Aspects of the Grammar of the Spoken English of a Yoruba Stroke Patient

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Abstract

Evidence abound that brain damage due to stroke often results in language impairment. However, there is no reported linguistic study, as far as we know, on the impact of stroke on either the English or Yoruba speech of a Yoruba-speaking patient in Nigeria. The main objective of the present study, therefore, is to find out the effect of brain damage, resulting from stroke, on the English speech of a Yoruba-speaker of English as a second language. In the present paper, we report and analyze syntactic disturbances in the speech of a 58-year-old female stroke patient who was diagnosed as having expressive aphasia. Although the result of her language performance shows that the patient's speech was grammatically deviant in that she often omitted some grammatical items like auxiliaries, articles, prepositions and pronouns, contrary to known characteristics of agrammatic patients (cf. expressive aphasia), she could still use some grammatical items in their proper syntactic environments. However, her speech manifested some evidence of selection errors in the use of the first person personal pronoun.

1. Introduction

Studies in psycholinguistics and neurolinguistics have shown that people with brain damage in adulthood often develop language impairment (Crystal 1980; Bishop and Mogford 1988; Levelt 2000; Field 2003; Bastiaanse & van Zonneveld 2005; Thomas and Karmiloff-Smith 2005). As noted by Thomas and Karmiloff-Smith (2005: 66), those who sustain brain damage in adulthood are often presented with conditions in which a single aspect of language is differentially impaired. This may be a problem with the use of morpho-syntactic markers, word-finding difficulties or the display of inappropriate pragmatics such as poor assessment of situations. According to Dickson (1974: 400), aphasia symptomology is primarily related to location and the extent of brain damage rather than age, education, or other sociolinguistic variables. Lesser and Milroy (1993) hold that aphasia can take many forms such that there are many forms of aphasia as there are people who suffer from them. They argue that there are some patterns of speech of aphasia that are similar even though the patients suffer from different types of aphasia. Furthermore, Lesser and Milroy (ibid), note that what all aphasic people have in common (by definition) is that they have suffered from the same form of brain damage (from stroke, head injury, tumour, metabolic disorders, toxicity and other etiology}, which has destroyed neuronal cells in parts of the brain in which language seems to be critically dependent (p.8).

The literature demonstrates that one major linguistic problem of the brain damage is agrammatism, a condition characterized by limited sentence structures, omission of grammatical morphemes, use of ill-formed sentences, substitution of morphemes as well as word finding difficulties (Lesser and Milroy 1993). This condition has been ascribed to the damage to a specific area of the brain called Broca's area. This is the left hemisphere of the brain, which is said to control programming of the motor movements for speech production. The Broca's area is also thought to be responsible for the planning and organization of speech (McLaughlim 1998; Whitney 1998). As

noted by Lesser and Milroy (1993: 8), the impairment caused by aphasia does not really mean that the patient cannot produce speech or fail to understand, but the aphasic produces speech which does not seem to reflect their intention and which the listener might have difficulty in comprehending. In other words, aphasia resulting from damage to Broca's area causes impairment of language which affects not only the production or comprehension of speech but also the ability to read and write (Brody 1992; Crystal 1980; Dickson 1974).

Some of the most common characteristics of aphasia are the problems of articulating the right names for things as well as telegraphic speech, which uses only nouns and verbs. Also in aphasic speech, there are usually the omission of articles, conjunctions, adjectives and adverbs. It is also observed that the speech of a person with aphasia may also become slurred and riddled with mispronounced words (Brody 1992). Brody (ibid) also holds that Broca's aphasic is a nonfluent and generally agrammatic patient whose auditory comprehension is relatively good but has articulatory difficulties. Wardhaugh (1993) says that Broca's aphasics usually have expressive and motor difficulties that affect their ability to speak as well as their grammatical skills. Their utterances are characterised by meaningful but shortened speech. As noted by Wenzlaff and Clahsen (2004), the aphasics' language production is characterized by simplification. This phenomenon also occurs in their writing. In their speech, for example, grammatical inflections such as third person present tense '-s' and plurals in English are often lacking in the speech of the aphasic patient (e.g. "*Ojo go to the farm" instead of "Ojo goes to the farm") and the absence of the auxiliary 'be' as in "*Ojo running" in place of "Ojo is running". Other function words such as articles and prepositions are often lacking in aphasia (Steinberg, 1993:187). In a way, the speech is similar to that of children at the telegraphic stage.

