Code Switching in Arabic – English and Telugu – English

– A Minimalist Account

by

N.C.Kiranmayi

Supervisor: Prof. Hemalatha Nagarajan

Department of Linguistics and Contemporary English

The English and Foreign Languages University

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Dedicated to

SRI SHIRDI SAIBABA

In all humility.

I can never thank you enough for all the blessings that YOU

shower on us ………..

THANK YOU

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Abstract

This thesis addresses grammatical aspects of code switching in two language pairs- Telugu-English and Arabic-English. The two language pairs are selected precisely for the reason that they are diametrically opposite to each other in terms of word order. Telugu is an SOV language, whereas (Spoken) Arabic is SVO just like English. Many researchers have looked at a single language pair and arrived at different conclusions. Some of them (Pfaff, Joshi, et al) said that there was a need for a specific lexical apparatus to describe code switched sentences while some of them (MacSwan and Chan) advocated Null Theory. In other words, they said that there was no need for a separate grammar but the same lexical apparatus that were used to describe monolingual sentences can be used to account for code switched sentences. Though this thesis, at heart is an addition to the list of the Null Theory advocates, it does so in a different way. It looks at data from two language pairs which according to the limited knowledge of the researcher is first of its kind.

A lot of data was collected using two methods – grammatical judgment and naturalistic observation. Though some researchers are against former method, many others are of the opinion that unless one knows what is wrong, how does one explain what is right?

The approach followed in this thesis to analyze the data is minimalist in the sense that only mechanisms that were absolutely essential to account for the data were used. Firstly, earlier literature that had been proposed specific lexical apparatus for code switched data is reviewed in the light of newly collected data and each one is disconfirmed.

Then the analysis proceeds to confirm the Null theory. Finally it is proved that though the languages differ in their basic word orders, there is switching possible at almost all boundaries and that the same lexical apparatus used to analyze monolingual data can be extended to account for code switched data.

Keywords: antisymmetry, code switching, grammatical aspects, Greenberg's universal 20, minimalist theory, syntactic constraints.

Chapter 1

1. Introduction

This thesis addresses the grammatical aspects of code switching in two pairs of languages- Arabic-English and Telugu-English. The phenomenon of code switching has received a lot of attention from both language experts and linguists from a very long time. While language experts are interested in the 'why' of code switching, linguists have been interested in the 'how' of code switching. As a budding linguist and an experienced language instructor, I have been intrigued by this phenomenon more so after coming to Oman, where I am working now. I have selected to look into the syntactic aspects of code switching of these language pairs because Telugu, an SOV language is my mother tongue and Spoken Arabic, an SVO language is the first language in Oman. While code switching is a way of life in Andhra Pradesh, India, where I come from, code switching is gaining popularity here in Oman because English is the second most important language in Oman. My students and other colleagues mix Arabic and English for communicating. I selected these two language pairs as they have different word orders and very few linguists have looked at such pairs. In this chapter, I review different theories put forward by many linguists outlining the grammatical restrictions in terms of these language pairs and disconfirm each of them giving examples from my findings. In Chapter 2, the methodology of data collection is explained. In Chapter 3, a short introduction to the syntax of Arabic and Telugu is presented. Their syntax is contrasted with that of English to know the availability of different sites for code mixing and code switching. In chapter 4, I present the data collected in natural settings and provide speakers' intuitions regarding code switching in grammaticality judgment tasks. In Chapter 5, I compare the findings from the two

pairs of languages and contrast them as the two languages Arabic and Telugu are structurally different from English.

1.2. Defining Code Switching

Code Switching (CS) refers to the mixing of two or more languages by bilinguals (or multilinguals) in a discourse. Two types of code switching have been recognized by most researchers: Intrasentential code switching used for switches within sentences, and intersentential code switching for switches between sentences.

The choice of code used in a particular speech act is influenced by such factors as the nature of the interlocutor, topic or setting, the speaker's mood, purpose and so on (Kachru, 1977). Such mixing may take place at any level of linguistic structure, but its occurrence within the confines of a single sentence or even word, has attracted most linguistic attention. Before proceeding further, defining and distinguishing the core terms; code mixing and code switching is in order.

The earliest definition of CS dates back to Weinreich (1953), who defines bilingual people as individuals who switch "from one language to the other according to appropriate changes in speech situation". (Naseh 1997: 202).
In recent literature, there has been some variation in defining this term in comparison to code mixing.

The two phenomena are defined here as in (1) and (2), respectively, in the light of studies conducted (cf. Kachru (1978, 1982), Sridhar and Sridhar (1980) :

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(1) *Code switching* is the embedding or mixing of words, phrases, and sentences from two codes within the same speech event and across sentence boundaries.

(2) *Code mixing* is the embedding or mixing of various linguistic units, i.e., affixes, words, phrases and clauses from two distinct grammatical systems or subsystems within the same sentences and the same speech situation. He adds to say that this distinction between the two phenomena is not only convenient but also necessary because they make different linguistic and psycholinguistic claims. For example, CS does not require the integration of two languages involved in the discourse, whereas CM does. In other words, CM refers to mixing of codes within a sentence boundary whereas CS refers to switching of codes above the sentence boundary level.

According to Poplack (1980, 583), CS is the alternation of two languages within a single discourse, sentence or constituent.

As for Bentahila and Davies (1983) the "act of choosing one code rather than another must be distinguished from the act of mixing the two codes together to produce something which might itself be called a third code". It is this second phenomenon that Bentahila et al. refer to as CS, that is, "the use of two languages within a single conversation, exchange or utterance", (Bentahila et al. 1983:302).

For Di Sciullo et al (1986: 2) "CM is a form of linguistic behavior which produces utterances consisting of elements taken from the lexicons of different languages."

Michael Clyne, in his paper, "Constraints on Code Switching" (1987: 740) employs *code switching* in the sense of 'the alternative use of two languages either within a sentence or between sentences'.

Bokamba (1988: 24), uses CS, as a cover term, and says it can be viewed as consisting of two distinct phenomena: *code switching* proper and *code mixing*.

For Annamalai (1989:48), switching is normally done for the duration of a unit of discourse, but "mixing is not normally done with full sentences from another language with its grammar".

Code switching is a speech style in which fluent bilinguals move in and out of two (or conceivably more) languages, as illustrated in the Spanish-English examples in (3) and (4), taken from Belazi, Rubin and Toribio (1994).

(3) This morning *mi hermano y yo fuimos a comprar* some milk.

    This morning *my brother and I went to buy* some milk.

(4) The student brought the homework *para la profesora.*

     The student brought the homework *for the teacher.*

Muysken (2000:1) refers to CS as "the rapid succession of several languages in a single speech event"; however, code mixing (CM) refers to "all cases where lexical items and grammatical features from two languages appear in one sentence".

In short, code mixing is intra-sentential while code switching is inter-sentential. Though many linguists beg to differ in agreeing to these terms, code switching will be used as an umbrella term for both these phenomena in this thesis.

To illustrate further the difference in code mixing and code switching, examples are given below.

5. Life in cities is comfortable *bass* I am sick and tired of traffic.

   Life in cities is comfortable *but* I am sick and tired of traffic.

Here in this sentence, only one word from Arabic is mixed in a sentence of English. This is code mixing.

6. If you work hard, *ræh tingah*.

    If you work hard, you will pass.

Here in this sentence, the speaker starts in English but switches to Arabic to complete the sentence. This is code switching.

In combining languages intra or inter sententially, various problems of incompatibility may arise. Linguists term these incompatibilities as constraints and various models have been put forth to account for these incompatibilities. Researchers have investigated various language pairs (MacSwan (1997) (Spanish-Nahuatl); Bentahila and E. Davies' (1983) (Arabic-French): Berk-Selingson (1986) (Spanish/Hebrew bilingualism); Di Sciullo, Muysken and Singh (1986) (French-Italian and Hindi-English); Myers-Scotton (1988, 1993); Naseh (1997) (Persian and Swedish); Poplack (1980, 1981) (Spanish-English); etc) and have looked at the linguistic factors that operate to constrain code switching.

1.3. A formal discussion of postulated universal constraints on CM:

Although Labov (1971) characterized code switching as "the irregular mixture of two distinct systems," more recent work on the topic has shown that the mixture is in fact quite regular. Consider, for instance, the examples shown in (7) and (8).

(7) *I saw *lo*

   'I saw it'

(8) *Los estudiantes había *seen the Italian movie*

'The students have seen the Italian movie'

The fact that (7) and (8) are ill-formed and (3, 4, 5, and 6) well-formed suggests that code switching exhibits grammatical structure.

The remaining question is what the underlying structure is. As the references indicate, much has been written on this topic. The earliest proposals regarding the grammatical properties of code switching began to appear in the 1970s with Gumperz (1970, 1976), Timm (1975), Wentz (1977) and Pfaff (1979). In a study of Spanish-English code switching, Timm (1975) noticed that a code switch may not occur between a subject pronoun and a verb or between a verb and its object pronoun. Pfaff (1979) noticed additional constraints on code switching involving adjectives and nouns.

These early studies were concerned with the basic facts of code switching and did not attempt to provide anything approaching an explanation of grammatical phenomena in code switching.

The following are some of the constraints that have been proposed in the literature on code switching.

   a. Equivalence and Free Morpheme Constraint

   b. Closed Class Constraint

c. Functional Head Constraint

d. Government Constraint

Below I will outline some popular and influential approaches which have been attempted to explain code switching behavior; with particular focus on Pfaff (1979), Poplack (1980, 1981); Joshi (1985); Bentahila and Davies (1983), Di Sciullo, Muysken and Singh (1986); Mahootian (1993), Belazi, Rubin and Toribio (1994), Halmari (1997) and MacSwan (1997).

1.3.1. Pffaff's (1979) Approach: To Pffaff, it appears that speakers who code switch are competent in the syntactic rules of both the languages and so there is no need to posit a third grammar to account for the utterances in which the languages are mixed; rather, the grammars are meshed according to a number of constraints. She suggests specific functional constraints to express tense/mood/aspect and subject-object relationships as well as structural constraints which permit only surface structures which are grammatical in both the sentences.

1.3.2. Poplack's (1980, 1981) Approach: Poplack (1980) and Sankoff and Poplack (1981) talk about a different grammar for code-switched sentences, termed as third grammar by Mahootian (1993). Specifically, Poplack proposes the Equivalence Constraint and the Free Morpheme Constraint. These are reproduced as (9) and (10).

(9) Equivalence Constraint: Code switches tend to occur at points in discourse where juxtaposition of L1 and L2 elements does not violate a syntactic rule of either language, i.e. at points around which the surface structures of the two languages map onto each other.

(10) Free Morpheme Constraint: A switch may occur at any point in the discourse at which it is possible to make a surface constituent cut and still retain a free morpheme. Constraint (10) in other words means "No switch is allowed between a bound morpheme and a lexical form unless the latter has been phonologically integrated into the language of the former."

The examples show that this doesn't hold good in Arabic and English CS.

11. *illi*problem*aat* --- illi-problem-aat – the problem-F.plural

  Arabic {the} + English {problem} + Arabic feminine plural suffix {-aat}

                class*aat* – class-aat

  English {class} + Arabic feminine plural suffix {-aat}

                mushkil*ation* ---- mushkil – ation

  Arabic {mushkil} + English {-ation}

In examples above, the switch from Arabic and English and vice versa takes place between the bound morphemes {il-} , {-aat} , {-ation} and a lexical item. This is a violation of Free Morpheme Constraint.

This constraint does not hold good for Telugu-English code switches as well.

        12.   ches + ify---------------chesi*fy* (to finish)

               chus + ify ------------ chusi*fy* (to see)

We observe from the above examples that the switch from Telugu and English and vice versa takes place between the bound morpheme {-ify} and a lexical item. This is a violation of Free Morpheme Constraint.

A stronger form of Free-Morpheme Constraint is proposed by Wentz and McClure (1976:245) and Wentz (1977:237) under the heading of "The Bicodal –Word Constraint" which stipulates that

(13) No word can exist in natural language which contains morphemes from two codes identified as distinct by the speaker.

Like the Free-Morpheme Constraint, The Bicodal –Word Constraint would erroneously not allow items such as those highlighted in the examples above because they are each made with morphemes from distinct languages namely Arabic, Telugu and English.

1.3.3. Bentahila and E. Davies' (1983) Approach: Their study concludes that Arabic-French code switching is possible at all syntactic boundaries above the word level, though it is not generally permitted between word-internal morpheme boundaries. Contrary to popular claims, they say, for Arabic-French code switching, there is no constraint that the structure exhibiting a switch must conform to the surface structure patterns of both languages. They assume a new constraint (1983; 329) "All items must be used in such a way as to satisfy the (language-particular) subcategorization restrictions imposed on them".

1.3.4. Di Sciullo, Muysken and Singh's (1986) approach: is different from the others wherein they invoke the government holding between the categories to account for the constraints on the CS. Their government binding principle is reproduced as (14) below.

(14) *Government Constraint*

a. If L_q carrier has index q, then Yq ^{max}.

b. In a maximal projection Y^{max}, the L_q carrier is the lexical element that asymmetrically c-commands the other lexical elements or terminal phrase nodes nominated by Y^{max}.

It means to say that if there is government binding relation between two elements, they cannot be switched. There is government holding between the verb and its object and preposition and its object. The constraint then says that the governor should be in the same language as the binding element, that is the verb and the preposition must be from the same language. Contrarily, switches have been found where the verb or the prepositions are not from the same language.

15. nenu *book* ichanu

I book gave

I gave a book

As we can see from this example, the verb and its complement are from different languages.

16. aame *market*ki vellindi

She market to went

She went to market.

Again in this example, the preposition and its complement are not from the same language.

17. *i la al* supermarket

to the supermarket

The preposition and its complement are not from the same language.

1.3.5. Mahootian's (1993) approach

Her theory proposes that the syntactic heads determine the position of their heads. Her operative principle is reproduced below:

(18) The language of a head determines the phrase structure position of its complements in code switching just as in monolingual contexts.

She used Farsi-English code switches which were naturalistic data. In Farsi, the object occurs before the verb, contrasting with the basic word order of English. She observed that the language of the verb determines the placement of the object.
Joshi's (1985) examples given below prove contrary to her proposal.

19.   *some chairs *war*

     ………….. on

     on some chairs

Her principle is more about word order rather than a proposal of any constraints. She additionally suggests that code switched sentences will be well-formed so long as the basic selectional requirements of the syntactic heads are met. But the code switched sentences prove otherwise.

1.3.6. Belazi, Rubin and Toribio's (1994) approach

Belazi, Rubin and Toribio (1994) propose the Functional Head Constraint, arguing that it emerges from principles independently motivated in the grammar for other phenomena. They add the language feature checking on the lines of Abney's f-selection to the stack of features to be checked for grammaticality of the sentences. If the

language feature doesn't match, the switching does not occur. For example, functional heads and their complements do not match in the language feature, meaning, if they are not from the same language, there can be no switching. Their constraint is as in

(20) *The Functional Head Constraint*

The language feature of the complement f-selected by a functional head, like all other relevant features, must match the corresponding feature of that functional head.

They explain this constraint in the following words: The Functional Head Constraint thus restricts switching between a functional head and its complement by invoking the strong relation that exists between them. Here in the example, switching is disallowed between the functional head 'Neg' and its complement.

Example: 21. * Ana ma l'aime – š.

I not it like – Neg

I don't like it.   Belazi et al (1994: 222)

They also noticed that there are problems in modified structures. To account for this, they propose "the Word –Grammar Integrity Corollary" which states in (22)

(22) A word of language X, with grammar G_X, must obey grammar G_X.

But the Functional Head Constraint fails on the ground that it appeals to a so-called 'language feature' such as [+English] , [+Chinese] which has not independently been motivated to account for any other linguistics phenomenon but re-label the descriptive facts. Furthermore, evidence has been presented in Halmari (1997), MacSwan (1997) and Van Dulm (2002).

(23a.) Arranco *in* vestido *non de Maria*
    arranc-ó in vestido non de Maria
    pull-PAST/3Ss IN dress which of Maria
    'She pulled on Maria's dress'

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(23b) Se *hombre* kikoas se kalli
     se hombre 0-ki-koa-s se kalli
     a man 3S-3Os-buy-FUT a house
     'A man will buy a house'

(23c) Amo *estoy* tekititoc
     amo estoy tekiti-toc
     not be/PRES/1Ss work-DUR
     'I'm not working'

(23b) Amo *le dije*
     amo le dije
     not DAT.CLITIC tell/PAST/1Ss
     'I didn't tell him'   (from MacSwan)

1.3.7. Halmari's Approach:

Halmari (1997) further extends the application of the notion of government to code switching research in her account of American Finnish-English code switching. Halmari (1997: 99) notes the importance of case assignment and agreement relations in accounting for the American Finnish-English data, both of these notions being closely related to that of government. Specifically, Halmari (1997: 103) proposes an addition to and restatement of Di Sciullo et al.'s (1986) Government Constraint, namely that case and agreement morphology can act as language carriers. Halmari's (1997) proposal, based on data such as those in (24), is that all American Finnish-English code switching which adheres to the syntactic structure of American Finnish may be explained in terms of such a restatement of the Government Constraint. Note, once again, that much of the data in Halmari's (1997) study entails single word switches, which may potentially be accounted for in terms of borrowing and/or interference.

24. Otan sen *bookmark*in sieltä pois.

(I'll take the bookmark away from there.)

Me on *driver's training*+i+ä enemmän nyt o-otettu.

(We have now taken more driver's training.)

