particularly intonation and rhythm, is written by and for phonologists and phoneticians and therefore tends to be difficult for those who lack this background” (p.4), especially thanks to the journals committed to discourse analysis papers in recent years more interest could have been observed on prosody, the role of prosody in the oral communication, its functions in read and spontaneous speech texts, etc.

When it comes to the definition, Markus (2006) argues that prosody involves the three physical parameters of sounds:

- a) their extension in time (length/duration), including patterns of regularity;
- b) their loudness/sound intensity, as caused by wave amplitudes;

c) their pitch or pitch contours, as caused by sound frequencies

In the first place this definition misses some significant aspects of prosody. For one thing, prosody of speech does not solely consist of lengths, duration, loudness of sounds and pitch contours; the presence of pauses which either vocalized or non-vocalized also add to prosody of speech. For another, just as the three parameters of sounds carry various functions, the absence of meaningful sound units i.e. filled or not filled pauses play significant roles in the course of speech.

Regarding the roles of filled pauses (FPs), Swerts (1998) argues that they are thought to be indicative of the mental processes underlying speech generation and signalling hints to a speaker's word-searching problems. In his study dealing with the structure of discourse, Swerts (1998) analysed 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. Again investigating the roles of pauses, Oliveira (2002) studied 17 narratives told in the course of a spontaneous interview and tried to reveal the functions of silent pauses in signalling the narrative boundary.

Besides these studies, pause patterns in the speech of native and non-native speakers have also been the subject of a number of studies. For one, Riazantseva (2001) in her study with Russian speakers of English argued that besides pausing pattern differences between different high and intermediate level learners, there is a difference in terms of pausing patterns between English and Russian languages.

In their study on pausing patterns in infinitive phrases in read and spontaneous speech of native speakers of English, Bada and Genç (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. They argue that since “to” operates as the head of infinitival phrases, native speakers gave more pausing time following “to” in spontaneous speech and quite unconsciously hinted at the upcoming utterance.

In his study on pausing patterns in “that” clauses in read speech of native and non-native speakers of English, Bada (2006) found that pausing preceding “that” was significantly longer than in the following position in read speech of native speaker group and in the non-native speaker group speech it was just the opposite. As a follow up of that study, this research focuses on pausing preceding and following “that” in read and spontaneous speech texts of one native speaker- the president of the US. Whether silent or filled, pauses between the words preceding and following “that” were the main focus of this study.

### ***“That” in adjective clauses and noun clauses***

Peters (2004) calls “that” “workhorse of the English language” (p.534), and after listing its uses as a demonstrative pronoun and determiner, as a relative pronoun, two kinds of conjunction, and occasionally as an adverb, explains how “that” functions as a clause connector and serves to link embedded, complementary and subordinate clauses to the main clause in three ways (Example sentences are quoted from Obama’s news conference in London):

- a. as a relative pronoun (like *which, who*)

*Earlier today, we finished a very productive summit that will be, I believe, a turning point in our pursuit of global economic recovery.*

- b. introducing a noun (complement) clause

*History tells us that turning inward can help turn a downturn into a depression.*

- c. introducing an adverbial clause

*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*

Due to only few occurrences of “that” in introducing an adverbial clause, we neglected them in our analyses and particularly dwelt on differences between pausing times preceding and following “that” in its functions as a relative pronoun and as an introducer of a noun (complement) clause.

## **Research Questions**

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

1. Does length of a pause preceding *that* in *that-clauses* differ from a pause following *that* in President Obama’s read and spontaneous speech delivered at G-20 summit in London? And, if so, is the difference statistically significant?
2. Does length of pauses in preceding position of “that” in “that-clauses” differ from that of the following position? If so, what may be the dynamics affecting the emergence of such a difference?

3. Does length of pauses in preceding and following positions of “that” in adjective clauses (taking “that”) and noun clauses (taking “that”) display difference? If so, what underlying reasons may be functioning in such a finding?

## **Method**

### ***Materials***

President Obama delivered news conference at ExCel Center in London at the conclusion of the G20 summit on April 2, 2009. The President’s speech were divided into two separate parts: (1) the first part during which he spoke about his plans to deepen international connections - assumed as pre-prepared and thus considered as read speech text (RST), and the second during which he answered the questions of journalist from 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 his spontaneous speech text consists of some 4300 words.