Several studies have examined agrammatic language disorder from various perspectives: sentence/clausal types, verb-tense agreement, possessive marking, use of conjunctions, pluralization, grammaticality judgement as well as comprehension of verbal tense (see, for example, Wenzlaff and Clahsen 2004; Burchert et al., 2005; Bastiaanse & Zonneveld 2005; Caramazza et al. 2005). In the present study we examined the syntax of an English as second language (ESL) aphasic patient.

2. Data Collection and Methods

2.1 The Subject

For the purpose of this study, the patient investigated will be called Linda. At the time this investigation was done, Linda was a 58-year-old woman who was engaged in textile trade having left full time employment since 1976 as a secretary in an agricultural research institute. She was doing well in her trade until the time of her illness. Linda was brought to the hospital with a history of weakness of the right side of the body. She had earlier had a stroke in 1985, which resulted in left-sided weakness, but she fully recovered from it. However, she had been hypertensive for 22 years. As a university graduate, Linda's proficiency in English was very high before she had the stroke.

As at the time of the investigation for this study in 2004, Linda disclosed that she was in the church when she perceived weakness in the right side of her body such that she could not move her right hand and her right leg. She was then brought to the

hospital where she underwent series of tests. Her symptoms were reported as: haemorrhagic lesion in the region of the left MCA, right hemisfacioparesis (UMN), right CN VII palsy and expressive dysphasia. It was observed that the artery that carried blood to the middle part of her brain burst thereby stopping the flow of blood to that part of the brain and causing clotting of blood which led to stroke. This, in effect, affected the right side of her body including her face. The artery affected is the one that carries blood to the Broca's area. The diagnosis of her speech performance was that she was suffering from expressive aphasia.

2.2 Methods

The present study, which is largely exploratory, was carried out without any formal test battery as our interest primarily was to investigate the 'unusual' features in the language behaviour of an aphasic as manifested by a Yoruba patient. It is common knowledge that the phenomenon of aphasia is not a regular or everyday occurrence in Nigeria and it took us a number of visits both to the Obafemi Awolowo University Teaching Hospital Complex (OAUTHC), Ile-Ife, and the University College Hospital, Ibadan to be able to secure a patient for our investigation. Since we had no Yoruba study, as a basis to take off, we considered it adequate to carry out the study of one patient only as a 'pioneering' effort. The data collection method involved one-on-one question and answer interview procedure. The interview covered issues relating to patient's personal social life and her illness in order to elicit spontaneous speech. The speech was recorded on audio-tapes and transcribed. The recordings and the transcription of the patient's speech were listened to and verified by another member of the research team.

3. Data Analysis and Discussion of Findings

3.1 Data Analysis

In this section, we describe and analyse the data for this study. We will like to note, however, that only the deviant structures are analysed. In Linda's speech (the pseudonym for the aphasic patient in our study), various types of syntactic structures were found. There were instances where the patient responded in a single clausal element structure, two-element structure, three-element structure and four-element structure. There were also occurrences of unintelligible (seemingly meaningless) sentences in the data, deviant responses (that are not the required response to the question asked), incomplete responses, zero responses (where the patient did not respond at all), minor sentence responses (yes, no, mhn) and problematic responses (where the patient's response cannot be said to be wholly intelligible but can be analyzed in the light of other responses).

It is, perhaps, pertinent to mention here that the patient's speech did not always represent her intention as she could not express herself in spontaneous long stretch of utterances without lapsing into unintelligible utterances. Our observation, from the data gathered, was that the features of the speech of our patient – Linda - showed that she probably suffered from what has been described earlier in this study as Broca's aphasia. This is particularly so as she tended to omit small grammatical items and used predominantly three-clausal element structures, especially the SVO type. Linda did not use long utterances and also had laboured speech – a phenomenon also often linked to the telegraphic symptom of Broca's aphasic speech.