(Halmari 1997: 134)

1.3.8. MacSwan's (1997) "Minimalist" approach

The minimalist approach and its extension to the phenomenon of code mixing (MacSwan 2001; 2005) advanced the hypothesis that a mixed utterance is simply an utterance generated through the selection of lexical items belonging to the two lexicons available to bilinguals: any mixing is thus possible insofar as the words that are selected are endowed with compatible syntactic and morpho-phonological features. The main aim of minimalist syntactic framework is to make use of minimal theoretical apparatus to explain any language phenomenon. MacSwan proposes that analysis of code switching can be done without resorting to any extra apparatus other than the ones required to explain monolingual sentences. As MacSwan (1999: 146) notes, Chomsky's central aim in the Minimalist Program (cf. Chomsky 1995a; 2000) is to eliminate mechanisms that are not necessary on conceptual grounds, to make only the minimal theoretical assumptions to account for linguistic data. MacSwan (1999: 146) further suggests that such assumptions would "favor accounts of code switching which make use of independently motivated principles of grammar over those which posit rules, principles or other constructs specific to it". On the basis of a study of intrasentential code switching between Spanish and Nahuatl, MacSwan (1999: 14) proposes that "nothing constrains code switching apart from the requirements of the mixed grammars". MacSwan (1999: xxv) suggests that his research program is minimalist in two respects, namely (i) the proposal makes use of the minimal theoretical apparatus, corresponding to the so-called "virtual conceptual necessity" that is central to the Minimalist Program; and (ii) the code switching data are analyzed within the minimalist framework.

MacSwan (1999: 66) works within the boundaries of a syntactic theory in which parameters are restricted to the lexicon (cf. Chomsky 1991, 1993, 1995a). This entails that variations in surface word order of languages relate to the movement of lexical items triggered by lexically encoded morphological features (MacSwan 1999: 67). The implication is that distinctions between languages do not feature in syntactic theory, and should play no role in an account of code switching (MacSwan 1999: 146). MacSwan's (1999: 97) main research question concerns the principles that define code switching boundaries within sentences. Specifically, he seeks an "explanation of the code switching facts in terms of conflicts in the lexical requirements of words which are independent of code switching-specific mechanisms" (MacSwan 1999: 151). The strategy in pursuing such a goal is to locate language-specific conflicts in the feature specifications of functional categories in order to explain the code switching data (MacSwan 1999: 156).

A further important aspect of MacSwan's (1999, 2000) approach to the analysis of intrasentential code switching concerns his proposal of the phonological form (PF) Disjunction Theorem, according to which code switching is not possible in the computation from the Numeration (N) to the phonological form representation (π), i.e., in the PF component.

The ban on code switching in the PF component is due to the nature of this component, which differs from that of the logical form (LF) component, in that the computation from N to π modifies structures, including the internal structure of lexical items, by processes that are different in nature to those of the computation from N to the logical form representation (λ) (Chomsky 1995a: 229). Specifically, the PF component contains phonological rules which build structure on the basis of specific morphological

material with its phonetic content (MacSwan 2000: 45). Such rules are necessarily ordered, and such ordering is language-specific. This ordering of rules may not be maintained when the PF components of two languages are mixed. In order to allow for the language-specific nature of the PF component, MacSwan (1999: 187) posits the PF Disjunction Theorem, as an instantiation of Full Interpretation, and predicts that there will be no code switching below the level of an X^0, i.e., no code switching within an X^0, as X^0s are inputs to the PF component (MacSwan 2000: 46). Note that the PF Disjunction Theorem is not a constraint on code switching, of the nature of those proposed by, for example, Di Sciullo et al. (1986) and Belazi et al. (1994). Rather, it is "a theory about the relationship between the phonological components of a bilingual's linguistic system, and is deduced from the nature of phonological rules" (MacSwan 2000: 46). Thus, the assumption that "nothing constrains code switching apart from the requirements of the mixed grammars" (MacSwan 1999: 14) is maintained.

As an illustration of how the predictions of the PF Disjunction Theorem are borne out, MacSwan (2000: 46) considers the data in (16) and (17). According to Poplack (1980: 586), a switch is disallowed between the English stem *eat* and the Spanish bound morpheme *–iend*. However, MacSwan notes that such switching between an English stem and a Spanish bound morpheme is allowed if the stem takes on Spanish phonology and morphology, as in

(25) *eat-*iendo*   (Poplack 1980: 586)

(26) Juan está parqueando su coche.

    (Juan is parking his car.)

                                         (MacSwan 2000: 46)

The assumption is that morphologically complex words like *parqueando* are formed by word formation devices internal to the lexicon (cf. Chomsky 1995a), and that a switch is allowed here if one assumes that the English stem has been borrowed into the speaker's Spanish lexicon.

However, Katja Francesca Cantone (2005: 491) provides some data to contrast the PF Disjunction Theorem. She finds evidence where a suffix is added to a noun in order to agree with the determiner, German *Krone* is changed to *crona,* making it more similar to the Italian equivalent *corona.*

In conclusion, in this chapter, an introduction to the thesis has been given, different definitions for code switching have been presented, different approaches to code switching discussed and examples were presented to falsify the earlier proposals.

In the following chapter, I will discuss the methodology of collecting the data, the subjects of the study, and the presentation guidelines of the data.

Chapter 2

Methodology

This chapter presents information regarding data collection methods, different speech situations; informants and other sources of data.

2.1. Research Questions:

This research primarily attempts to answer the following questions.

1. What are the linguistic principles that account for the code switching data from Arabic-English and Telugu-English data?

2. Can word order differences in code switched languages make any difference?

 These main questions lead to other short questions which will be addressed using two sets of data.

1. How do these two sets of data differ from the other observed code switching data?

2. What are the descriptive features of these two sets of data?

3. Do earlier theories proposed by linguists account for these two sets of data?

4. How can the Minimalist Program account for these two sets of data?

5. What are major differences between these two sets of code switched data and do they point to a different approach to code switching?

2.2. Description of informants:

Informants for this study were selected based on particular criteria. Data was collected from informants who readily code switched between two languages as Valdes (1981) and Lipksi (1978) have stressed that code switching data can be collected only from those people who do not disregard the act of code switching. If informants come from such community where code switching is considered abnormal, they might be reluctant to code switch or may simply not engage in code switching at all. But the communities where I collected data from were not averse to the idea of code switching; rather they took pride in showing off their knowledge of both languages.

During this study, for Arabic-English data, I primarily worked with a set of seven English language teachers for grammaticality judgment of code switched sentences and for naturalistic Arabic-English data, I interacted with a group of students who are studying English in the college where I work and also with a group of students studying at the Sultan Qaboos University, Muscat, Oman. They are learning English in preparation for their majors. The English language courses are conducted by a separate Language Center attached to the university.

As for Telugu-English data, I worked with three consultants (including me as Telugu is my native language and English is the language I teach). Other two consultants also fit into the same description. For naturalistic data, I collected data from natural conversations among three native speakers of the language as well as from TV and radio.

Informants for Arabic-English Data: Out of seven of the informants four were female lecturers and the other three male teachers. Six of Arabic consultants selected for checking the grammaticality the sentences have been working at the Language

Center, Sultan Qaboos University, Oman for almost five to six years teaching English to the foundation students. Most of these teachers have been educated in the western world and have degrees in English from foreign universities.

One of the Arabic consultants works at the Language Center, Nizwa University, Nizwa, Oman. He has an M.A.(TESOL) from Queensland University, Australia. He has been working as a lecturer for the last five years. He code switches a lot in while teaching to facilitate easy understanding for the students. He is also not averse to the idea of code switching.

As for naturalistic data, I approached the students at the university explaining the purpose of my research and the need to collect naturalistic data. I recorded the students talking about various things at a cafeteria. The subjects of their discussion ranged from films, to classes they attend, to music. They were not under any pressure from me as I was not present with them. The students were left to discuss among themselves and they did discuss naturally without any inhibitions, or being consciously aware of their own discussion.

Informants for Telugu-English Data:

All three consultants for Telugu-English code switched data have been exposed to Telugu and English right from their childhood. They have postgraduate degrees in English and have been teaching English at the undergraduate level for the last twenty years.

The naturalistic data was collected from Telugu television programs and radio programs where code switching is a way of life.

2.3. Methods of collecting the data

Two methods were used to collect data for this research.

      a.   grammaticality judgment   b. naturalistic data

Though some linguists like Labov (1971, 1972) prefer one to the other, others like MacSwan (1997) feel that both the methods work perfectly for collection of data. Though naturalistic data is very useful because it doesn't involve any pressure on the participants, unless we have data which can tell us where switching cannot occur, we cannot formulate any theory.

2.4. Presentation of data in this thesis:

Data in this thesis is presented in the following format:

    a.   I am speaking.

    b. * *nenu* speaking *unna-nu*

       I ……   be   I PS Agr

The first line is pure English sentence, the second line is code switched sentence, and the third is a morpheme by morpheme gloss.

Utterances prefixed with a star (*) are considered ungrammatical by the consultants while the ones prefixed with a question mark (?) are considered doubtful. Those sentences are not completely ruled out by the consultants but they reserve their comments.

The code switched part in the sentence is italicized as literature demands. The gloss is given only for code switched data. Gloss is not provided for English part of the

sentence. The gloss also includes information regarding agreement and case of the morpheme and whether it is I person, II or III person agreement morpheme.

2.5. Abbreviations of terms used in presentation of data

Abbreviation	Explanation
I P S Agr	First person singular subject agreement
I P S	First person pronoun –singular
I P Pl	First person pronoun –plural
I P O Agr	First person pronoun –object agreement
II P S Agr	Second person singular subject agreement
II P S	Second person singular
II P Pl	Second person plural
II P O Agr	Second person singular object agreement
III P S Agr	Third person singular subject agreement
III P S M Agr	Third person singular masculine Agreement
III P S F Agr	Third person singular femenine Agreement
III P Pl	Third person plural
III P O Agr	Third person singular object agreement
Adj	Adjective
N	Noun

Abbreviation	Explanation
V	Verb
WO	Word Order
Dur	Durative
Dat	Dative
Indef	Indefinite
INF	Infinitive
1S	I person Subject pronoun
2S	II person Subject pronoun
3S	III person Subject pronoun
1O	I person Object pronoun
2O	II person Object pronoun
3O	III person Object pronoun

2.6. Types of sentences used in grammatical judgment are as follows:

1. **because + CP**: He is working hard because he wants to come up in life.

Arabic – English: *hua ishtogel bigthihad* because he wants to come up in life.

 He   work   hard ………………………………

Telugu – English:

atanu chala kastapadutunnaDu endukante he wants to come up in life.

He   very   work   Dur IIIPSM Agr why (because)……………

2. **conjunction + CP**: Ramu loves Sita and he's going to marry her.

Arabic – English :

ana ishtogel qhilal el nahar ***and*** idris qhilal alleil.

I   work   in the morning …. study   in the evening.

Telugu – English:

Ramu Seetha-nu preminsth-unnaDu *and* aamenu pelli chesukobothunnaDu.

Ramu seehta (her) love dur IIISM Agr … her marriage do will IIIPSM Agr

3. **that + IP** : He's going to understand that he spends a lot of money.

Arabic – English: He's going to understand *biannahu yenfeq bi israaf*

……………………….. that he understand spend money

Telugu – English: ? I told him that *Chiranjeevi ante naakistamu.*

……………………….means I dat like

4. **modal + VP**:   He can sing a song.

Arabic – English: * *hua / hiya yagib* sing.

He / she

Telugu-English: *atanu pata* sing*agalaDu*.

He song   sing can IIIPSM Agr

5. **Aux + V:** He is walking.

Arabic – English : He is *emshi*.

.....................walk(ing)

Telugu – English : * *atanu unnaDu* walking

He   be   IIIPSM Agr

6. **Neg + V**: He is not eating

Arabic – English: * hua *not* yaakul

He   not eating

Telugu – English: * nenu *eating* ledu

I   …….. not

Finally, research questions posed in the earlier section of this chapter will be answered in data analysis which is the fifth chapter. The question whether word order differences is an important factor to code switching theories will also be answered in the same chapter.

Chapter 3

Syntax of English, Arabic and Telugu

The details of the research methodology, subjects and the methods of data collection were reviewed. In this chapter, the syntax of two languages- Arabic and Telugu, the two major languages we examine for code-switching and English are discussed. CP (Complementizer Phrase), IP (Infinitival Phrase) and DP (Determiner Phrase) are looked at in detail as these are the sites where code switching is reported to occur maximally.

3.1 Description of Arabic language

Although the Semitic languages do differ from one another –just as French and Spanish—they do share one characteristic that facilitated transition from one to another. This is reliance on verbs made of three consonants (the tri-consonantal root, as it is sometimes called) as the basic building block from which other elements of the language are derived, following a surprisingly regular set of word patterns.

Verbs: In Arabic, for example, the three consonants **sh-r-b** convey a basic idea equivalent to the English word-drink. From this root, we can derive different verbal ideas. After vowel insertion, we have **sharaba** meaning "he drank". This simple verb can then be altered in various ways to mean different ideas of drink. When we emphatically pronounce ("double") the second consonant of the root-we have the idea of making someone drink. With **sharraba** we have two meanings: 1.He made (him/it) drink. 2. He watered it. On the other hand lengthening the vowel following the first vowel **sharaaba** means "to have a drink with someone" or "to drink in someone's company". Further, if one prefixes an additional consonant /t/ to the II form of the verb

the meaning generally becomes reflexive. **Tasharaba** means "he got it drenched" "he soaked it up". Originally Arabic had fifteen such patterns but only ten are in common use.

There are similar patterns used to form nouns, adjectives and even sometimes prepositions. If one prefixes **"ma"** and deletes the vowel after the first consonant, in the word **sharab**, to form **mashrab,** it generally means "place for drinking" which in turn can mean any of the following: watering hole, a drinking trough, a fountain or a restaurant bar.

Select Syntax of Arabic:

Arabic is a synthetic language while English is an analytic language. In other words, Arabic uses special endings placed on nouns, adjectives and pronouns called 'cases' to indicate the function of one of these words in a sentence. English, being an analytic language, uses word order to perform this function: if a noun precedes the verb, it is assigned the function of the subject ("doer of the action"). If it follows the verb, it will generally be considered the object ("recipient of the action"). Arabic can use word order to convey this information, and it often does. But it also uses (and more characteristically) special case endings to ensure the message is understood. In Arabic, the subject of a sentence is identified by the vowel /u/ placed at the end of the word and it would remain the subject regardless of where it is positioned in the sentence. The object would have the vowel /a/ suffixed to it, and the objects of any prepositions would receive the /i/.

Arabic has three cases: the nominative, the accusative and the genitive. Nominative is used to mark the subject of the sentence. The sign of the nominative is generally a final

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short vowel /u/ although in some cases other endings must be used. The accusative case is used to designate the object of a sentence and for creating adverbs from nouns and adjectives. The most common marker is a short vowel /a/ placed at the end of the word. The genitive case has a number of uses, the most common one being indication of objects of **all** prepositions. It is also used to designate the noun which is the "possessor" in a possessive phrase (like the '-s in the English possessions). The marker used to indicate this case is a short vowel /i/ placed at the end of the word.

The usage of nouns and adjectives in Arabic also differs in some significant ways from English. There are three forms of numbers (singular, plural and dual) unlike English which has only two numbers (singular and plural). The dual form of Arabic nouns refers to exactly two things, for example, eyes, ears, hands etc. Further unlike English where most plural forms are formed by adding the suffix –s/-es and only a few irregular verbs, in Arabic it is the reverse. Most plurals are formed irregularly because they break up the consonant structure of the singular word. Only a few are formed by adding the regular suffixes /–at/ (for inanimate and female human beings) or /-un/ (for male human beings.)

The verbs of Arabic differ from those of English, particularly in how tenses are perceived. In Arabic, the basic distinction of verb tense is between 'completed' and 'not completed' actions. The infinitives and negated verbs are considered 'not completed' even if they describe past events. Though it is possible to differentiate between present and future or simple past and past perfect using special words preceding the verb, they are considered optional and so seldom used.

The word order in Arabic sentences also differs from that of English sentences. In Standard Arabic (SA), the word order is VSO but in spoken Arabic, it is SVO just as in English. "To account for the availability of both VSO and SVO orders, Chomsky (1993) suggests that the NP features of [[T] AgrO]] can either be weak or strong in SA. When they are weak, raising of the subject to Spec, AgrS P is barred by Procrastinate, and when they are strong, raising of the subject is obligatory. The correlation between the position of the subject and agreement inflection is simply a reflex of the weak and strong nature of AgrS. The V features of [[T] AgrS]] are invariably strong in SA with the consequence of the verb raising overtly to AgrS. With V in AgrS, failure of the subject to move to Spec, AgrsP results in the derivation of VSO word order and movement of the subject to Spec, AgrSP results in the derivation of SVO"(Jamal Ouhalla, 440, 1999). As code switching in Standard Arabic is not allowed, and it occurs only in everyday use of the language, which is the colloquial form, examples involving spoken form of Arabic are presented in this study. So, the assumption is that NP features of [T, AgrS] are strong. So subject moves in colloquial speech to get the SVO word order.

3.2 Select syntax of Telugu

Description of Telugu language

Telugu is one of the four main Dravidian languages spoken primarily in Andhra Pradesh in India. The unmarked word order in Telugu is SOV. A number of features seem to follow from this dominant pattern, viz, adjective including possessive nominals precede the nouns they modify, adverbs precede the verbs, and postpositions follow the nouns rather than preceding them.