### **Data Analysis**

The G20 News Conference speech of the US President was analysed in a three step procedure. First, we determined the use of *that* in adjective and noun clauses in the read and spontaneous parts of the President’s news conference and conducted a t-test between preceding and following times of *that* in read and spontaneous speeches. At the second and third stages we handled the preceding times in adjective and noun clauses in both types of texts separately i.e we conducted a t-test for adjective clauses in read and

spontaneous speeches and a t-test for noun clauses again in read and spontaneous speeches.

## Results and Discussion

As a first step of our analyses, we initially conducted an analysis on the preceding and following pausing times, i.e. we analysed and conducted a t-test on the preceding and following times of all “that-clauses” in President Obama’s read speech and spontaneous speech texts. In Table 1, we can observe the frequency of *that* clauses, mean pausing times and significance of the difference between preceding and following pausing times in read speech text.

**Table 1. T-test result for pausing times preceding and following *that* in that-clauses (Adjective and Noun Clauses in RST)**

<i>Pausing time</i>	<i>N</i>	<i>X s</i>	<i>SD</i>	<i>Df</i>	<i>t</i>	<i>p</i>
PP	28	0.1903	0.213	27	2.760	0.010
PF	28	0.0548	0.111			

As shown in Table 1, the total frequency of *that* clauses in the read speech was 28. The mean pausing time preceding prepositions was measured to be 0.1903s and the following time 0.0548s. The t-test result for both measurements,  $p=0.010$ , suggests a significant difference which can be interpreted as that the president, quite subconsciously, spent more pausing preceding *that* because he was aware of the integrity of clauses and

exhibited this clearly in his speech. Secondly, we conducted the same measurements on adjective and noun clauses in spontaneous speech text.

**Table 2. T-test result for pausing times preceding and following *that* in that-clauses (Adjective and Noun Clauses in SST)**

<i>Pausing time</i>	<i>N</i>	<i>X s</i>	<i>SD</i>	<i>Df</i>	<i>t</i>	<i>p</i>
PP	127	0.3128	0.504	126	1.875	0.063
PF	127	0.4557	0.651			

As can be observed from Table 2, the total frequency of *that* clauses in spontaneous speech was 127. The mean pausing time preceding prepositions was measured to be 0.3128s and the following time 0.4557s. The t-test result for both measurements,  $p=0.063$ , does not suggest a significant difference. Thus unlike read speech in which the president displayed more pausing time in the preceding positions, in the spontaneous speech he employed more pausing time in the following positions.

Thus, the overall analysis of the data has shown that although *that* is considered as the head of noun clauses and adjective clauses, this characteristics of *that* asserts itself in Mr Obama’s speech only with the adjective and noun clauses in read speech. There is almost 0.14s difference between pausing following and preceding *that* in all 28 adjective and noun clauses and the difference is statistically significant. Regarding the pausing times in spontaneous speech, although we observe a difference about 0.14s between following and preceding pausing time in totally 127 adjective and noun clauses, this difference is not statistically significant.

Following this general analyses on pause time in read speech and spontaneous speech, in the rest of the paper we narrowed down our analyses on pause times in adjective and noun clauses. We first investigated the pause times in read speech text.

**Table 3. T-test result for pausing times preceding and following *that* in that-clauses (Noun Clauses in RST)**

<i>Pausing time</i>	<i>N</i>	<i>X s</i>	<i>SD</i>	<i>Df</i>	<i>t</i>	<i>p</i>
PP	11	0.0625	0.069	10	.750	0.470
PF	11	0.0404	0.063			

As seen in Table 3, the total frequency of *that* clauses in read speech was only 11. The mean pausing time preceding prepositions was 0.0625s and the following time 0.0404s. The t-test result for both measurements, p=0.470, does not suggest a significant difference. Below are a few verbatim examples of noun clauses from the President’s read speech text:

*I know **that** in the days leading up to the summit, some of you in the press, some commentators, confused honest.....*

*History tells us **that** turning inward can help turn a downturn into a depression.*

*I believe **that** we must put an end to the bubble-and-bust economy that has stood in the way of sustained growth*

In the above and other sentences with noun clauses, Mr President spent more time in the preceding position because he was aware of the integrity of the clause following the verbs of the sentences and displayed this integrity with his rhythm of speech. Yet, in

case of both preceding and following positions, due to little average discrepancy between following and preceding time and few occurrences of noun clauses, the measurement did not yield a significant result.

At the next stage of our analyses on the read speech text, we analysed the difference between preceding and following times in adjective clauses.