Given below is a summary of the number of the response types in Linda's recorded speech:

Table 1: Response types in Linda's speech

Unintelligible responses	15
Deviant responses	12
Incomplete responses	03
Zero responses	19
Problematic responses	11
Minor sentences	54
Paralinguistic features	25

All these structures will be described later to demonstrate the kind of complex syntactic constructions in our subject's speech. However, we will not treat the one-element response structure since there is no complexity in the constructions; hence, we start our analysis from the two-element response type.

3.1.1 Two element response

There are five types of the two-element response in Linda's data. They include the VO, SV, SA, VA and SO structures (Note that V = verb, O = object, S = subject and A = adverb).

Table 2: Verb-Object Structure (VO Structure)

	V	O
(1)	have	prayer.. prayer session
(2)	are giving	[ ] dip
(3)	don't feel	anything
(4)	*ealse	myself
(5)	is	only my arm

The syntactic constructions shown in the table above are subjectless in that the patient ellipted all the items in the subject position. This is an uncommon construction in the sentence structure of the English language. Though it is possible in English to have imperative sentences in which the subjects are not overtly stated, the sentences in Table 2 above cannot be regarded as imperative sentences for some reasons. First, an imperative sentence is usually directed to another person who is to or should respond to the command. In other words, it is not possible for the same person to be the commander (i.e., the person giving the command) and the commandee (i.e., the person responding to the command) in normal language use situation. So, *"ealse myself" does not meet the requirement of a command. Secondly, though imperative sentences can begin with *be* (e.g., Be quiet), they cannot start with the other variants of BE (i.e., apart from *be*). Thus, the use of such auxiliaries as *are, is, am* and *were* in Table 2 above clearly constitutes syntactic deviation from the standard syntactic norm of English. Thus, "are giving [ ] dip" and "is only my arm" are not imperative in

form, and there is therefore, no basis for the omission of subjects in them. For the purpose of this research, we term the kind of sentences in Table 2 *imperative-deviational* sentences.

Two instances of this construction type, i.e., imperative-deviational sentences, (e.g., examples 1 and 2) are in, each case, the second clause in a compound sentence in the actual speech Linda made when we probed her further. When we probed her again and again, we noted that the full sentence for (1) was "I unwell that's why in the church… have prayer … prayer session" in which there was an implicit coordination. For sentence (2), it was "ve got pains but ehm … don't feel anything." Here there was an explicit coordination with the use of coordinator. Apart from the coordinator which was omitted in (1), *was* was also omitted between the subject *I* and the word *unwell*; this is overlooking the syntactic dislocation evident in the way *unwell* was used as a verb as if it is really one. Example 4 above was also a follow-up of another sentence: "They are giving … are giving dip".

Example 3 was probably an attempt by the patient to answer our question in a straightforward manner:

A: Do you want anything?
L: --. *ealse myself.

Linda's utterance here (i.e., in 3), except for her pronunciation of *ease* as **ealse*, cannot be totally regarded as deviant. It is a minor sentence which is related to the major sentence: "I want to ease myself." Minor sentences are used in conversation to achieve economy of words and since Linda's utterance is a response to a question asked by one of the researchers, her use of a minor sentence is perfectly adequate. It might be pertinent to mention, however, that Linda's speech also manifests, in some form, the impact of Yoruba-English bilingualism. This is not in the sense of the elliptical structures of her sentences that we have seen so far but in the sense of the interference between Yoruba (her mother tongue) and her spoken English. This interference phenomenon is noticeable in (2), (4) and (5) where we notice structural errors typical of Yoruba speakers of English as an L2. Example (5), for example, is a direct translation of Linda's thought in her MT into English:

"Owo mi nikan ni" : "is only my arm"
hand my only is

In Table 3 below, we show SV structure utterance types in Linda's speech.

Table 3 : Subject-Verb Structure (SV Structure)

	S	V
(6)	They	come.
(7)	I	can't walk.
(8)	I	don't know.
(9)	That I	'm dieting.
(10)	My daughter	arrived.
(11)	Mo I	fe to want urinate.

The constructions in (6) to (11) above are not deviant as they contain the normal SV structure. Sentence (6) is an instance of false start; that is, it is an attempt by the patient to start a stretch of utterance but it was left incomplete, while (7) is an attempt at repairing an earlier deviant structure. This becomes clearer when we examine the real context in which they were made as shown below:

A: Do your children come to visit you?