The major word classes are nouns (substantives, numerals, pronouns), adjectives, verbs, and indeclinables (particles, enclitics, adverbs, interjections, onomatopoetic words, echo words.) Finite forms of the verb (forms showing person and number) are, ultimately, "pronominalized" verb stems. A sentence in Telugu may be simple, compound or complex. Lexical nouns in Telugu are inflected for person, gender and number. The plural is formed by adding –lu to the stem.

(1) upadhyayu - Du +   - lu - upadhyayulu

teacher – Agr III P S male--- pl marker-----teachers

Nouns in Telugu have no case inflection with the exception of pronouns. Adjectives are also not marked for agreement when used attributively. When used predicatively, the adjective is marked for number, gender, and person by the pronoun.

(2) (a) aame telivainadi   She is intelligent.

She intelligent IIISF Agr

(b) vaaDu telivianavaDu.   He is intelligent.

He   intelligent IIIS M Agr

(c) vaaLLu telivainavaLLu   They are intelligent.

They intelligent III Pl Agr

Telugu doesn't have any form that corresponds to the verb [have] and hence in nonnominative constructions, only the verb [unD] 'be' occurs and not 'have'.

(3) aameku oka illu undi

She (dat) one house be

She has a house.

Telugu is a nominative-accusative language. The subject may be structurally case-marked nominative, in which case the verb agrees with it. However, if the predicate is an experiential predicate (i.e. a predicate that expresses a physical or emotional state, such as hunger or anger, or possession), the subject is inherently case-marked dative.

(4) (a) Sridhar vanta ceesaa-Du

Sridhar.NOM meal cook did-3.M.S

'Sridhar cooked (a) meal .'

(b) caalaa mandi vanta ceesaa-ru

many people. NOM meal cook did-3.M.P

'Many people cooked meals.'

(c) Sridhar-ki koopam vaccin-di

Sridhar-DAT anger. NOM came-3.N.S

'Sridhar got angry.'

Unlike nominative NPs, however, dative NPs do not trigger agreement on the verb. In (c) above, the verb agrees with the (neuter) nominative NP koopam 'anger (nom)' rather than with the (masculine) dative NP Sridhar-ki 'Sridhar (dat) '.

Tense in Telugu: Finite declarative clauses in Telugu take verbs that are inflected for tense and agreement. The verb may belong to one of the following morphological paradigms: future or non furture. Concerning agreement, verbs inflect for person, gender (only 3rd person), and number. For example, the verb /cepp-/ ' to tell ' takes one of the forms in (a–c) if used in a declarative finite clause with a 3rd person feminine subject ; compare to (d–f), in which the verb agrees with 3rd person masculine subject. The variation in suffix forms is morphophonological (Krishnamurti 1997: 216–221).

(5) (a) ceppin-di   (b) ceptun-di

   tell-PAST-3.S F   tell-NONPAST-3.S F

   'she told'   'she tells/will tell '

(c) ceppa-Du   (d) ceppaa-Du

   telll-NEG-3.S F   tell-PAST-3.S. M.

'he won't/doesn't tell '   'he told'

   (e) ceptaa-Du   (f) ceppa-Du

   tell-NONPAST-3.S.M   tell-NEG-3.S.M.

   'he sells/will sell '   'he won't/doesn't tell '

There are no real articles in Telugu. We have a [oka] roughly corresponding to 'a'.

   6. aameku oka illu vundi

     Her (dat) one (a) house be.

     She has a house.

The absence of stringent conditions on the word order, combined with case marking on the complement NPs and gender, number and person marking on the verb, allows deletion of subject NPs, Telugu being a PRO-drop language.

    7. (a) ninnane pustakamu icchesindi

        Yesterday itself   book give past marker III S F Agr

        She gave the book yesterday itself.

    (b) repu vasthaDa?

        Tomorrow come III SM Agr will

        Will (he) come tomorrow?

  Most of the times, the subject NPs in Telugu sentences are understood from the pragmatic or discourse contexts.

3.3 Features, Interpretability and Movement

The existence of movement is tied to the role that lexical features play at the interfaces. To account for such an assumption, it is further assumed that lexical items are composed of sets of phonological, semantic and formal (syntactic) features. Phonological features are readable at PF level but not at LF; conversely, semantic features are readable at LF but not at PF. The lexical item *girls*, for example, has the formal feature [plural], which is associated with the phoneme /s/. Both pieces of information are manipulated by morphology and after such manipulation, only /s/ proceeds to PF. In other words, though phonological features correlate with formal features to receive interpretation at LF, formal features themselves cannot. Syntactic

features may also be accessed by the rules of semantic interpretation. Those features which have this effect are called interpretable features. These include features for number, person and gender. Features of number and gender could be interpretable or not, depending on the language, for instance, in Arabic and Telugu, they are interpretable as they contribute to the semantic content.

(8) (a) mohammed un ya-ktubu al-risaalat a

Mohammed Agr III S M Agr write the letters PL.Marker

Mohammed writes letters.

(b) Sridhar uttaraalu raasthaa Du

Sridhar letter – pl marker write III S M Agr

We can see from the above example that features of number and gender are interpretable features as they contribute to the semantic content of the word.

Minimalism distinguishes two kinds of features: strong and weak (this distinction has nothing to do with the interpretable/uninterpretable dichotomy). Strong features must be checked overtly (before Spell-Out), weak features may wait till LF. This means that in the case of weak features, movements driven by feature-checking needs cannot be 'seen'. Syntactic differences between languages may result from the fact that the same feature is strong in one language, and weak in another.

In this way one can explain different adverb placement in English and French:

(9) (i) *John often kisses Mary.*   (ii) **John kisses*i *often* **ti** *Mary.*

(iii) **Jean souvent embrasse Marie.*   (iv) *Jean embrasse*i *souvent* **ti** *Marie.*

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English: IP/TP is associated with a weak V feature, so the verb that checks that feature is not overtly raised (checking takes place at LF). French: IP/TP is associated with a strong V feature, so the verb that checks that feature is overtly raised to I°/T°, hence it must precede the adverb in surface syntax.

Lexical elements enter the derivations with their features already specified and all that needs to be done is to check the features through matching the features. If no appropriate matching is available, then the derivation crashes. For example, consider the following derivations.

(10) (a) He loves Mary.

(b) * Him loves Mary.

According to the checking procedure both [he] and [him] enter the derivation with their case feature specified and in accordance with the PISH (Predicated Internal Subject Hypothesis), move to [Spec, IP]. Since finite T in 10 (a) is associated with NOM feature, [he] can have its case feature checked in this configuration, but [him] can not. [him] has an accusative case specified which is in contrast with the NOM feature of finite T. So the derivation in 10 (a) is accounted for whereas (b) crashes.

Chomsky (1995a) made a distinction between interpretable and uninterpretable features: 'φ-features (that is, features for person, number and gender) on a noun or pronoun are interpretable because they have a role to play in the semantics of the noun or pronoun. (e.g., a pronoun with the features [3M, SG] refers to a different element than a pronoun with the features [3F, PL]). The same features on the finite verb, however, are uninterpretable, because they have no meaning there. The idea was that uninterpretable features, because they have no semantic value, must be erased during

the derivation. Erasing features can be done by establishing an agree relation with an element that has the same features. Therefore, a finite verb, having a set of uninterpretable 'φ features, tries to agree with a noun phrase (the subject) which also has a set of φ features. If the agree relation is successfully established, the uninterpretable features on the verb are erased. If for some reason, the uninterpretable features cannot be erased, the derivation crashes.

Only uninterpretable features must be checked (i.e. those that do not contribute to semantic interpretation); for instance, the case of a noun is uninterpretable, whereas the number of a noun is interpretable. Movements are driven by the necessity to check features. Feature checking is one of the most important tenets of minimalism (e.g. a tensed VP must be checked by a T head, etc.). Two elements can't create a syntactic structure unless they can check each other's features.

Coming back to the derivation of the syntactic structures, the phrase structure is derived from the lexicon using three operations called *Select*, *Merge* and *Move*. *Select* picks lexical items from the lexicon and introduces them into the numeration, an assembled subset of the lexicon used to construct a derivation. Another operation, *Merge*, takes items from numeration and forms new, hierarchically arranged syntactic objects. Merge allows the checking of an uninterpretable c-selectional feature on a head, since it creates a sisterhood syntactic relation. The operation *Move* applies to syntactic objects formed by *Merge* to build new structures constrained only by the condition that lexically encoded features match in the course of a derivation. According to Chomsky, "the operation Move is driven by morphological considerations: the requirement that some feature F must be checked" (Chomsky, 1995: 262). Then F (a feature) raises to

target b (a full-fledged category) in K = {g, {a, b}} to form K = {g, {F, b}}, or it raises to target K to form {g {F, K}}.

As has been repeatedly reported in the literature, the syntactic objects move from their original place in the derivation to the place where their features are matched and cancelled yielding the correct surface structure. Let us look at some examples that validate the above point.

THE WH-CRITERION

(i) Each [+wh]-C must be in an agreement relation with a wh-operator

(ii) Each wh-operator must be in an agreement relation with a [+wh]-C

      11. a. *Bill asked Mary had met who.

           b. Bill asked who Mary had met.
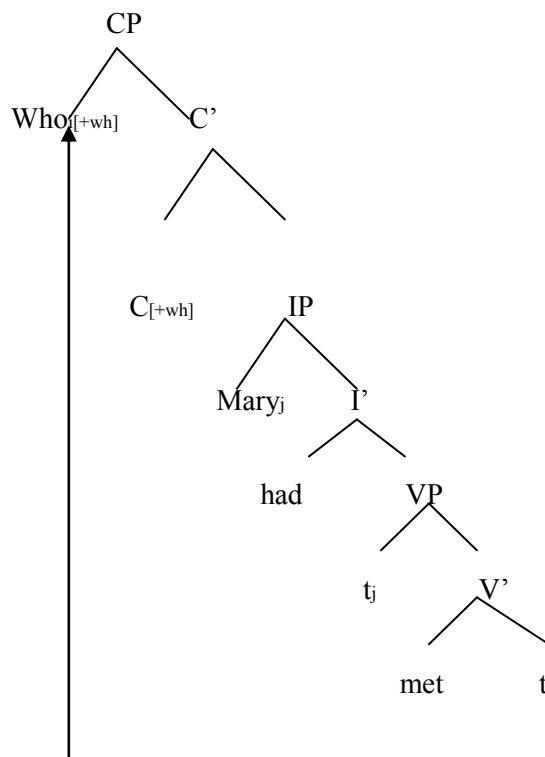
Now let us see how interpretable and uninterpretable features are matched, checked and how uninterpretable features are erased during the derivation. Consider the sentence.

12. He has gone.

The features carried by each of the three words:

	He	has	gone
Head features	3 SM Nom	present tense	n participle
Specifier Features	------	requires 3 SM Nom sub	--------
Complement features	------	requires comp headed by a verb in the n- participle form	---------

Since neither [he] nor [gone] has a specifier or a complement, we assume that they do not require a specifier or a complement in this sentence. So, the structure of (12) will be

13.
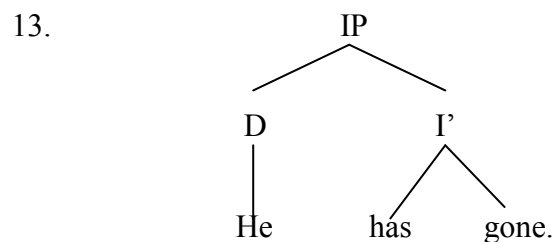
From this we can conclude that the only interpretable features in (12) are 3 MS Nom [gender, number and person] head features of he as it can tell us that the reference is only to an entity like the boy but not to an entity like she or they. Also, the head feature of 'has' is interpretable as it is different from the word had / have.

Contrastingly, the case features are uninterpretable since the pronouns like <u>he/him</u> carry the same interpretation (as subjects of will<u> win</u> or <u>to win</u>). In addition, all verb inflections other than tense inflections are uninterpretable resulting in +n feature of gone being interpretable.

Assuming that specifier feature of a head must be checked against the head features of the specifier and the complement features of a head must be checked against the head features of the COMP and if there is a match between the checker and the checked, the relevant specifier or complement features are erased as they are uninterpretable.

Now let us see how checking works in the above derivation. The Spec features of [has] are checked against the head features of specifier [he] and because the relevant features (3S M) play a role in the interpretation of [he], the interpretable head features of [he] are not erased. But the uninterpretable specifier features of [has] are erased as they don't add to the semantic content. Furthermore, the [Nom] specifier feature of [has] is checked by the [Nom] head feature of [he] but since case features play no role in semantic content, both uninterpretable [Nom] features are erased. Thus, checking erases all the uninterpretable features of [he] and [has] but leaves the interpretable (3SM) features of [he].

Now to the complement features of [has] when they are checked against the head features of the complement [gone], they match exactly since the +n feature complement feature of [has] tells us that it takes a complement headed by an n-participle and [gone] is an n-participle. Since any inflections other than the inflections of finite verb play any role in semantic content, both uninterpretable +n features are erased. Finally we can see that except the interpretable [3SM] of [he], the rest of

uninterpretable features get interpreted and hence are erased and so this is a successful derivation.

3.4. Interpretable and uninterpretable features in English, Telugu and Arabic:

From the above discussion, we can deduce that

- the most important feature of the Minimalist Program is the assumption that the lexicon has much richer requirements than in the previously proposed explanations of language faculty.

- verbs are assumed to enter the derivations completely inflected.

- features are checked against their corresponding features encoded in the lexical category.

- the functional categories such as AgrS, T and AgrO have their own features to which features encoded in the verb in the lexicon must correspond to; the function of these v-features is to license the morphological properties of the verb taken from the lexicon.

According to Chomsky, the morphological elements Agr and T have two functions.

    a.   to check features of the verb that moves to them; and

    b.   to check the properties of the DP that raises to their Spec.

Functional elements AgrS, T and AgrO have not only the function of licensing the v-features of V but also the function of checking NP features of DP that raises to the Spec position. Within minimalism, licensing of features takes place under the Spec-Head agreement relationship, thus ensuring that 'DP and V are properly paired'.

According to Chomsky, there are different kinds of features-

   a. categorial features   b. Φ- features (gender, number, person)

   b. Case features   d. Strong F, where F is categorial

Let's discuss a few examples to illustrate different features which in turn help us to establish the differences and similarities between three languages. The word orders of the three languages are as follows:

Though VSO is the word order in Standard Arabic, SVO is the attested word order in colloquial/ spoken Arabic. SVO is the word order of English and in Telugu, though the word order is very flexible, the attested word order is SOV.

   14. mohammed un ya-ktubu al-risaalat a (Arabic)

      Mohammed Agr III S M Agr write the letters Pl.marker

      Mohammed writes letters. (English)

      Sridhar uttaraalu raasthaa Du (Telugu)

      Sridhar letter – pl marker write III S M Agr

It can be observed from the above examples that intrinsic features of the three lexical items include categorial features [3person] singular in Mohammed, [IIIperson], singular and masculine in *ya-ktubu/raasthaaDu* which assigns accusative case to *al-risalaata/uttaraalu* and T assigns a nominative case to 'Sridhar'. In Chomsky's analysis of English, optional features include singular/plural for 2 DPs and the Φ features of the verb writes/ *'ya-ktubu/raasthaaDu'/*.

We can observe in the above example, the features (gender, number, person) of a DP specifier usually appear on the DP (i.e, the subject DP and on the verbal head), thus triggering the agreement. However, the case feature of DP doesn't show up on the head. According to Chomsky the Φ features tend to be overtly manifested when they are raised to the checking domain in an overt manner. It happens in "verbal agreement with subject vs. object in nominative-accusative languages with EPP….' Distinction between ± interpretable features is very crucial for Chomsky. While interpreting the above example, we make clear that *ktubu/raastaaDu* is a verb and *uttaraalu/risaalat* is a noun having the features [plural] [-human] and [3person]. We adopt Chomsky's view that these syntactic operations have no way to interpret the case of *uttaraalu/risaalat* or the agreement features of the verb that have to be eliminated at the LF for the sake of convergence. This leads us to conclude that the optional features of ± singular of nouns in +interpretable are not eliminated at LF.

Chomsky argues that in English 'the case features of V and T are intrinsic but [-interpretable], hence eliminated at LF….' But according to Abdul Hafeed Ali Fakih (2006) in Arabic, case features of V and T are intrinsic and [+interpretable], hence not eliminated at LF. This is because overt nominative case ending of subject DP is completely different from overt accusative case of object DP.

15. ya-ktubu mohammad un al risaalaat (VSO)

    III S M Agr write Mohammed Agr the letters PL.Marker

    Mohammed writes letters.

    mohammed un ya-ktubu al risaalaat (SVO)

Mohammed Agr III S M Agr write the letters PL.Marker

Mohammed writes letters.

16. ta-ktubu fatimat u al risaalaat (VSO)

III S F Agr fatima Agr write the letters PL.Marker

Fatima writes letters.

fatimat u ta-ktubu al risaalat (SVO)

fatima Agr III S F Agr write the letters PL.Marker

We can clearly identify from (15) and (16) that the subject DP in all positions is overtly case marked nominative T(ense) regardless of wherever it occurs and the object DP is also overtly case marked irrespective of the position. This suggests that the case features of T and V in Arabic are +interpretable.

Now, let us look at Telugu.

17. Raadha uttaraalu raasthundi.   18. Sridhar uttaraalu raasthaaDu.

Radha letters write III S F Agr   Sridhar letters write III S M Agr

Radha writes letters.   Sridhar writes letters.

uttaraalu rasthundi raadha   uttaraalu raasthaaDu Sridhar

letters write III S F Agr Radha   letters write III S M Agr Sridhar

Radha writes letters.   Sridhar writes letters.