**Table 4. T-test result for pausing times preceding and following *that* in that-clauses (Adjective Clauses in RST)**

<i>Pausing time</i>	<i>N</i>	<i>X s</i>	<i>SD</i>	<i>Df</i>	<i>t</i>	<i>p</i>
PP	17	0.2730	0.234	16	2.818	0.012
PF	17	0.0641	0.135			

Having a look at Table 4, we can see that the total frequency of *that* clauses in which *that* functions as relative pronoun were 17. The mean pausing time preceding this pronoun in adjective clauses in read speech was 0.2730s and the following time was 0.0641s. The t-test result for both measurements,  $p=0.012$ , suggests a statistically significant difference. We quoted a few verbatim examples of adjective clauses from the President’s read speech text as in below:

*Earlier today, we finished a very productive summit **that** will be, I believe, a turning point in our pursuit of global economic recovery.*

*...any nation has contemplated so far to prevent the massive failure of responsibility **that** we have already seen*

*Today, these principles have informed and enabled the coordinated action **that** we will take with our G20 partners.*

In the above and other sentences including adjective clauses introduced by *that*, Mr Obama clearly indicated the head function of *that* by the pause pattern in his speech. Although noun clauses in read speech did not reveal a significant value, measurements on adjective clauses yielded significant results.

**Table 5. T-test result for pausing times preceding and following *that* in that-clauses (Noun Clauses in SST)**

<i>Pausing time</i>	<i>N</i>	<i>X s</i>	<i>SD</i>	<i>Df</i>	<i>t</i>	<i>p</i>
PP	80	0.3348	0.536	79	2.411	0.018
PF	80	0.5997	0.743			

As seen in Table 5, with 80 occurrences, the most observed *that* type was in noun clauses in spontaneous speech. The mean pausing time preceding *that* was 0.3348 and the following time was 0.5997. The t-test result for the measurements, p=0.018, suggests a significant difference in the use of *that* in introducing noun clauses.

*We felt **that** it was very important to strengthen our international financial institutions because developing countries, emerging markets are threatened....*

*But at least we can start with the notion **that** we're prepared to listen and to work cooperatively with countries around the world...*

*I said in the meeting **that** if you had imagined 10 years ago, or 20 years ago, or 30 years ago..*

During the production of the above quotations and other sentences with noun clauses unlike the pausing pattern following and preceding *that* in read speech, in spontaneous speech there was a significant difference due to the relatively high number

of occurrences of noun clauses and relatively higher discrepancy between following and pausing times. Thus it becomes obvious that the President stalled time for the upcoming utterance after he indicated the utterance with the noun clause introducer *that*.

**Table 6. T-test result for pausing times preceding and following *that* in that-clauses (Adjective Clauses in SST)**

<i>Pausing time</i>	<i>N</i>	<i>X s</i>	<i>SD</i>	<i>Df</i>	<i>t</i>	<i>p</i>
PP	47	0.2755	0.446	46	.825	0.414
PF	47	0.2106	0.337			

From Table 6, we see that the total frequency of *that* in adjective clauses was 47. The mean pausing time preceding *that* was 0.2755 and the following time was 0.2106. The t-test result for this measurement does not suggest a significant difference.

*I wonder if you view this trip **that** you're on and the actions that you've taken here at the G20 and with the bilateral meetings **that** you've had as representing a break from the foreign policy of your predecessor...*

*They are bolder and more rapid than any international response **that** we've seen to a financial crisis in memory.*

Mr Obama's pausing pattern following and preceding *that* in spontaneous speech in the above examples and other sentences with adjective clauses differed from the pausing pattern in noun clauses in that while the former did not yield significant results, the latter did. From the four analyses, the result of which displayed in tabular forms above, we can observe that while pausing following and preceding *that* in adjective clauses in spontaneous speech and in noun clauses in read speech did not prove

significant, pausing following *that* in adjective clauses in read speech and in noun clauses in spontaneous speech were significant.

Thus, both referring to the findings of Warren (1999), and our findings in this study we believe that prosody can hint the function of any syntactic element. For example, in Obama's speech preceding pauses regarding adjective clauses were considerably longer than following pauses in read speech, with noun clauses; however, the difference was insignificant. And, in spontaneous speech, the situation was completely the opposite, such that while preceding pauses concerning noun-clauses were significantly longer, regarding adjectives, the length did not display any statistically significant difference.

When we compare the following pause times between noun clauses in read speech (0.0404s) and noun clauses in spontaneous speech (0.5997), we see that there is a considerable discrepancy between the two figures. In his spontaneous speech the President gave almost 0.55 second more pausing time in the following position in noun clauses on average. Given the fact that the figures in this study are as close low as 0.08s, as in the difference in Table 6, the extent of this figure becomes rather clear.