L: They come… they come and visit me (6)

A: How do you walk?

L: ----. *I – e – tez – I teiz my leg… I wan I can't walk. (7)

Sentences (8 - 11) are direct answers to the interviewer's questions. However, Sentence 11 shows that no matter how hard we tried to make Linda respond to our questions in English, she at times preferred to answer in her mother tongue (i.e., Yoruba). One would not think that her preference for Yoruba usage is idiosyncratic or that it is an aphasic behaviour but rather it is the result of her bilingual ability which makes it possible for her to code-switch. It is not uncommon for bilinguals to switch codes especially if the context of interaction or person with whom interaction is taking place favours code switching. In this case, Linda knew the interviewer understood and spoke Yoruba.

Table 4 below shows Subject-Adverbial clause structure. It should be noted that the sentences in (12) to (14) are rather faulty.

Table 4: Subject- Adverbial Structure (SA Structure)

	S	A
(12)	My legs	up
(13)	My hands	up
(14)	I	*[star] gradolly

There is, however, omission of the verbal elements in them. These occurrences too are not normal in English because the verb is the core of any English sentence. The omitted elements in these responses made the sentences meaningless and ambiguous. They can be meaningful only if we recall the contexts in which they are used.

Table 5 : Verb -Adverbial Structure (VA Structure)

	V	A
(15)	took	home

Table 5 above shows only one token of verb-adverbial structure from Linda's speech. This is a form of telegraphic speech which is a common phenomenon in aphasia and child language. In sentence 15, the subject and the object are omitted and as such, the sentence is meaningless because we do not know "who took who home." One thing we can say of the sentence is that it seems to be more or less a repetition of the analysts' stimulus:

A: Did he bring you to the hospital or he took you home?

L: Took home. Hum. Hospital … I was brought hospital.

In table 6 below we show subject-object response types from the candidate's speech. These utterances are obviously deviant.

Table 6: Subject-Object Structure (SO Structure)

	S	O
(16)	they	the ones

The sentence in table 6 is similar to the ones shown in table 4 in the sense that the verbal element is not only omitted but this response too is an instance of a false start, which the patient later repaired:

L: they…the ones. They were the ones who cook me food.

3.1.2 Three Element Response

There are five structural types of the three-element response found in Linda's speech. These are Subject-Adverbial-Object (SAO), Subject-Object-Adverbial (SOA), Verb-Adverbial-Subject (VAS) and Subject-Verb-Adverbial (SVA). These are shown in Tables 7, 8 and 9 below.

Table 7: Subject-Adverbial-Object Structure (SAO Structure)

	S	**A**	**O**
(17)	I	first	[ ] hypertension.

Table 8: Subject-Object-Adverbial Structure (SOA Structure)

	S	O	A
(18)	sister	physiotherapist	lohun[1]
(19)	sister mi[2]	physiotherapist	lohun

Table 9: Verb Adverbial Subject (VAS Structure)

	V	A	S
(20)	lives	with me	my youngest son

In table 7 above, we observe that there is ellipsis of the verbal element:

(17) "I first [had] hypertension".

In Sentences (18) and (19), we notice that Linda's responses show evidence of code-mixing between English and Yoruba languages:

(18) "sister [mi] [je] physiotherapist lohun"
[my] sister [is] [a] physiotherapist there.

(19) "sister mi [je] physiotherapist lohun."
my sister [is] [a] physiotherapist there.

The sentences are, however, fractured. We notice that not only did Linda omit the verbal element in sentence (18) but also the possessive pronoun 'my' was omitted. For a non-aphasic Yoruba-English bilingual, the sentences should have been:

(18) "sister mi, physiotherapist ni lohun.
sister [mine], physiotherapist [she is] there.
"my sister, she is a physiotherapist there."
or

(19) "sister mi [je] physiotherapist lohun.
sister mine [is a] physiotherapist there.

where she also ellipted the verbal element.

The construction in utterance (20) is far-fetched as a sentence of English. This is because the normal structure of the English language is SVO type where the subject must come first, followed by the verb and the object. However, what we see in (20) is a transposition of the subject with the verb now occupying the initial position where the subject should be and the subject being where the adverbial should have been. Linda's speech also contains sentences of the subject-verb- adverbial structure as shown in table 10 below.