We can conclude from (17) and (18) that the verb has interpretable features. The verb *raasthundi* in (17) selects only [3person], [feminine] and [singular] NP as its subject; whereas the verb in (18) selects only [3person], [masculine] and [singular] NP as its subject unlike in Arabic, where the subject and object though overtly not case marked; they can be deduced from the overt markings on the verb. A closer look at (15), (16), (17) and (18) reveals that the Φ features marked on the verb are distinguishable. The Φ features of the verb in (16) and (17) suggest that the subject DP has to be [3person], [feminine] and [singular]; whereas the Φ features of the verb in (15) and (18) suggest that the subject DP has to be [3person], [masculine] and [singular]. It is in this respect that these two languages differ from English because of their rich inflectional system.

If we reverse the Φ features marked on the verb in (15), (16) and (17), (18), the derivations will crash as demonstrated because Φ features spell out the agreement relation holding between subject DP and the verbal head. Hence such Φ features are [+ interpretable] since they provide some semantic content.

19. * ta-ktubu mohammad un al risaalat a

    III S F Agr Mohammed Agr write the letters PL.Marker

20. * ya-ktubu fatimat u al risaalat a

    III S M Agr fatima Agr write the letters PL.Marker

21.* Raadha uttaraalu raasthaaDu.

    Radha letters write III S M Agr

22. * Sridhar utaraalu raasthundi

      Sridhar letters write III S F Agr

The difference between grammatical (15), (16), (17), (18) and ungrammatical (19), (20) (21), (22) is due to the AGR morpheme marked on the verb. This inturn reflects the richness of verb inflection in Arabic/Telugu and shows how they are different from English. In English the AGR morpheme on the verb cannot distinguish between masculine and feminine DPs. This explains why Φ features are –interpretable.

23. a. John writes letters.   b.Linda writes letters.

Now let us turn to the Φ features of adjectives in the three languages.

24. al – rajul – u   al – Tawi:l – u   25. the tall man

     The man   the tall   the tall woman

    al – mar?at – u   al – Tawi:lat – u

     the woman   the tall

26.atanu poDugu / poDugatanu

    he tall   tall man

    He is tall.   a tall man

27. aame poDugu / poDugaame

    she tall   tall she

    She is tall.   tall woman

As can be seen from (24), (25), (26) and (27) the structure of Arabic AP is different from English and Telugu APs. Adjectives follow nouns in Arabic whereas adjectives precede nouns in English. In Telugu, both the word orders are attested. Moreover a closer look at (24), (25), (26) and (27) reveals the fact that adjectives have to agree with the NP in number, gender and person in Arabic; whereas it is not the case in Telugu and English. So we can conclude that the Φ features of adjectives in Arabic are +interpretable but they are –interpretable in English and Telugu.

3.4 Parametric differences between Arabic, English and Telugu

Chomsky claims that the parametric differences between languages can be reduced to differences in the features of lexical elements occupying the functional category nodes. Stabler and Chomsky though a little differently assume that the basis for overt or covert movement of the items in a derivation. In short, adopting MacSwan (1997: 280)

Word Order	Lexically encoded parametric values
SVO	V is a weak case assigner
(English and Spoken Arabic)	T and C have weak ύ features
SOV	V is a strong case assigner
	T and C have weak ύ features (Telugu)
VSO	V is a strong case assigner
	T and C have strong ύ features

The order of functional heads Neg, T and Agr differs from one language to another due to parametric differences. It is claimed that in English-type languages and in spoken Arabic TNS appears inside AGR whereas in Telugu it appears outside.

Sentence tree structure: English and Spoken Arabic.

28.

```
                          CP
                        /    \
                    Spec      C'
                            /    \
                          C      Agrs P
                                /      \
                            Spec       AgrS'
                                       /    \
                                   Agr S     TP
                                           /    \
                                       Spec      T'
                                               /    \
                                              T      VP
                                                   /    \
                                               Spec      V'
                                                       /    \
                                                      V      XP
```
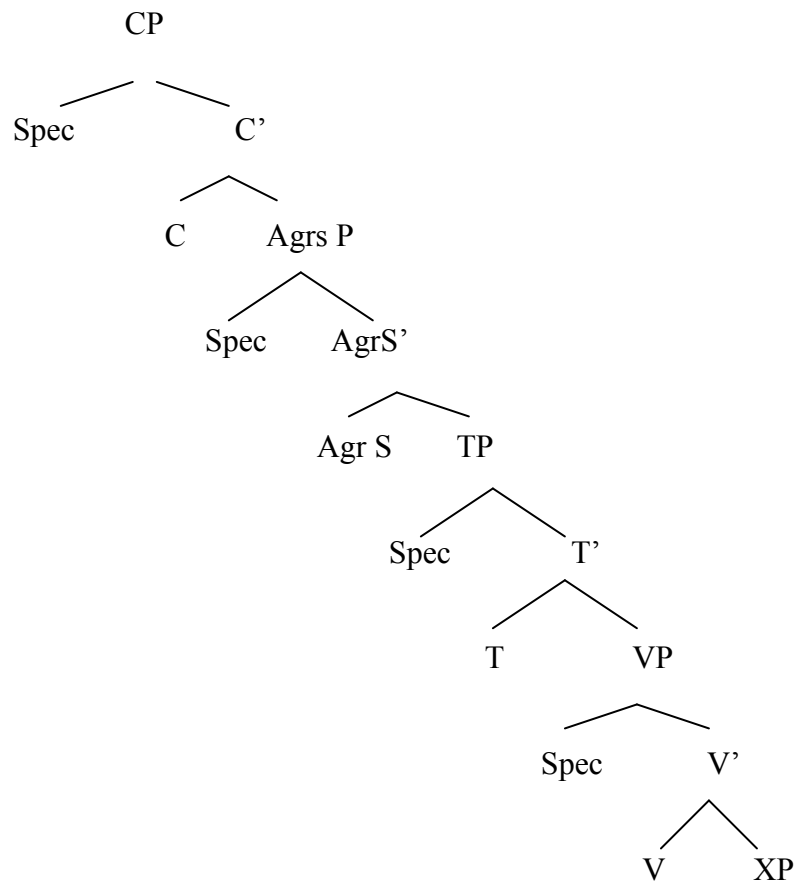
Tree structure of a Telugu sentence:

29.

```
                    CP
                  /    \
               Spec     C'
                       /  \
                      C    Agrs P
                          /    \
                       Spec     AgrS'
                               /   \
                            Agr S    TP
                                    /  \
                                 Spec   T'
                                       /  \
                                      T    VP
                                          /  \
                                       Spec   V'
                                             /  \
                                            V    XP
```
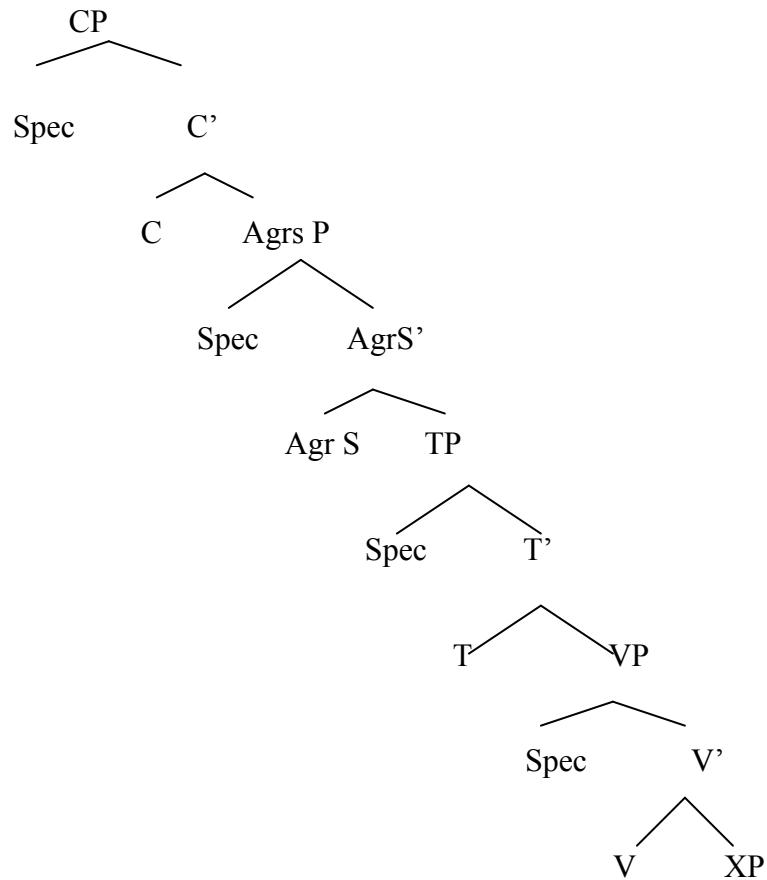
The structures: There are cross linguistic word order variations in these structures in all three languages.

DP:

30.   English: a beautiful girl

Telugu: oka andamaina ammayi

one (a) beautiful girl

Arabic: bint jameela

girl   beautiful

48

From the above examples, we can conclude that the word order in DP in English and Telugu is same whereas the word order in Arabic is a mirror image.

CP:

31.   English: I told her that I like my mother very much.

Telugu: maa amma ante chala istamani nenu aameku cheppanu

My mother means very much like that I her told

Arabic: qaltu hu lan bianni auhub aummi kathiir jidden

I told him that I like my mother very much.

The word order in Telugu CP is different from English CP. The complementizer 'ani' comes after the clause. But in English and Arabic, it comes before the clause. It is also interesting to note that the COMP in English and Arabic can be dropped sometimes.

IP:

32.   English: He blows his nose.

Telugu: atanu mukku ceedutunna Du

He   nose   blows   IIIP S M AGR

Arabic: y emkat anfu h

III S M Agr blows nose his

The word order in Telugu IP is different from IP in English and Arabic.

Literature on Word Order Differences

Before I continue with the diagrammatic representations of all the three structures in three languages, I will outline what the linguists say about word order differences between languages.

Greenberg's (1963) observations of implicational relations among word order types inspired the earliest approaches to word order change. Early generative grammar traditions following the Aspects model (Chomsky 1965) located variations in basic word order in phrase structure rules. Simply put, word order differences in SOV / SVO would be

SVO ⟶ VP ⟶ V NP

SOV ⟶ VP ⟶ NP V

W.Lehmann (1973) made two important proposals in this connection. Firstly, since subjects in many languages can be dropped and aren't "primary elements" of a clause, the word types are reduced to two: OV and VO. Secondly, in typologically consistent OV languages, verbal modifiers appear to the right of the verb and nominal modifiers appear to the left of the verb; and in consistent VO languages, we find the opposite pattern. He proposes that 'when languages show patterns other than those expected word order, we may assume that they are undergoing change.'

Language variation is accounted for even in the X' based generative grammar. Thus within the Principles and Parameters approaches (cf Chomsky 1981, Stowell 1981), we find a directionality parameter conditioning the relative word order

of a head and its complement. Lectures on Government and Binding Theory did not change the fundamental assumptions in a significant way.

It has also been an implicit assumption in most generative approaches that internal word order variation in a language (the free word order or scrambling) is to be handled using movement rules. Thus while cross linguistic variations in word order were explained using PS rules, language internal variations were located in transformational components. The same view was held in many studies (Hoji 1985, Saito and Hoji 1983, Mahajan 1990).

An approach to the same was suggested by Hale (1983) too. He proposed these variations can also be located within the phrase structure component by underspecifying the variation in PS rules in some languages (in particular free word order language). His proposal implemented this idea within a model within which free word order languages lacked a VP node. This was already contested in earlier works where existence of a VP node was recorded in languages like Japanese in studies like Saito and Hoji 1983 and Hoji 1985. Hale's idea was not pursued in much of the subsequent work. Most studies in late 1980 and early 1990s reverted to the dichotomy assumed in earlier studies.

A second major attempt to put crosslinguistic variation and language internal variations within the same component came in Kayne's (1994) Antisymmetry framework. The basic idea of his proposal is that all languages have an underlying SVO order. This essentially forces cross linguistic variations into the transformational component. He suggested that SOV is derived from SVO by a basic movement rule that moves the object to the left of the verb in SOV languages (Kayne 1994: 48). In a way this reductionist view is appealing since it employs a singular mechanism of movement

rules to deal with crosslinguistic variations and language internal variations. Given the common assumption that natural languages do have displacement (movement) operations, one can eliminate the parametrization of the PS (X') rules in favor of a view that SOV languages differ from SVO languages in that they have a movement rule that places the object to the left of the verb. If we assume that object moves and if we could determine the possible landing sites for the objects and find the motivation for such movement, this theory of Antisymmetry could give us a reasonable explanation. Taking it further, the motivation for such movement comes from strong and weak features node to which these objects move. This can further be extended to other movements as well. For example, the word order variation in DP in Arabic and word order variation in CP in Telugu.

This proposal finds further support in Kayne's (1994) LCA (Linear Correspondence Axiom). He says '….. SOV (and S – H – C) is perfectly allowable if taken to indicate a phrase marker in which the complement has raised up to some specifier position to the left of the head." (Kayne 1994: 35). He further adds "…….. all syntactic representations, so that the same linear order S – H – C holds for all syntactic representations, as assumed………." (Kayne 1994: 49). This implies that there can't be any parametric variations as regards Head-Comp order; ordering differences between languages are attributed to parameters associated with functional elements. Moreover, various surface orders among languages must be thought of as a result of leftward movements of S, V, and O to positions in functional domains. "OV language can no longer be seen as mirror image of VO but rather as VO languages whose objects have risen across their heads" (Cinque 1996:451) combined with Chomsky's (1993) claim that all movements are triggered by the requirement that morphological features be

checked, implies that the variations in surface word orders are derived from some leftward movements.

We can conclude from the above discussion that language variation is morphological in character depending on which parts of the computation are overtly realized and which only occur in covert syntax. The presence or absence of overt movement is taken to be the main instance of parametric variation in syntax among languages. Even within the Minimalist Program, differences between languages are attributed to differences between the features of lexical items of languages, functional categories (Agr) and (T) and their N-feature and V-features. These differences are responsible for syntactic alterations between languages.

We can, in addition, assume that cross linguistic variation and language internal word order variations are derived from leftward movements and this generalization can be applied to all syntactic structures viz., CP, IP and VP. Let us look at these variations English, Arabic and Telugu.

3.6. The structures of DP, CP and IP in English, Arabic and Telugu

Structure of DP

33.

```
              DP
             /  \
            D    NP
            |     |
            A    girl
```

34.

DP
├── D
└── NP

Oka (a)   ammayi(girl)

35.

DP
├── D
└── NP

al (the)   bint (girl)

Many layers have been proposed in this structure by many linguists. In Telugu the following is the structure proposed by Padamarani Rao (2003).

36.

DP
├── Spec
└── DP'
    ├── DP
    └── QP
        ├── Spec
        └── QP
            ├── Spec
            └── Q'
                ├── Q
                └── nP
                    ├── Spec
                    └── n'
                        ├── n
                        └── NP
                            ├── Adj P
                            └── N
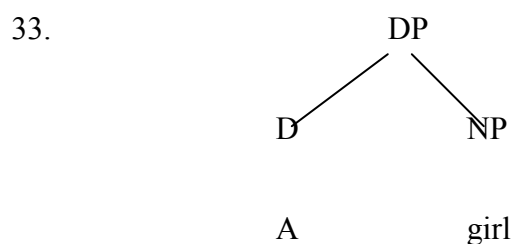
A Telugu DP including all possible pre-nominal elements has a three layered structure. The intermediate projection between the DP and the NP is a QP. The head of QP is split into two, accounting for quantifiers and classifiers or quantifiers or aggregatives (mutually exclusive). The Spec DP is filled either with number or approximals. Demonstratives are generated in the Spec of NP. Although definiteness is marked through various syntactic and morphological elements in Telugu, a DP without any of these lexically realized elements can also be +definite- a null determiner can make a noun definite.

37. Ammayilu   chaduvukuntunnaru

(The) girls   are studying.

As for Arabic, following Abed N.K. Al-Same'I (2004) who parallels the DP structure in Arabic and English and proposes that in the case of English, where only pronominal direct order is possible, the NP doesn't move at all from the base position. This is because the EPP feature of D in English has to wait until LF to be satisfied. Thus the NP isn't attracted to the Spec, DP and stays *in situ*. As there is no agreement morphology for DP in English, AgrP' doesn't project. As such the derivation of an ordinary DP will not involve any movement prior to PF i.e., the merge order and the PF order will be identical. However, the (empty) functional heads housing the modifiers in their Spec positions will still be 'identified' and 'licensed' through binding by the NP when it moves to the Spec, DP at LF. That means that the NP movement to the Spec, DP is obligatory in all languages except that it applies prior to PF in languages like Arabic and only at LF in languages like English and Telugu.

Many current analyses of DP include a functional category, Num whose features are strong in languages like Arabic in contrast to English where they are weak. This difference in feature strength accounts for word order variation within DP. Also, following Kayne's (1994) proposal, the structure of DP is assumed to be the same in all languages and word order variations are result of movements to satisfy the interpretability condition, and also because of strong N feature present on the functional category Num in DP in Arabic, nouns raise overtly to Num resulting in NP, AP word order; whereas in languages like English and Telugu where there is no agreement in DP, the NP remains in situ resulting in AP and NP order. Then the representation of DP in Arabic would look like the following.