When, however, we have a look at the preceding pause time difference between noun clauses in read speech (0.0625s) and in spontaneous speech (0.3348s) we see a difference of almost 0.27s. Thus it is evident that Mr Obama gave more pausing time in spontaneous speech in terms of both following and preceding positions. Yet, while the preceding and following time differences in read speech ( $\approx 0.02s$ ) did not yield a

significant result with  $p=0.470$ , the difference in spontaneous speech ( $\approx 0.26$ ) revealed a statistically significant value:  $p=0.018$ .

Regarding the pause times following *that* introducing adjective clauses in both read speech (0.0641s) and spontaneous speech (0.2106) we see that there is almost 0.15s difference between the two figures. From these figures we see that the President gave more pausing time in the following position in spontaneous speech, which could be attributed to the fact that the President in an effort to produce the forthcoming utterance gave more pausing time in the spontaneous speech.

Regarding the pause times preceding *that* introducing adjective clauses in both read speech (0.2730s) and spontaneous speech (0.2755), however, we see that there is almost no discrepancy between the two figures. Thus, in his read and spontaneous speech, Mr Obama gave almost the same pausing time preceding *that* in adjective clauses. When we take into consideration the significance of measurements on *that* in adjective clauses in read and spontaneous speech, while there was a significant difference between pause time following and preceding *that* in read speech ( $p=0.012$ ), in spontaneous speech we did not observe a significant difference ( $p=0.414$ ).

In accounting for the significant difference in following and preceding time in adjective clauses in read speech and the significant difference in noun clauses in spontaneous speech, principles and parameters theory (PPT) could provide us some valuable insight. A subset of Universal Grammar theory, PPT argues that the process of learning a second/foreign language is actually the act of setting of values of a number of parameters (Cook and Newson 1996). For example while Turkish being a head-final

language allows prepositions to be employed in final part of the phrase, English, being a head-initial language allows prepositions to be employed in head positions of phrases.

This characteristic of PPT asserts itself in prosodic features of the President's English as well. 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 *that* in adjective clauses but not in noun clauses, in spontaneous speech, *that* was characterised as head only in noun clauses.

Our findings in this study are in line with the findings of Bada (2006) in that as with the native speakers participating in Bada's who gave more pausing time following *that* in read speech, Mr Obama gave more pausing following *that* in read speech but only following "that" which introduces adjective clauses.

Therefore, in terms of mental processes involved in the production of spontaneous speech, it seems that while for the production of noun clause, an individual needs more pausing time following *that*, for the production of adjective clauses as the insignificant difference between preceding and following pausing times indicates an individual does not need more time in the following position. Thus, we could argue that adjective clause structures are more readily available than noun clauses in the mind.

It is known that noun clauses function as subjects or objects of a sentence and adjective clauses modify either the subject or the object of a sentence. Hence, during the process of talking, noun clauses constitute a substantial part in the construction of sentences. On the other hand, adjective clauses do only modify the subject or the object which has already been produced and is ready in the flow of the speech. We, therefore,

believe that production of noun clauses needs more time than adjective clauses in spontaneous speech.

When it comes to the dynamics of reading, however, we face a completely different picture. As we know *that* introducing noun clauses follow the verb of the main clause but *that* introducing the adjective clause follows the noun phrase it modifies. The president did not display any significant difference between preceding and following pausing times in noun clauses in the first part of the London conference, which is quite rightfully labelled as read speech by the researchers of this study.

## **Conclusion**

Our main focus in this study was the speech given by the President of US, Hussein Barack Obama at the news conference held at ExCel Center in London at the conclusion of the G20 summit on April 2, 2009. The study attempted to investigate whether there was any significant discrepancy between pausing time preceding and following *that* in adjective and noun clauses in the read speech and spontaneous speech of the President.

In general, findings obtained from this study reveal that while preceding pauses in adjective clauses in read speech were significantly longer than following ones, in spontaneous speech, however, following pausing time in noun clauses was statistically significant. Thus one interesting outcome was found to be clause-type specific, in that while preceding pauses regarding adjective clauses were considerably longer than following pauses in read speech, with noun clauses, however, the difference was insignificant. And, in spontaneous speech, the situation was completely the opposite,

such that while preceding pauses concerning noun-clauses were significantly longer, regarding adjectives, the length did not display any statistically significant difference.

In conclusion, this study reveals that read speech and spontaneous speech have different dynamics. This difference is made clear upon an analysis of pause times in both types of texts in that regardless of the fact *that* that functions as the head of adjective clauses and noun clauses pausing time preceding and following that in both types of clauses display differences in read and spontaneous speech.

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