[1] 'lohun' is the patient's MT version of the adverbial 'there'

[2] In Yoruba which is the MT of our subject, 'mi' could mean I when it appears in the subject position, it could mean 'me' when it appears in the object position or as the completive of a prepositional phrase. However, it means 'my' above because it functions as a first person singular possessive modifier.

Table 10: Subject-Verb-Adverbial Structure (SVA Structure)

	S	V	A
(21)	I	was	in the church.
(22)	I	was sitting	down.
(23)	I	unwell	that's why in church.
(24)	I	can [ ]	[ ] given support.
(25)	ma	feeling	better.
(26)	they	`ve	grown up.
(27)	eldest son		London.
(28)	my husband	*ives `	with me.
(29)	my husband	* ives	with in.
(30)	I	`ve been	to specialist hospital.
(31)	She	`ll come	later in the day.
(32)	They	phone	everyday.

It is important to note that, contrary to the nature of aphasic speech, there are some syntactically well-formed sentences in Linda's speech as some sentences (e.g., Sentences 21, 22, 31, 32) in table 10 above show. In this table (i.e., table 10), some sentences show typical features of telegraphic speech. For instance, in:

(27) "[my] eldest son [is in] London"

the possessive pronoun *my*, the verb *is* as well as the preposition *in* were omitted. We would also observe below that *was* and *the* were omitted in (23) while *walk* was omitted in (24):

(23) "I [was] unwell that's why in [the] church".

(24) "I can [walk] given support".

Table 11 below contains utterances of the subject- verb- object type:

Table 11: Subject-Verb-Object Structure (SVO Structure)

	S	V	O
(33)	I	noticed	I can't… lift arm…lift arm.
(34)	I	was brought	hospital.
(35)	I	* wans take	an injection.
(36)	I	wasn't take	an injection.
(37)	They	ask	quest ..question.
(38)	They	are doing	*vestigation.
(39)	They	are giving	me…
(40)	There	's	*jection that they- took- pass- through my hand
(41)	They	*jected	it.
(42)	They	are	hospital.
(43)	The*dip	pass	[ ] my hand.
(44)	I	don't know	*it is name.
(45)	They	come and visit	me.
(46)	They		the ones cook me food
(47)	I	don't like	the type.
(48)	I	've go	pains.
(49)	I	've got	pains.
(50)	It	seem	that I can't raise…
(51)	I	've got	pains.
(52)	My sons	is	me
(53)	Little children	should look after	*sis father.
(54)	I	've *releuis	my *eils.

(55) I ‘ve relues my eils
(56) I eat sausage
(57) I *ealse myself

In the SVO structure shown in the table above, there is also omission of nominal and verbal elements as the elements in the square brackets show:

(33) “I noticed [that] I can’t lift [my] arm”
(37) “They ask[ed] [me] [a] question”
(46) “They [are] the ones [who] cook me food”

The omission in most of these sentences does not seem though to affect the meaning of the sentence since the propositional content is still there in the sentence.

3.1.3 Four Element Response

There are five types of the four element response in Linda’s speech. These are Subject-Adverbial-Verb-Object (SAVO), Subject-Verb-Object$_{in}$-Object$_{d}$ (SVOO), Suject-Verb-Object (SVO), Subject-Verb-Adverbial-Object (SVAO), Subject-Adverbial-Verb-Adverbial (SAVA) and Subject-Verb-Adverbial-Adverbial (SVAA). The tokens of these four element response types are, however, few in the speech of the patient. They are shown in tables (12) - (16) below:

Table 12: Subject-Adverbial-Verb-Object Structure (SAVO Structure)

	S	A	V	O
(58)	I	normally	use	my drugs

Table 13: Subject–Verb– Indirect Object-Direct Object Structure (SVO$_{in}$O$_{d}$ Structure)

	S	V	Oin	Od
(59)	They	[ ] asking	me	[a] question
(60)	They ones	cook	me	food

Table 14: Subject–Adverbial – Verb- Adverbial Structure (SAVA Structure)

	S	**A**	**V**	**A**
(61)	I	just	feel	*tad

Table 15: Subject-Verb-Adverbial-Object Structure (SVAO Structure)

	S	V	A	O
(62)	I	see	clear	that can’t use it

Table 16: Subject-Verb-Adverbial –Adverbial Structure (SVAA Structure)

	S	V	A	A
(63)	My	been	to London	for treatment.
(64)	They	‘ve been	to Lagos	Sunday ... this Sunday.