38.

```
                              DP
                          /        \
                       D          Num P
                                /        \
                            Num           NP
                             |          /      \
                    (girls AGR) bint   Adj P    NP
                             ↑                   |
                                     jammelat    N
                             |
                          (beautiful AGR)
```
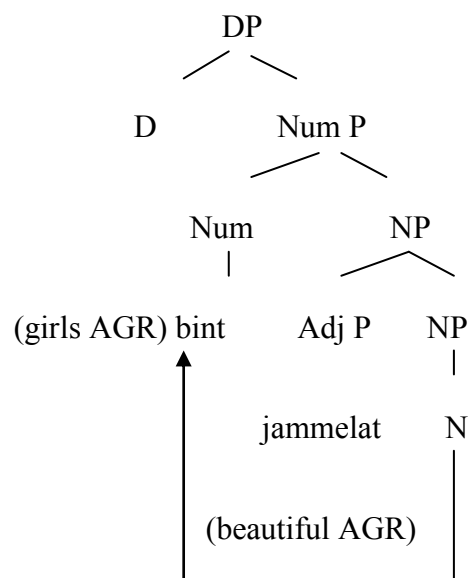
Structure of CP : The structure of CP in English is as follows

39.

```
                              CP
                          /        \
                       Spec         C'
                                 /       \
                               C          IP
                               |         /|\
                             that     he is  stupid
```
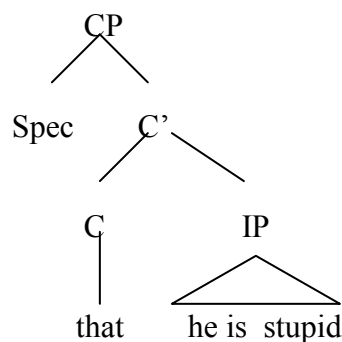
In English, the COMP selects a tensed IP to follow it. In Arabic also, the COMP is followed by a tensed IP. So the structure is as follows

40.

```
                    CP
                  /    \
              Spec      C'
                       /   \
                      C     IP
                      |     /\
                 biannahu  hua maa iftehum
```

that AGR   he not understand
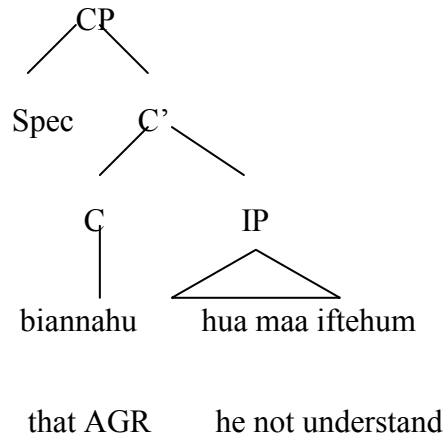
Structure of CP in Telugu : While generative research in Principles and Parameters Theory (Chomsky, 1981 and subsequent work) has focused on parametrical choices according to which a language may have either initial or final complementizers (and preferably not both), it has been argued by Kayne (1994) that final complementizers (and ultimately all final heads) should not be seen as primitives but rather as the result of a PF-relevant operation by which the IP-complement of C has moved leftwards (Kayne, 1994: 53f). The reason for this is that, according to Kayne's theory, the linear order of terminal elements in a phrase marker is dependent on the hierarchical c-command relation. Assuming Kayne's (1994) proposal that the phrase structure in all languages is underlyingly the same and that the word order variations are because of the strength of features of respective heads and the movement (overt, covert) of the complements is to check their features, we propose that the comp [ani], equivalent of [that] in Telugu has strong features unlike the COMP of English and so the IP has to move to the Spec, C'. The structure of CP in Telugu with the movement of CP is as follows.

41.c

                        that   me like
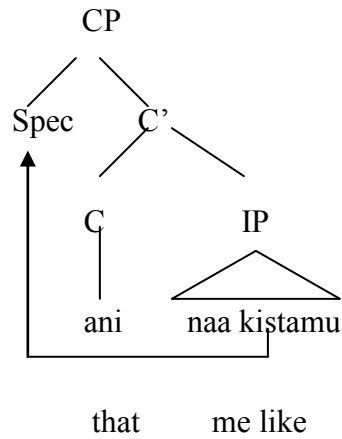
The IP moves to the left of COMP because of the strong features of COMP.

Following is the unmarked word order in CP in Telugu.

    42. Chiranjeevi ante naa kistamani ataniki cheppanu

     Chiranjeevi me like that to him (I) told

     I told him that I like Chiranjeevi.

There are other variations and these are the result of scrambling.

    43. (a) Nenu ataniki cheppanu Chiranjeevi ante naa kistamani

     I to him told I like Chiranjeevi me like that

     I told him that I like Chiranjeevi.

Structure of IP: The structure of IP in English:

44.
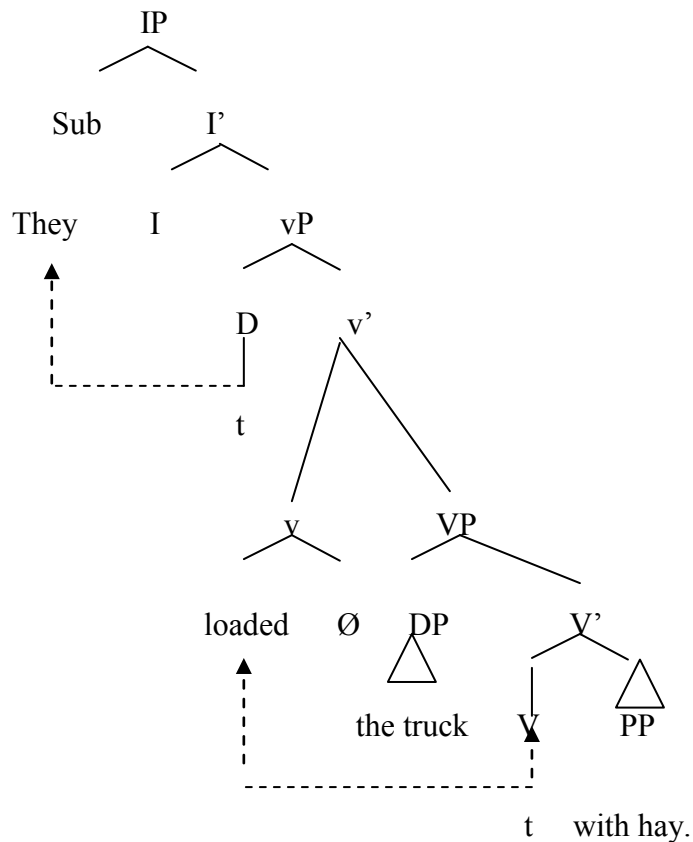
The structure of IP in English assumes VP shell analysis (Radford 1997) or PISH (Predicate internal subject hypothesis (Koopman and Sportiche 1991). The idea that the subject is generated in the Spec of light verb [vP] and moves to the Spec of IP is purported to account for the fact that external arguments are assigned θ roles under Spec-head configuration. Thus when the subject begins in the light vP, it is under the Spec-head relation and then the D / N feature of I' which is strong attracts the subject yielding the structure above. With the VP internal hypothesis we come to a more unitary and principled account of θ-marking, whereby arguments are θ-marked by merger with a lexical category, so that (for example) a complement is θ-marked by merger with a head V, and a subject is θ-marked by merger with a V-bar constituent.

If subjects were directly generated in Spec, TP, there would be no straightforward way of accounting for the fact that the thematic role of a subject is determined solely by V-bar.

45.
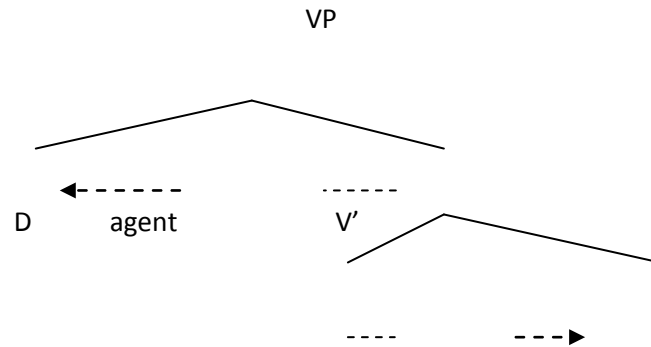
The final question which remains to be answered is why subjects should raise from Spec, VP to Spec, TP. Three possible answers have been proposed:

1. (in consequence with Rothstein's **predication principle**) syntactic predicates like T-bar are required to have subjects.

2. supposing T has strong specifier-features (except in control infinitives), it requires Spec, TP to be filled

3. subjects (other than PRO) carry strong case-features, and must raise to Spec, TP to check these features.

The same analysis holds good for Spoken Arabic. Extending PISH to Arabic, we have the following structure for IP in Arabic.

46.

```
                              IP
                          ┌───┴────┐
                          D        I'
                          ▲    ┌───┴───┐
                          ┊    I      vP
                          ┊       ┌───┴───┐
                          ┊       D       v'
                          ┊       │    ┌──┴──────┐
                          └┄┄┄┄┄┄┄t    v         VP
                                     ┌─┴─┐    ┌───┴────┐
                                    abb  Ø    DP       V'
                                     ▲        △     ┌──┴──┐
                                     ┊                V    PP
                                    fill  al shshahina      △
                                     ┊
                                     ┊       (the truck)  kash.
                                     └┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┘
```

(with hay)
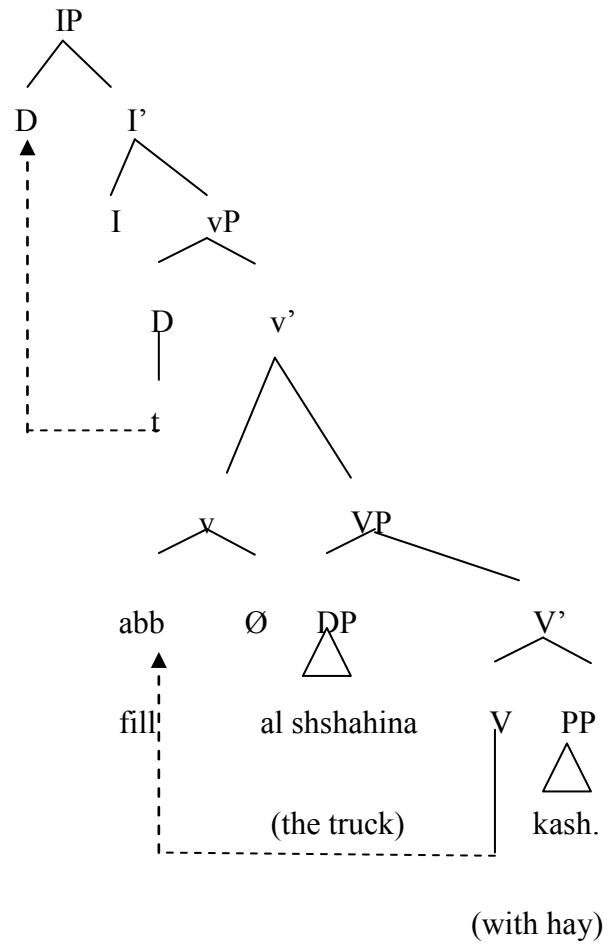
Here also the subject generated under the Spec, vP raises to Spec, IP to generate SVO order. The strong agreement features pronounced on the nominal in Arabic also attract the subject.

Structure of IP in Telugu:

47.
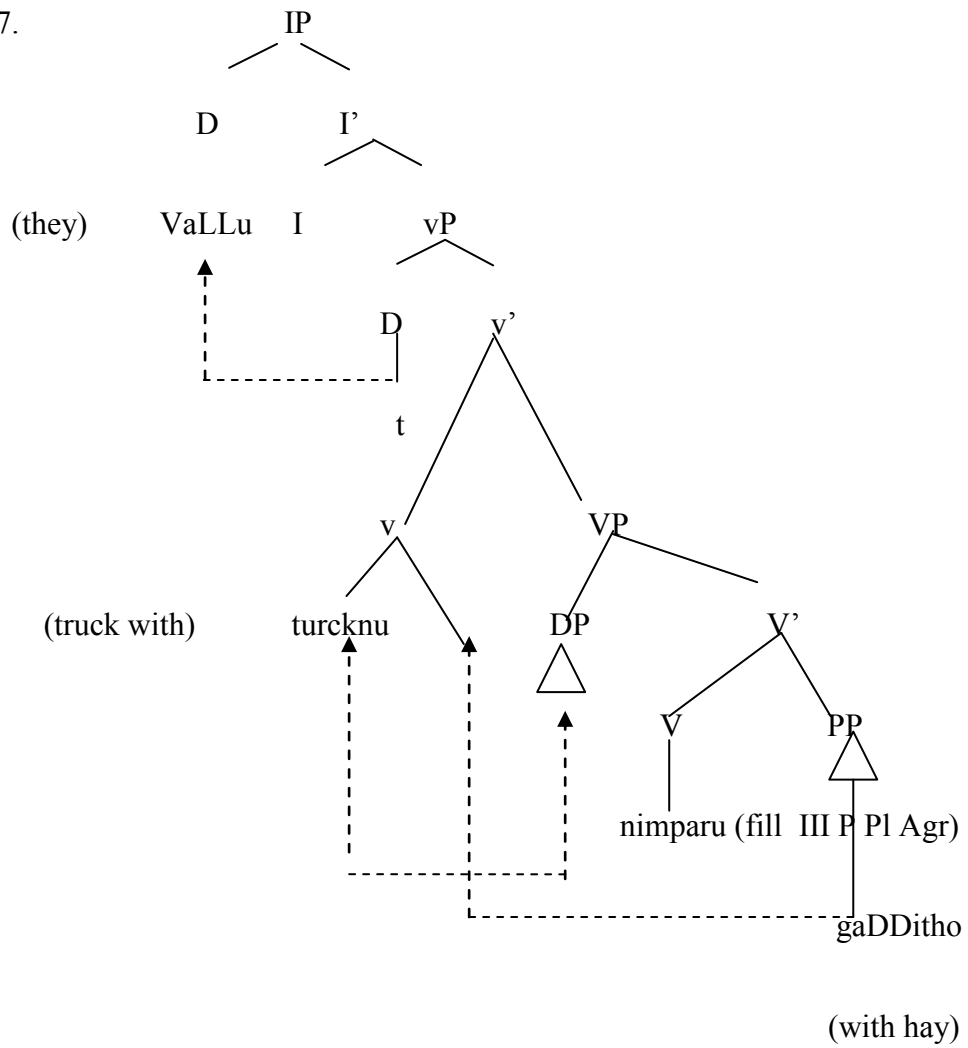
3.7. Summary of the syntactic differences / similarities of English, Arabic and Telugu		
English	Arabic	Telugu
1. Complements come to the **right** of the head the head that selects them.	Complements come to the **right** of the head that selects them.	Complements come to the **left** of the head that selects them
2. Nominals take complements to their their right.	Nominals take complements to their right.	Nominals take complements to their left.
Ex: the student **of Physics**	talib **al fysya**	**Physics chadive** kurraDu.
3. Word Order: SVO	SVO (Spoken Arabic)	SOV

4. Specs are to the left of their heads.	Specs are to the left of their heads.	Specs are to the left of their heads.
5. Adjuncts can adjoin left / right of their of their heads.	Adjuncts can adjoin left / right of their heads.	Adjuncts can adjoin left / right of their heads.
6. Tense is sometimes projected outside the follow the main the V especially in the modals and infinitives. outside the VP. Modals precede the main verbs.	There are equivalents of modal verbs but more or less function as main verbs. Tense can't be marked outside the VP	Modals can't project and they verb. Tense isn't marked

TP

TP

```
     Spec    T'                                              Spec    T'
          /\                                                      /\
       T     VP                                                T     VP
```
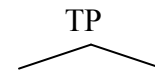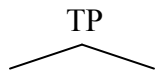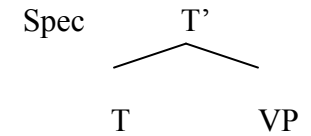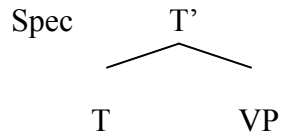
7. DP: Two articles. It is marked null in plurals.

Only one definite article. It has only one value and that is definiteness.

No articles in Telugu. DPs have a null determiner. 8.

Negatives:

Negative markers precede main verbs main verb

Negative markers precede the main verb.

Negative markers succeed the

He doesn't love her.

hua maa hub hiyya.

atanu aamenu

preminchatledu.

Tense valued on auxiliary. V is a weak case strong case

Tense valued on auxiliary. V is a weak case

Tense valued on V and it is a

assigner. T and C have weak ʋ features.
ʋ features.

assigner. T and C have weak ʋ features.

assigner. T and C have weak

In conclusion, in this chapter, introduction to syntax of two languages- Arabic and Telugu, different structures of syntax in all three languages, their differences and theoretical apparatus to account for the word order variations were presented. The structures that we looked at in detail were CP (complementizer phrase), IP (Infinitvial phrase) and DP (Demonstrative phrase) as these were the sites where code switching was reported to occur maximally. In the next chapter, I will present the code switching data from both the pairs of languages- Arabic-English and Telugu-English. These instances of data were collected using two methods:

1. grammatical judgment of sentences and 2. naturalistic observation.

Chapter 4

Basic findings of Arabic-English and Telugu-English Code Switching

In this chapter, basic findings of Telugu-English and Arabic-English code switching are presented. The data collected using grammaticality judgment and naturalistic observation will be presented. The data will be presented according to the categories where switching is allowed or observed. The switches fall under the following boundaries IP, CP, DP and PP. Finally, a summary table of findings is presented which provides for an easy observation.

4.1. Switching within VP.

a. Switches involving lexical items and verbs.