From the data (59) – (63) in table, we can observe only two forms of deviation. These are either verbal or nominal:

“They [were] asking me [a] question”. (59)

In this sentence, the auxiliary *were* and the indefinite article *a* were omitted while in (60) and (62) nominal items are ellipted. In (60), the relative pronoun ‘who’ is ellipted and in (62) first person pronoun ‘I’ is ellipted:

“The ones [who] cook me food.” (60)
“I see clear that [I] can’t use it.” (62)

Apart from the fractured nature of the sentences in tables 11 to 16 above, we would observe one common feature of Yoruba-English bilingual behaviour which is the use

of ‘they’ (37, 38, 39, 41 and 42) for unspecified persons. This usage is a translation (interference) of the Yoruba expression ‘won’ (they) used in reported speech.

4. Findings

From the analysis presented above, we arrived at a number of findings. First, certain features of aphasic speech, as manifested in the speech of Linda, became clear. The most prominent one is the omission of grammatical words and morphemes. Omission of grammatical words like articles, prepositions, auxiliary verbs and possessive pronouns were common in her speech as the following examples show:

I. Omission of auxiliary verbs e.g., 1. My [] legs up.
2. I [] unwell that’s why in church.

II. Omission of articles e.g., 1. They ask me [a] question.
2. I unwell that’s why in [the] church.

III Omission of preposition e.g., 1. My eldest son is [in] London.

These findings confirm Lesser and Milroy’s (1993) claim that in the speech of people whose broca’s area has been damaged, omission of grammatical words and ill-formed sentences are common.

Secondly, it is evident from our data that Linda also had problems with the articulation of certain words. For example, in her speech, *ease, lives, investigation, injection, once* and *tired* were pronounced as *ealse, ives, vestigation, jection, wans* and *tad* respectively. This problem of correct articulation of words observed in Linda’s speech also supported earlier studies in this area (cf. Brody 1992; Wardhaugh 1993). Thirdly, this study confirms, again, earlier works that telegraphic structures are typical of broca’s aphasia as demonstrated by Linda’s speech. Some examples of these are *My hands up* and *I first hypertension*. It is important to note, however, that there were some unintelligible sentences in the subject’s speech. At times, most of her responses did not align with the questions asked. One of such responses is *My sons is me* and all effort by one of the researchers to get her to explain what she meant by the utterance proved abortive. Finally, Linda exhibited some behaviour of a Yoruba-English bilingual as her English speech manifested a couple of interferences from Yoruba – her mother tongue.

5. Conclusion

In this paper, we have attempted to analyse the speech of our subject in terms of its syntactic patterns. It has been demonstrated that the patient exhibited some unusual English syntactic structures. The primary objective of this study, it would be recalled, was to describe the features of the speech of an ESL aphasic. To a large extent, this study has shown some commonalities between aphasic speech in L1 situation and aphasic speech in L2 situation. The fractured sentence structures found in the speech of this Yoruba-English bilingual aphasic are what we also find in other monolingual aphasic situations (see for example, Wenzlaff and Clashen, 2004; Bastiaanse and Zonneveld, 2005 and Burchert, et al., 2005).

Contrary to known characteristics of aphasia (expressive aphasia in this case), however, Linda’s speech was not totally devoid of grammatical items. In other words, her speech could not be said to be wholly telegraphic as she could still use some grammatical items in their proper places. Nonetheless, Linda’s speech manifested some abnormalities such as the wrong use of the verb “be” and its variants “been” and

"am". This usage could have resulted from her language disability (here, selectional error).

In accordance with the characteristic features of aphasia, Linda's speech showed some consistent and systematic grammatical errors in that she often omitted some "small grammatical items" like auxiliaries, articles, prepositions and pronouns. Furthermore, her speech did not only show grammatical or syntactic errors, but also contained some mis-pronunciations, which were observed to be evidence of articulation disorder.

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