It has been observed in many language pairs, switching between lexical items and verbs is allowed both in subject and object positions. Here again, there is a controversy surrounding the resulting word order of the code switched sentences. According to the Head-Parameter Approach, the head determines the word order in mixed sentences. Later on, this approach was modified in Chan (2008). His proposal states that "lexical categories (V, N) and functional categories (D, I, C) behave differently in bilingualcode switching: while functional heads always determine the order of their code – switched complements, lexical heads may not do so". This proposal thus deviates from many earlier studies which suggest that all heads determine the order of their complements. Let us look at the examples and categorize them into different orders.

1. **V from VO language and Obj from OV language**. (**Telugu-English**)

1. In the olden days, we never knew such a thing as robbery.

    Paata rojulalo maaku dongatanam ante ento teliyadu.

    Olden days in to us   robbery means what don't know.

    In the olden days, we never knew *dongatanam ante ento*

    …………………………………. robbery means what

2. He eats rice for dinner.

    vaaDu ratri annam tinTaDu

    He night rice   eat III Masc Agr

    He   eats *annam* for dinner.

    ……….. rice ………….

3. Tell them you'll buy new clothes.

    kottabaTTalu konTamani vaLLaku cheppu.

    new clothes buy we that   them   tell

    Tell them you'll buy *kotta baTTalu*.

    ……………………. new clothes.

From above data, we can conclude that though the unmarked word order in Telugu is SOV ,

the resulting word order after code switching is SVO- the same as the English word order.

4. They got only small prizes. (**Arabic –English**)

   ahna hassalna asar saghiir

   They   got   prizes small.

   They   got *asar saghiir*

   ………….. prizes small.

  In Arabic, the word order is same as English, so the resulting sentence has SVO. Head V determines the word order in code switched sentences and Head-Parameter approach holds good.

2. **V from OV language, Object from OV order** (**Telugu-English**)

5.. She gave vegetables.

   aame ku:ragayalu icchindi.

   She vegetables pl marker gave III PSF agr

   aame *vegetables* ichindi.

6. Syria established diplomatic relations with them. (**Telugu-English**)

   Syria vaLLatho douthya sambhandaalu erparachukundi.

   Syria them accu diplomatic relationships established III PS agr

   Syria vaLLatho *diplomatic relations* erparachukundi.

7. He eats meat. (Arabic-English)

   hua akel laham

   He eats laham.

   He akel meat.

   He eats meat.

From the above data, the head verb solely is not the determining factor. The resulting word order is SOV in Telugu whereas in Arabic, the resulting sentences do not pose any contrast. This proves the claim made by Chan (2008)

3. **V from OV language, VO order**.

 8. I will rectify the mistake.

  nenu (aa) tappunu sarididdut aa nu.

    I   the mistake rectify future marker I P S agr

 nenu *rectify* chesthanu aa tappunu.

 I rectify   will do   mistake Accu

9. She gave ten dollars.

   aame ichindi *ten dollars*.

Here again the Head Parameter Approach is falsified as the resulting sentences do not follow the order of the verb.

10. Summary of code switches within VP	
English Verb + Arabic Object √ She cooked *laham.* Here English WO is followed.	English Verb + Telugu Object √ He eats *annam* for dinner. Here English WO is followed.
Arabic V + English Obj √ He *akel* laham. Here also English WO is followed.	Telugu V + English Obj √ Syria vallatho *diplomatic* *relations* erparachukundi Here Telugu WO is followed.

Coming to another interesting feature that is observed by many linguists, Emaneau (1956) cites the compound verbs in the modern Indo-Aryan languages as one of the linguistic features in India. In Punjabi/Telugu (in other languages as well), there is a class called compound or conjunct verbs consisting of a major category (such as V, N or Adj) plus operator. The operators comprise a small class of simple verbs with lexical meaning in their own right. The main ones are [ches-] 'to do' and [undi/unnaDu] 'to be/ become'. The basic meaning of the compound verb is determined by the first element and modified by the verbal operator.

The verbal operator [ches-] is particularly susceptible to being used in the construction of a new compound verb. It is now being used with the English verbs. For example,

11. CD *play* ceyyanDi – please play the CD

vaNNI *train* ceyyi – train him

door close ceyyi- close the door.

The English verb is verbalized in Telugu. Nishimura (1985) also finds the same in Japanese-English code switching. She explains that code switches in English verbs to Japanese is achieved through verbalizing nouns. So the following sentences are possible.

12 a. I love her.   b. nenu aamenu love chesthunnanu.

I   IIISFObj love doing be I Agr

But Chan (2008) discounts this analysis saying that it is not a compound but two different words and that the light verb can be separated by the negative marker. He cites examples from (Kumar 1985,355) English-Hindi code switching and (Romaine 1995, 140) Panjabi-English code switching.

13. *Enzyme* jo¯ hai vah . . . *reaction* ko¯ *initiate* nahı¯ karta¯ hai,

enzyme which is that reaction initiate not does

rather rate of reaction alter does

''An enzyme does not initiate the reaction; rather it alters the rate of reaction.''

(English–Hindi, Kumar, 1985, 355)

14. bacea˜ nu˜ tusı˜ *force* ni kr sakde

children ACC you force NEG do

''You can't force children.''

(Panjabi–English, Romaine, 1995:140, (10))

But this is not borne out in Telugu-English code switching. In other words, the light verb cannot be separated.

 15. nuvvu piilalanu *force* cheyyavaddu.

   You   children Accu force do not

  * nuvvu piilalanu *force* vaddu cheyya

    You   children Accu force not do

As can be seen from the data, the negative marker cannot be inserted between the main verb and light verb in Telugu constructions. Though Chan (2008) doubts whether such words can be called genuine compound words, Jim Shi Young (2009) points out that whether this construction is a genuine compound verb is a matter of serious discussion which hasn't been resolved yet.

b. switches between subject pronouns and the verb

A switch between a subject pronoun and a verb is disputed. Evidence is found contrary to this claim by MacSwan (1997). According to him, in Spanish and Nahuatl, a switch between a Spanish subject pronoun and Nahuatl is allowed for third person but it is not allowed for first and second person. The reason for this is the absence of an overt third person subject agreement morpheme on Nahuatl verb. But in Telugu-English code switching,

switches between subject pronoun and a verb are disregarded because there is overt agreement markers on for gender in all persons.

Telugu- English

16. a. I will buy clothes.

    b. nenu baTTalu konT aa nu

    I   clothes   buy will ISagr

The code switched sentences are

17. a. * nenu *will buy* clothes

    I ……………..

    b. * aame *will buy* clothes

    She ……………….

    c. * atanu *will buy* clothes

    He ……………..

It can be seen from the sentences that whether the pronouns is first, second or third, the switch is disregarded. The judgment holds good for code switched sentence with pronoun delayed, which is the case in Telugu.

18. a. nenu baTTalu konTanu

    I   clothes   buy will ISagr

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b. baTTalu nenu konTanu

　　clothes　I　buy will ISagr

c. baTTalu　　konTanu　　nenu

　　clothes　buy will ISagr　　I

The switch is not acceptable between Telugu verb and English subject.

19. a. I have a house.

　　　naaku oka illu undi

　　(to me) a house have

　　b. * I undi oka illu

　　　…. be　one　house

The reason can be that the Telugu sentences have dative subjects in such sentences.

Arabic - English

20. a. I will buy clothes.

　　*　*ana* will buy clothes

　　　I　…………………

　　* I *soufa eshteri* clothes.

　　　I　wil buy　　……..

b.. She will buy clothes.

* *hiya* will buy clothes.

She ……………

c. He will buy clothes.

**hua* will buy clothes.

He …………………..

As can be seen from the above sentences, no code switching is allowed between the subject pronoun and the verb.

c. Object pronouns and verbs.

Telugu- English

The switch between object pronouns and verbs is also highly disregarded in Telugu and English code switching.

21.   I love her.

    nenu   aamenu   premisthunnanu

    I   IIISF obj pro   love be ISAgr

The code switched sentences are

22.   a. * nenu *her* ni premisthunnanu

        I   love   dur   I S agr

a.   * nenu *youni* premisthunnanu

    I   love   dur   I S agr

Compound verbs also cannot save the code switched sentences. When it comes to switching between the object pronoun and the verb, neither is acceptable. Neither the verb in complete Telugu nor verbalized noun saves the sentences.

23. a. * nenu *her* ni love chestunannanu

        I   do   dur   I S agr

    b.   * aame *me* ni preminsthundi

        She   love   dur   I S agr

The switch between subject pronoun and the verb or the switch between object pronoun and the verb are unacceptable in Telugu regardless of person, number or gender.

Arabic English: Switches involving verb and object pronoun:

24. a. I love her.   c. * I love *hiya*.

    b. *I *ahub* her.   ………. her

        … love …

From the above sentences, we can see that switches involving verb and object pronoun are highly disregarded. Unlike in MacSwan, this disregard doesn't change whether the pronoun is I person, II person or III person.

Summary of code switches found between Subject, Object Pronouns and Verbs	
Arabic Subj P + English Verb * *hiya* will buy clothes.	Telugu Subj P + English Verb * *nenu* will buy clothes.
Arabic V + English Subj P * I *soufa eshteri* clothes.	Telugu Verb + English SubjP * I *konTaanu* clothes.
Arabic Obj P + English V * I love *hiya*.	Telugu Obj P + English V * I love *aamenu*.
Arabic V + English Obj P * I *əhub* her.	Telugu V + English Obj P * I premistunna *her*ni

4.2. Switching within VP

It has been claimed that a switch is banned between certain I-elements (auxiliary have, modals, English (to), the durative auxiliary) and their complements. In other words switches in IP are barred. Let us see our data whether it holds well in both the sets.

a. **Duratives** The I-position of English is preverbal whereas it is postverbal in Telugu. Like English –ing for durative, Telugu also has a durative suffix /-tu/ and 'to be' as a suffix /-un/ and agreement marker on the verb. Sentences (a) and (b) are given in comparison.

25.   a. I am helping Geetha.

       b. nenu geethaku sahayam chestu unna nu

          I   geetha to help   do   dur   IPS Agr

       c. He is walking.

       d. atanu naDus tu unna Du

          He (inf) walk- dur- -IIIP SM agr

In code switches involving auxiliary – v boundary, English 'to be' cannot be followed or preceded by Telugu durative. **Telugu-English:**

26.   a. * nenu *speaking* unna-nu.

          I ………… dur   IS Agr

       b. * nenu unna nu *speaking*.

          I   dur   I S Agr

       c. * nenu *am* maTlaDutu.

          I …..   speaking

It seems to us from the above sentences that in some cases to be [–undi/-unna] in Telugu behaves as a bound morpheme and in some cases it is completely absent. Code switching is not possible within this boundary because the auxiliary 'to be' is a bound morpheme in Telugu. Telugu is a no-copula language but it surfaces in durative constructions.

27. a. She is a teacher.

    b. aame oka upadhyayini.

    c. He's walking.

    d. atanu naDus tu unna Du.

       He (inf) walk- dur- be agr-IIIP SM Agr

Arabic and English: Switching is possible at this boundary though there is no durative suffix in Arabic.

28. a. I am helping John.

    b. I *am* usaaid John.

         ……….. helping John.

    c. He *is* emshi.

    ……….. walking

    d. He's playing football.

    e. hua *is* yaleb ku:ra

       He …. playing football.

    f. hiya *is* taleb ku:ra

      She …. playing football.

b. Negation: In Telugu negation is expressed using words like ledu, kaadu, avadu (intransitive). It is a suffix which attaches to the verbs.

29. a. I am not working.

   b. nenu pani cheyyaTledu

   I   work   do   not

   c. I am not sleeping.

   d. nenu nidrapovaTledu

   I   sleep   not

The following are the code switched sentences involving negation.

30.   a. * nenu *sleeping* ledu.

   b. * nenu *eating* ledu.

   c. * nenu *not* tinTunnanu.

These sentences are highly disregarded showing switches are not allowed in this boundary.

The code switched sentences involving do forms.

31.   a. I didn't tell him.

   nenu ataniki cheppaledu.

   I   him to   tell   not

   b. *nenu *didn't* cheppa.

The sentence is highly disregarded not only because there are no 'do forms' in Telugu and but also the resulting verbs are infinitives. The negative morphemes cannot be separated from the verb.

32.   a. Ramu doesn't love Seetha.

   b. raamu seethanu   preminchatledu

      Ram   Seetha Accu   love   not

      Ram doesn't love Seetha.

   c. * ramu seethanu *not* preminch

Arabic and English: Arabic negative morphemes are [-le] or [-ma] occuring freely in the sentences.

33. a. hua le yaakul   b. He is not eating.

   c. * hua *not* yaakul.

      He   not eat

   d. * hua le *eating*

   e. He didn't tell me.

   hua lem yukh berni

   he   not   tell me

   g. *hua *didn't* yukh berni

h. *hua lem *tell me*.

i. She doesn't love him.

j. hiya la tuhebbahu

   she   not   love   him

k. *hiya *doesn't* tuhebbahu

l. * hiya la *love* him.

As can be seen from the judgment sentences, switching is not possible when a negative word is used or when 'do forms' are used.

c. Modals: Telugu and English

   34.   a. He can sing a song.

      atanu oka pata paDa gala Du.

      He   a song   sing inf can III SM agr

The code switched sentences are

   35.   a. He can sing a song.

    * atanu oka pata *sing*agalaDu. /   * atanu *can* paaD

    b. She can play.

     *aame *can* aaD /   *aame *play*galadu

b. I must go.

   *nenu *go* aali   /   *nenu *must* po

      I   must   /   I   go (inf)

We can observe from these judgment sentences that the word order in Telugu is different from
the word order of modal and infinitive in English. In Telugu, the modal follows the infinitive
whereas in English, the modal is followed by the infinitive. Code mixed sentences are
unacceptable. (In Telugu, the modal is attached to the verb as a suffix whereas in English it is
a free morpheme.)

Arabic and English

36. a. He must sing.

   b. hua / hiya yagib yughanni

   He / She must sing.

37.   a. * hua / hiya yagib *sing*.   /   b. * hua / hiya *must* yughanni

Code switch between a modal and verb is not allowed in Arabic and English though the word
order in Arabic and English is same with modals. That is the modal auxiliary is followed by
the main verb.

d. To infinitives: Telugu-English

.   38. a. I am going to see my sister.

   nenu naa chellelini chuDaDaniki veltunnanu

I   my sister Accu see to   go dur I S agr

* *I am going* naa sisterni chuDaDaniki

*nenu naa sisterni *to see* veltunnanu

b. I want to buy some clothes.

nenu baTTalu konalanukunTunnanu.

I want kon baTTalu.

Sentences (a) and (b) are purely in English and Telugu for reference. Sentences (c) and (d) are code switched sentences. Neither is acceptable because Telugu doesn't have [to + inf] structure.

Arabic & English

39. a. I am going to visit my sister.

* ana *am going* liziyaraat okhti.

I ………….   to see   sister

*saufa edhab *to visit* my sister.

b. I want to buy some clothes.

**uri:d* to buy some clothes

* I want *eshteri* some clothes.

Code switch involving infinitive and verb is also not acceptable in Arabic and English.

Summary of code switches within VP

English I and Arabic main verb √ He is *emshi*.	English I and Telugu main verb * I am *matlaadut*.
Arabic I and English main verb No duratives, hence cannot be checked.	Telugu I and English main verb * I *unnanu* speaking.
English Neg + Arabic main verb * hua *not* yaakul	English Neg + Telugu main verb * nenu *not* nidraputunnanu
Arabic Neg + English main verb * hiya la *love* him.	Telugu Neg + English main verb * nenu *slpeeing* ledu
English Modal + Arabic main verb * hiya *must* yughanni	English Modal + Telugu main verb * atanu *must* paaD
Arabic Modal + English main verb * hiya *yagib* sing	Telugu modal+ English main verb * atanu *sing* galaDu
English V + Arabic Inf * I want *eshteri* clothes.	English V + Telugu Inf * I want *kon* clothes.
Arabic Inf + English V * *saufa edhab* to visit my sister	Telugu Inf + English V * nenu naa chellelini *to see* veLtunnanu

4.3. Switching within DP

a. Demonstratives :

There is a dispute in code switching literature with respect to whether a code switching may occur between a demonstrative and its complement. While demonstratives in Telugu are morphemes aa / ii corresponding to English 'this' and 'that', it also has demonstrative pronouns which have agreement markers for gender, person and number.

40. This man itanu   That man   atanu   This woman iime

    That woman aame   This thing   idi   That thing   adi

So switches involving demonstrative pronouns are not possible. But switches of the following kind are also heard.

    41. a. This girl is my friend.   b. That boy will come.

           ii ammayi naa snehithuraalu   aa abbayi vasthaaDu

             this girl   my   friend.   That boy come Fut IIISM Agr

        c.   ii *girl* naa friend   d. aa *boy* vasthaDu

           This ammayi naa friend.   *That* abbayi vasthaDu

The code switching involving English demonstratives and Telugu NPs and Telugu demonstratives and English NPs are quite acceptable though some people reserved their comments. There is no restriction in the switches involving different genders as was found by MacSwan (1997). He reports (pg152) that a switch between a Spanish demonstrative and a

Nahuatl NP is ill formed with feminine demonstratives and disregarded with masculine forms. But both the switches in Telugu and English are quite acceptable.

Arabic & English

Arabic has equivalents of all the demonstratives. They are as follows:

42. This ------- hada   That ---------------dalik

     These ---- ha ula   Those ---------- ula lika

     43. a. This girl is my friend.   b. This boy is my friend

          hada al bint sadikati   dalik al walid sadiik

          that   girl   friend IIISF agr.   that boy friend IIISM agr

     Code switched sentences are the following:

     44. a. That girl   44.b. That book

          hada girl   *hada* book

We can conclude that switches between English determiners and Arabic nouns; and Arabic determiners and English nouns are all acceptable.

b. Determiners

There is a dispute in the code switching literature with respect to whether a code switch may occur between a determiner and its NP complement.

46. I have a son.

   naaku oka koDuku. (unnaDu)

   Me dat   one son

47. naaku oka son (unnaDu)

   naaku *a* koDuku (unnaDu)

The switch between a determiner and its NP complement is acceptable in Telugu because there are no determiners in Telugu. The reading in sentences (47) is 'I have one son'. There is no equivalent for the English determiner 'the'. So code switches involving definite article and NP are acceptable.

48.   She bought the house.

   She bought *the* illu.

Arabic - English

49.   She bought the house.

   She bought *al* house.

Switches involving articles and NPs are also acceptable in Arabic and English code switching.

Data from naturalistic observation. Telugu-English.

50. Don't make me climb *a* taaTicheTTu

   ……………………… palm tree

51. I will write a letter to you in the *kotta samvatsaram*.

……………………………. New Year.

52. I want a *dinDu*. (pillow)

In these sentences there is a switch between English determiner and Telugu NP complement.

Arabic - English

53. ana shufth al *HR* iliyom.

I   see   the HR today.

Summary of code switches within DP	
English Demon +Arabic N √ these *kutub*	English Demon + Arabic N √ *this* ammayi
Arabic Demon + English N √ hada *book*	Telugu Demon + English N √ ii *girl*
English Det + Arabic N √ She has a *bait*.	English Det + Telugu N √ She has a *koduku*.
Arabic Det + English N √ He bought ə*l* house.	Telugu Det + English N √ She has *oka* house.

4.4 Switch within CP

a. That-complement: The category C has been identified with complementizers which take a clausal /IP complement (eg. [that]). Again, language pairs such as Telugu-English consist of contrasting orders for C and IP. The English complementizers are clause-initial whereas the Telugu complementizer is clause final. The following data regarding code switching in that complement was grammatically judged.

Telugu-English

54. a. I told him that I like Chiranjeevi.

   Chiranjeevi ante naakistamani ataniki cheppanu.

   b. * ataniki cheppanu *that* Chiranjeevi ante istamu.

   c. Chiranjeevi ante naakistamani *I told him*.

The following sentence is also acceptable. It is a result of scrambling.

55. I told him I like Chiranjeevi *ani*

It is interesting to see that only those code switches that follow the Telugu word order are acceptable. The sentence which has English C and Telugu clause is not acceptable as it follows English word order.

Arabic-English:

The Arabic complementizer [biənna] is clause initial as in English.

      56. a. He's going to understand that he spends a lot of money.

          hua baad efam biannahu yenfeq bi israaf

          He   afterwards understand that III S M Agr spends money

       b. He is going to understand that *yenfeq bi israaf*.

       c. He is going to understand *biennahu* spends a lot of money.

      57. a. I told him that I love football.

          æna khabarthhum bianna æna   ahub   kurat al kadam

            I   told him   that   I   love   ball the foot

       b. I told him *bianna* I like football

       c. I told him that *æna ahub* football.

Data from naturalistic observation.

Telugu-English

      58. nenu ataniki cheppa *his brother is sick* ani.

       atani tammudiki vontlo bagaledani *I told him*.

       His brother Accu body in well not that ………

59. He is going to understand that *nhana nusuf waajid*.

hua bi efem lianna we spend a lot.

b. If and complement

Telugu-English

60 a. You will pass if your work hard.

…..pasavutavu kashTapaDithe

pass will II S agr work hard if

b. *If kastapaD, pasavuthavu.

The code switched sentences are ungrammatical because [if] in Telugu is a bound morpheme whereas [ani] is not.

Arabic-English

61. a. If you work hard, you will pass.

əda intə tigtihædt soufa tingah

If you work hard will pass

b. * *da* you work hard, you will pass.

c. * *If* intə tigtihædt soufa tingah

We can conclude that the English-Arabic code switches are also not acceptable.

c. Whether and complement

Telugu-English: In Telugu, the [whether] word is added to both the choices unlike English as can be seen from the following examples.

62. a. I don't know whether he will come or not.

       vaaDu   vasthaDo raaDo naaku teliyadu.

      He IIISM agr   come   or not me to know don't.

   b. * I don't know whether *vaaDu vastaaDu raaDo*

Again the word [whether] is a bound morpheme in Telugu. But the word order of the complement and the complementizer is same as that of {that, ani] appearing clause finally.

Arabic-English

63. a. I don't know whether he will come or not.

      æna la aarif bianna hu saufa   yæ   iti   au   la

      I   don't know whether he   will   come or not.

   b. I don't know *bianna* hua will come or not.

   c. I don't know whether he *saufa   yæ   iti au la*

The sentence in (b) is more acceptable because the Arabic pronoun can attach to the Arabic complementizer [bianna]whereas in sentence (c) the pronoun cannot attach to the English [whether]. There is an interesting fact behind this acceptance. In Arabic, [whether and that]

are the same words. So, it can have two readings. We can take the word as [whether] or
[that].

Summary of code switches found within CP	
English COMP + Arabic clause √ I told him that *nahnu nusuf waajid*.	English COMP + Telugu clause √ I told him that Chiranjeevi ante naakistam.
Arabic COMP + English clause √ He is going to understand *biannahu* spends a lot of money.	Telugu COMP + English clause √ I like Chiranjeevi *ani* I told him.

d. 1. Conjunctions : Gumprez (1976) reported conjunctions as a descriptive boundary at
which code switching is disallowed but this has been contested by many others. Code
switching is found at this boundary in Telugu-English also.

Data from grammatical judgment:
 An example of the sentence in English and Telugu is presented for comparison.
   64. a. Ramu loves Sita and he's going to marry her.

       b. Ramu Seetha-nu preminsth-unnaDu inka aame-nu pelli cesukobot-unnaDu

          Ramu Seetha (obj) loving   be and   her   marriage going be

Code Switches found at this boundary:

65a. Ramu Seetha-nu preminsthunnaDu *and* aamenu pelli cesukobotunnaDu

b. Ramu Seetha-nu preminsthunnaDu inka *he's going to marry her*.

c. *Ramu Seetha-nu preminsthunnaDu* and he's going to marry her.

d. Ramu loves Seetha and *aame-nu pelli cesukobotunnaDu*

In Telugu-English code switching all the above switches are acceptable in the order they are presented. It means to say that the first sentence is the most acceptable and the last sentence is the least acceptable.

d. 2. because: With respect to construction involving **because** again all the following sentences are acceptable for Telugu speakers.

66. a. atanu chala kastapadutu unna Du *because he wants to come up in life.*

He   very   working hard dur III M SAgr…………………………..

b. atanu chala kastapadut unna Du   endukante   *he wants to come up in life.*

He very working hard durative IIIM S Agr   because ………….

c.*He's working hard* endukante atanu jeevitamlo paiki ravalanukuntunnaDu

d.atanu chala kastapadutunnaDu *because* jeevitamlo paiki

ravalanukuntunnaDu

The above data from judgment sentences tells us that code switching is done freely between the boundaries involving conjunctions. There is no restriction as Gumprez (1976) reported.

Arabic - English

67. a. ana ishtogel qhilal el nahar *and* idris qhilal alleil.

b.   ana ishtogel qhilal el nahar wa *study in the evening*.

c. I work during the day *wa* study in the evening.

d. I work during the day and *idris qhilal alleil.*

68. a. He is working hard because he wants to come up in life.

 b. hua ishtogel bigthihad liannahu yuri:d en yerfaa mustawa maai:shtohu

c. hua ishtogel bigthihad *because he wants to come up in life*.

d. He is working hard *liannahu yuri:d en yerfaa mustawa maai:shtohu*

No other forms of code switches are allowed at this particular boundary because,
[binna-] and the pronoun (in this case) [-hu] are always attached. This is the case with all the
personal pronouns.

Data from naturalistic observation:

Telugu-English

69. a. nenu universityki vellali *because I want to collect some data*.

I   university to go must ………………………………….

70.I should go to the university because *nenu data collect cheyyali*

……………………………….. I   data collect do must

Arabic – English

70. a. I hate going to the university *ashaan* I don't like the mudarrassa.

I hate going to the university because I don't like the teacher.

Summary of code switches conjunction and clauses	
English Conj + Arabic clause √ I work during the day and *idris qhilal aleil*.	English Counj + Telugu clause √ Ramu loves Seetha and *aamenu* *pelli chesukobotunnaDu.*
Arabic Conj + English clause √ I work during the day *wa* study in the evening.	Telugu Conj + English clause √ Ramu loves her *inka* he's going to marry her.

4.5. Code switching within NP

Code switching between nouns and noun complements is rare. By "noun complements" just as Chan (2008) I assume that they are internal arguments of nouns.

a. Quantifiers and Non referential Quantified NPs

In Telugu, the nonreferential quantifier [pratiokkaDu/ru[or [okkokkaDu/ru] have singular and plural .

71. a. Each man kissed his wife.

Pratiokkadu tana bharyani muddaaDaaDu.

Each man   his   wife dative   kiss

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The code switched sentences are

72. a. ? Each *manishi* kissed his wife.

    b. * *prati* man kissed his wife.

The switch between the nonreferential quantifier and its NP is unacceptable either way.

Arabic and English:

73. a. Each man kissed his wife.

       Kullu rajul kabbela zougetoh

        All men kissed   wives

    b. * kul *men* kabbela zougetoh

    c. * *Each* rajul kabbela zougetoh

b. Negatively quantified nonreferential NPs

Nobody as object:

74. a. Raamu saw nobody.

       Raamu evarinii chuDaledu.

       ……… nobody see not

The position of [nobody] is quite flexible in Telugu.

75. a. evarinii raamu chuDaledu   b. raamu chuDaledu evarinii

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c. raamu evarinii chuDaledu   d. chuDaledu raamu evarinii

e. evarinii chuDaledu raamu

But it has negation attached to the verb. [evaru] can also correspond to English 'who'. The reading of [evaru] in the sentence depends on the context in which it is spoken. The code switched sentences are

76a. * raamu *saw* evarinii.

………….. who/ nobody

* raamu *nobodyni* chuDaledu.

The code switch between a nonreferential NP and the verb is highly disregarded.

c. **Nonegative nonreferential NP somebody** is concerned, the sentences are as follows.

77. a. raamu saw somebody.

raamu evarino chusaDu.

Raamu   somebody saw IIISM agr

 b. evarino raamu chusaDu   c. raamu chusaDu evarino

d. raamu evarino chusaDu   e. chusaDu raamu evarino

f. evarino chusaDu raamu

Both code switched sentences are acceptable.

78. a. raamu *saw* evarino   /   raamu *somebodyni* chusaDu

d. Nobody, somebody as subjects

79. a. Nobody will come.

   evaruu raaru.

   Nobody come not agr

   b. Somebody will come.

   evaro vastaaru.

   Somebody come will agr

The code switched sentences are

80. a. * evaruu *will come*?   b.* *Nobody* raaru.

   c. *Evaro* will come.   d. Somebody *vasthaaru*.

It is interesting to note that though switches involving negative nonreferential NP either as subject or as object are unacceptable, the switches involving nonnegative nonreferential NP either as subject or as object are acceptable. It is because the negative nonreferential quantifiers require the verbs to carry negation. The switches are also acceptable with other nonreferential NP either as subject or as object.

81. a. He'll buy something.

   Atanu edo konTadu.

   He   something buy will IIISM agr

b.   He'll buy *edo*.

………… something.

c.   atanu *something* kontaDu.

He   ………. buy will IIISM agr

But again the switch is not acceptable in negative nonreferential NP

82. a. He'll buy nothing.

atanu emi konaDu.

He   nothing buy not IIISM Agr

b.   * atanu *nothing* konaDu.   c.* atanu *will buy* emi.

This concludes that while switches involving nonnegative nonreferential NP are acceptable, the switches involving negative nonreferential NP are unacceptable.

Arabic - English

a. Negative and nonnegative nonreferential NPs as objects.

83. a. Ahmed saw nobody.

Ahmed lem yaraa ahed.

Ahmed not   saw nobody.

b. Ahmed raa ma ahed.

Ahmed   saw nobody.

In Arabic the word 'nobody' can be split into 'no' (comes before the verb) and 'body' (after verb). Sentences b and c are the variations of the flexible placement of the negation 'no'.

The code switched sentences are

84. a. ? Ahmed *saw* ma ahed.

     b. Ahmed *raa* nobody.

b. Nonnegative nonreferential NP (somebody)

85. a. Ahmed saw somebody.

    b. Ahmed raa ahadenma

    c. Ahmed *raa* somebody.

    d. Ahmed will see somebody.

    e. Ahmed soufa yaara ahadenma

       Ahmed see will somebody

    f. Ahmed will see *ahadenma*

    g. Ahmed *soufa yaara* somebody.

The judgments holds good for all tenses.

c. Negative and nonnegative nonreferential NPs as subjects.

86. a. Somebody saw Ahmed.

    b. ahadenma raa a Ahmed.

c. Somebody *raa aa* ahmed.

d. *ahadenma* saw ahmed.

The judgment holds good irrespective on whether the nonreferential NPs are negative or nonnegative, subjects or objects.

4.6. Switches in modification structures

a. Switching involving adjectives and nouns

It has been argued that code switching is not allowed in modification constructions when the adjective and noun differ with regard to the directionality requirement within AP; thus a language L_a requires its nouns to follow adjectives and a language L_b requires its adjectives to follow nouns, then a code switch between a noun and an adjective involving L_a and L_b is barred. This has been disputed in many language pairs and Arabic and English is one such pair.

Arabic - English

87. a. Muscat is a big city.

Muscat is a big *madina*.

……………… city.

b. She is a beautiful girl.

* hiya bint *beautiful*.

hiya *beautiful* bint

c. She has a white house.

* hiya   tamilk bait *white*.

  She   has   house white

  hiya   tamilk *white* bait.

As can be seen from the above code switched sentences, switching is allowed though the directionality requirement is different. The word order doesn't make any difference in cases where the sentences have English adjective and Arabic noun. However, the sentences which have a code switch between English noun and Arabic adjective pose a problem. They are unacceptable.

The directionality requirement within AP in Telugu is same as the requirement in English. That is, nouns follow adjectives.

88. a. Hyderabad is a big city.

   Hyderabad pedda nagaram.

  b.   Sushmita is a beautiful girl.

   Sushmita andamaina ammayi

In code switching, the sentences are as follows.

89. a. Hyderabad *pedda* city.

   ………….big………. (Hyderabad is a big city.)

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b. Sushmita *beautiful* ammayi.

………………… girl (Sushmita is a beautiful girl.)

c. Oh! adi chala pedda *story*.

…. that very big…….. (Oh! That's a big story.)

d. aameku oka tella *building* undi.

She dat one white…….. be (She has a white building.)

All the above sentences are acceptable. Sentences (a) and (c) are examples of switch between Telugu adjective and English NP whereas, sentences (b) and (d) are examples of switch between English adjective and Telugu NP. There seems to be no restriction to code switches involving modification structures.

Summary of code switches involving adjectives

English Adj + Arabic N	English Adj + Telugu N
√ hiya *beautiful* bint	√ *beautiful* ammayi
English N + Arabic Adj	English N + Telugu Adj
* girl gameela	√ pedda story

b. switches involving numerals and NPs: But the case of numerals is completely different. The switch between the numeral and its NP is quite prevalent.

The code switched sentences are

90. a. ? *four* kukkalu

……… dog pl marker

b. atanu muuDu *countries* tirigaDu.

He three countries visit IIISM Agr

4.7. Switches involving clitics

There are six clitics that are used in Modern Standard Telugu.

1. ē (emphatic)

2. ā (interrogative)

3. kaadu / gaadu / ga (tag question)

4. ata / anta (presumptive)

5. lellendi (declarative)

6. o (indefinite)

There is no dispute in the code switching literature with respect to code switching involving clitics and verbs. The same is the case with Telugu and English code switching.

The following are the code switches.

91. a. Is she carrying?   b.aame carryinga?

c. Are you coming or not?   d.cominga not cominga?

4.8. Switches involving bound morphemes

In Arabic and English code switching, switching involving bound morphemes is severely restricted. These are mostly found in students who are exposed to English in everyday life. – aat is a plural morpheme which is bound. This is found to attach to English words very freely.

The code switches where Arabic bound morphemes attach to English words

92 a. class + *aat* = class*aat*

b. paragraph + *aat* = paragraph*aat*

c. lab + aat = lab*aat*

The code switches where English bound morphemes attach to Arabic words

93. a.tartiib + *ation* = tartib*eition*

b. mushkil + *ation* = mushkil*eition*

Data from naturalistic observation:

Arabic – English

94. rakam telephonaat   Telephone numbers

hawwasahing   fighting

In Telugu switches involving bound morphemes are unlimited, specially the Telugu plural morpheme -lu.

The code switches where Telugu bound morphemes attach to English words

95. a. sms + lu → sms*lu*

sms + Telugu Pl marker

b. ii + crisis + ni

this crisis obj marker

The code switches where English bound morphemes attach to Telugu verbs

96. c. kalpi + *fied*   d. chesi +*fy*

stir   did   do

(stirred)   (did)

4.9. Arabic English data obtained through naturalistic observation

Following is the data that was collected during naturalistic data. It can be observed that nouns, verbs abound in these data.

4.9.1. Nouns:

97. a. adkahl   al *website*

Enter the website

 b. shey   əndik *flash*?

Do you have a flash?

 c. imsik *steering*.

Hold the steering.

d. shey andik muftaah *spare*?

Do you have a spare key?

e. adkhal *CD* fi al *computer*.

Put the CD in the computer.

4.9.2.   Verbs

98.a. laazim nsouvvi *introduction*   c. ji:ble *glass* mai

I must write introduction.   Give me a glass of water.

b. tannish, *no problem*   --- Ignore it, no problem.

4.9.3. Adjectives

99. *hina* we'll write points.

Here, we'll write points.

4.9.4. Determiners

Telugu English

100.   aa *book* raasindi aamene

That book wrote she self

She only wrote the book.

Arabic – English

101.   a. *hada* chart   b. *hada* book

           This chart   This book

Finally, in this chapter all the data that was collected using grammaticality judgment and naturalistic observation was presented based on the boundaries where code switching is found to be problematic. The next chapter will provide the analysis for the data collected and presented in this chapter.

4.10. Findings from my data vs. main constraints proposed for code switching

Boundaries reported in Literature	Reported by (or) in	Studies which falsify the proposed constraint	My findings	
			Arabic-English	Telugu-English
because + CP	Gumprez (1976)	Poplack (1980)	complement should be from English if the II clause is from English and vice versa (supports Poplack)	complement can be from English and the clauses from Telugu
That + CP	Belazi, Rubin & Toribio (1984)	Bentahila & Daives (1983)	complement should be from English if the II clause is from English and vice versa (supports Bentahila et al)	complement can be from English and clauses from Telugu
Have + CP	Belazi, Rubin & Toribio (1984)	Di Sciullo, Muysken & Singh (1986)	No equivalent of have. So couldn't check.	N o equivalent of have. So couldn't check

Modal + VP	Belazi, Rubin & Toribio (1984)	Di Sciullo, Muysken & Singh (1986)	Not possible though Arabic has equivalents (doesn't support either claim as they are bound morphemes.)	Not possible as modals are bound
Aux + VP	Timm (1975)	Poplack (1980)	Possible. Though Arabic doesn't have a durative suffix. (supports Poplack)	Not possible as the durative suffix is bound. (supports Timm)
Article + NP	Belazi, Rubin & Toribio (1984)	Bentahila & Daives (1983)	allowed (supports Bentahila et al)	no articles but allowed.
Sub Pro + VP	Timm (1975) Gumprez (1976)	Poplack (1980) Bentahila & Daives (1983)	disallowed (supports Timm and Gumprez)	disallowed
V + Obj Pro	Timm (1975) Gumprez (1976)	Poplack (1980)	disallowed (supports Timm and Gumprez)	disallowed
Clitic + V / V+ clitic	Timm (1975)	undisputed		only V + clitic

Chapter 5

Analysis of Telugu-English &Arabic-English Code switching Data: A Minimalist Account

In the previous chapter code switching data from two pairs of languages collected using both grammatical judgment of sentences and naturalistic observation was presented. In this chapter a brief introduction of development of an account of code switching is presented.   Following MacSwan, the analysis of code switching data in this chapter is minimalist in two ways: 1. No additional constraints other than required to account for the data are used and 2. The minimalist framework provided by Chomsky in his Minimalist Program (1995a) and Kayne's (1994) Antisymmetry, specifically LCA, is used for this analysis of data.

5.1. Brief introduction: As I discussed in Chapter 1, several studies in the last few decades have shown that code switching is indeed bound by grammatical constraints and is not just a random mixture of languages. Timm (1975), Poplack (1980), Di Sciullo, Muysken and Singh (1986), Belazi, Rubin & Toribio (1994) and many others have shown that code switching occurs at specific points in the sentence, and they have predicted that it is disallowed at several other points, focusing very intensively on syntactic constraints. But the idea which has gained momentum is that code switching and 'pure' languages are governed by the same constraints or principles which form the language faculty or universal grammar- a position that has been called Null Theory (Mahootian, 1993; MacSwan, 1999, 2000 and Chan, 2003). It is very clear that the Null Theory is advantageous compared to other proposed models or constraints as it is economical and no additional constraints or principles that apply

specifically to code switching are needed (Mahootian, 1993; MacSwan, 1999, 2000). According to Chan, (2003:57-58) the Null Theory has another advantage which is less frequently discussed and that it presents a more economical theory of the *language faculty* devoid of apparatus for code switching..

The central idea of Chomsky's Minimalist Program, briefly, is that the computational system is invariant across languages, and parameters are part of the lexicon which the computational system uses to build up larger systems, here phrases. Each lexical item introduces features into the derivation and these features need to be checked: when features mismatch or features are uninterpretable, the derivation crashes, whether the set of lexical items are drawn from one or two languages lexicons. Adapting from MacSwan, the computational system will look like this:

Code Switching on Minimalist Assumptions

LEXICON

$Lex(L_1)$ $Lex(L_2)$ ...

C_{HL} **(Select)**

Numeration =

$$\left\{\ <_{w_1,w_2,..}>\ |w \in \left\{ Lex(L_1) \cup Lex(L_2),... \right\} \right\}$$

C_{HL} **(Merge, Move)**

Derivation
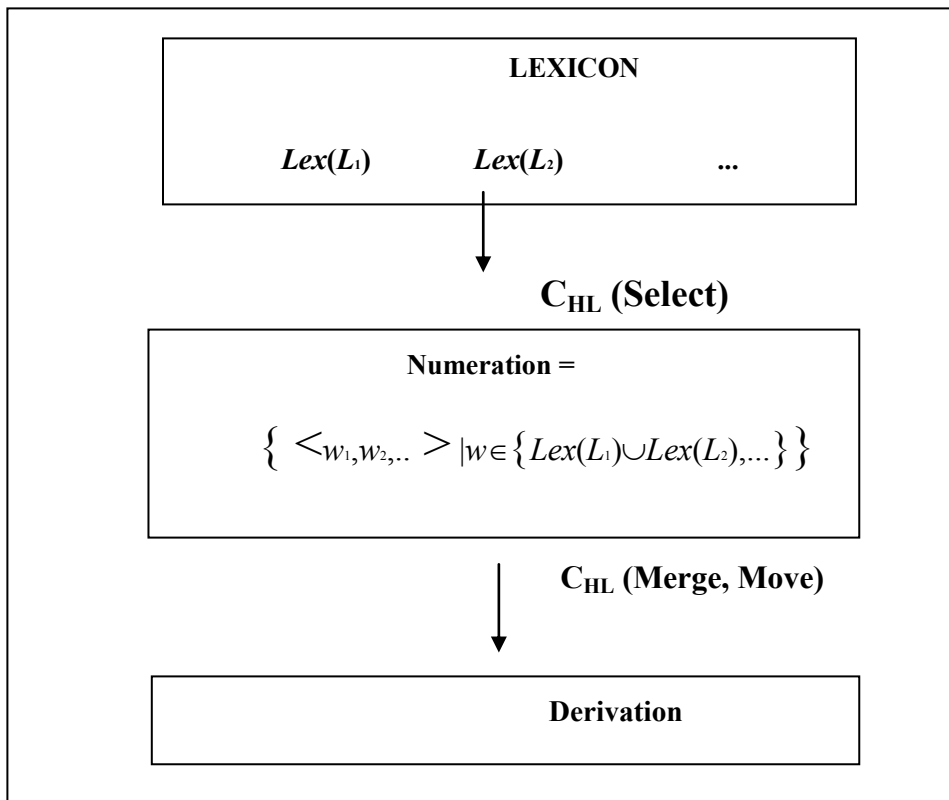
If all of the lexical items in the numeration are drawn from only one lexicon; either *Lex*(*L*1) or *Lex*(*L*2) (not both), then the expression will be monolingual; if the lexical items are drawn from both *Lex*(*L*1) and *Lex*(*L*2) , then the expression will be an example of bilingual code switching. Its well-formedness depends on whether its features match, whether it is a monolingual or a bilingual expression. In addition, there is in principle no upper limit on the number of languages which may be mixed into a linguistic expression in this way.

Also, according to Adger (2003) a lexical item in a language has features, where a feature can be interpretable or uninterpretable, valued or unvalued and weak or strong. Interpretable or uninterpretable features are used to establish syntactic dependencies (essentially agreement without movement). Valued or unvalued features are for capturing the particular morphological category associated with agreement and weak or strong features for ensuring locality between two features (that is to higher movement.)

Basically the most important operations in the MP are Agree, Merge and Move. The operation of feature matching is **Agree. Merge** creates a larger syntactic unit out of smaller units. A+B → C. It has A, B as immediate constituents. **Move** is same as Merge but it draws B from within A. It is actually a variant of **Merge.** So we have External Merge / Internal Merge.(Chomsky 2004)

Feature strength (strong or weak) is a primary mechanism in the Minimalist Program to account for crosslinguistic variation in word order. For example,

(1) a. John often kisses Mary.

John Mary ni chalasaarlu muddupettukunta Du.

……... ….Accu many times kiss present III SM Agr

We might assume then, that in English, V moves covertly to T, attracted by T's weak features; illustrating that phonetic features of the V have been left behind. However, in Telugu, the object moves overtly to the left of the verb to T to satisfy the strong features resulting in the SOV word order. A striking result of the MP is the account of word order differences in terms of movement requirements associated with the feature strength.

Another example to illustrate this notion is the word order differences in the case of XP movement. If the case feature of the T is **strong**, then the subject moves overtly out of its VP shell, bringing along its phonetic content. Overt movement of subject DP results in preverbal subject word order (SV in English, French, Spanish and colloquial Arabic). However, if the case feature is **weak**, then the subject DP will move covertly resulting in the postverbal word order (VS in Irish and Breton). Feature strength can also be used to explain the word order differences in DP.

(2) a serious man (D A N) [word order in English]

al shaks mustakeem (D N A) [word order in Arabic]

(the) man serious

a serious man

To account for the differences in the word order of adjective and noun in English and Arabic, it is assumed that in Arabic, the DET has a strong feature that needs to be checked and hence the noun moves overtly to NUM to check its features under the AGREE. The adjective remains *in situ*. Hence we obtain the word order Det N Adj in Arabic. On the other hand, in

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English, the DET does not have a strong feature to be checked. So, there is no overt movement of the noun to NUM. Hence, it results in Det Adj, N word order.

5.2. Analysis of Data

A. Switching between lexical items, verbs and pronouns:

Before we proceed to analyze the data, let us look at the pronouns of Arabic-English and Telugu.

	English Pronouns			Arabic Pronouns			Telugu Pronouns		
Person	1S	2S	3S	1S	2S	3S	1S	2S	3S
Sing	I	you	he (m) / she(f)	æna	inti / intə	hua / hiya	nenu	nuvvu	atanu / aame
Plural	we	you	they	nahnu	intum / intunna	haula	manam	meeru	vaLLu
Person	1O	2O	3O	1O	2O	3O	1O	2O	3O
Sing	me	you	him / her	æna	inti / intə	hua / hiya	aaku	neeku	ataniki / aameku
Plural	us	you	them	nahnu	intum / intunna	haula	manaku	meeku	vaLLaku

We can conclude the following from a closer look at the table:

- Arabic pronouns do not overtly mark either a nominative or accusative case.

- Arabic has different markers for feminine and masculine for II and III person singular and plural subjects and objects.

- Telugu has different overt morphological marking for nominative and accusative case including II person.

- Telugu has gender marking for III person singular subjects and objects.

- English has overt morphological marking for nominative and accusative case except for II person.

- It has different markers for feminine and masculine for III person singular subjects and objects.

English doesn't have the distinction in II person number whereas Arabic and Telugu have the same. Arabic also has gender distinction in II person.

Now let us look at the code switched data from two pairs of languages. The data from previous chapter will be repeated with different numbering to avoid confusion or referencing problems as many examples have been presented in the previous chapter. But we will look at one or two only.

Lexical vs. Pronominal subjects and objects

Code switching is possible if subj/obj is full NP (lexical) but not when it is pronominal. The data given below exemplifies this.

(3) a. In the olden days, we never knew such a thing as robbery.

Paata rojulalo maaku *robbery* ante ento teliyadu.

Olden days in to us robbery means what don't know.

(4) They got only small prizes.

ahna hassalna asar saghiir

They   got   prizes small.

They got *asar saghiir*

………….. prizes small.

The above two examples show switching between lexical nouns and verbs.

The next examples are from switching between subject / object pronouns and verbs. The first two sentences are for comparison and they are in pure languages.

(5) a. I will buy clothes.

b. nenu baTTalu kontaanu

The code switched sentences are

(6)   a. * *nenu* will buy clothes b. * *aame* will buy clothes   c. * *atanu* will buy clothes

It can be seen from the sentences that whether the pronouns is first, second or third, the switch is disregarded. The judgment holds good even when the pronoun is delayed which is the case in Telugu.

(7) a. nenu   baTTalu   kon- Ta- nu

     I   clothes buy will I PS

    b. baTTalu nenu kon-Ta-nu

     clothes   I   buy will I PS

    c.   baTTalu kon Ta nu   nenu

     clothes buy will I PS   I

Now let's us look at Arabic-English code switched data.

    (8) a. I will buy clothes.

        b. * *ana* will buy clothes

        c. * *I* soufa eshteri malabis.

        d.   She will buy clothes.

        e.   * *hiya* will buy clothes.

          She …………

        f.   He will buy clothes.

        g.   *hua* will buy clothes.

b. Pure languages and pronouns: There has been a strong proposal advanced by many

linguistis (cf.Brame (1981) and (1982), Hudson (1989), Abney (1987)) that determiners are

the virtual heads of NPs. To quote Longobardi (1994) " a singular countable head noun may

not occur….. in any of the major positions suitable for argument (eg. subject, object.…)
without being introduced by an overt determiner."

(9) (Un/Il) grande amico di Maria mi ha telefontao

(A/The) great friend of Maria called me up.

The same constraint doesn't hold for nominals in typical **non argument** functions as in
vocative, predicative etc.

(10) Ginanni e tenente   Gianni is lieutenant.

On the basis this observation, he proposes that a 'nominal expression' is an argument only if it
is introduced by a category 'D'. So lexical items are not heads but complements of the head
'D' whereas pronouns are heads by themselves. Abney (1987), Longobardi (1994), to quote a
few have analyzed pronouns as heads rather than phrases as has traditionally been assumed.

Lexical NPs cannot be constructed as heads. They need a determiner to become
argumental. That is why many researchers assume a null D even in article-less languages. So
comparing lexical NPs and pronouns, we get following structure.

11. D   DP
     │   ╱ ╲
     ▼   D   N
   aame   │   │
                                            ▼   ▼
                                            Ø   annam

In the above example, there is no determiner as Telugu is a determiner-less language but still
a null DP is projected into a head.

12. DP / \\ D NP NP to be an argument They cannot be heads. They are only complements.	NP | Adjuncts No determiner They are adjuncts, predicatives etc.	DP | Pronouns Pronouns project into heads.

Chomsky (1981:330) analyses pronominals as just features, with or without phonological matrix. Macswan (2008:770) further assumes that pronouns are base generated under D and that an empty N moves to it for checking its formal features. He crucially assumes that pronouns are heads which get to D. Thus pronouns differ from lexical NPs only in containing single phonetically realized head. Extending this proposal to the data in the above examples (3-8), we can account for the grammaticality of (3 and 4) as they include lexical items which are not projected as heads and hence switching is possible but (5-8) are ungrammatical as they involve pronominals which are heads and hence code switching is not allowed.

c. Code Switching and pronouns: Timm (1975), Gumprez (1976) and Lipski (1978) echo the view that one of the strongest restrictions in code switching is between pronominal subjects/ objects and finite verbs. This has been further observed in almost all the code switched data which is exemplified below.

13. The car brothers *lichen altijid te veel*.

    The car brothers laugh always too much. (English-Dutch)

14. Syria established diplomatic relations with them.

    Syria established *alokaat diplomasia* with them.

15. They got small prizes.

    They got *chinna bahumatulu*.

16. She bought a new house.

    She bought a *kotta illu*.

When it comes to switching between pronoun and verb, the following are observed. For Spanish-Nahuatl, a switch between I and II person pronouns and verbs is ungrammatical while the switch between III person pronoun and verb is accepted.

17. * Yo *nikokas tlakemetl*

    I will buy clothes.

18. * Tu *tikokas tlakemetl*

    You will buy clothes.

19. El *kikokas tlakemetl*

    He will buy clothes.

20. Ella *kikoas tlakemetl*

    She will buy clothes.

To account for this data, MacSwan proposes the idea of mismatch in the Spanish and Nahuatl gender feature in φ. "T in these constructions may only select a Spanish DP as its specifier if the φ-features of T match D's value for φ; thus, the presence of the Spanish pronouns in (17)-(19) indicate that T in these constructions has the Spanish values for φ, including ±gender, otherwise T and its specifier would mismatch in features. In (17) and (18), a subject prefix in the verb causes V to adjoin to T for feature checking. However, Nahuatl φ in V mismatches Spanish φ in T (more specifically, ±gender mismatches ∅gender) and the derivations are cancelled. In the case of (19) and (20), again following Pollock (1994) with respect to English verb morphology, Nahuatl V does not undergo LF checking since it has no subject agreement morpheme. Since V does not enter into a checking relation with T (here drawn without φ-features), (19) and (20) converge. As before, a problem arises for (17) and (18) whether Spanish T has its optional φ-features or not: the Nahuatl verbs either cannot check their φ-features (if T is selected without φ) or the gender features mismatch with Spanish T (if T is selected with φ), again canceling (17) and (18).

The approach developed here extends nicely to the switches in Telugu-English and Arabic-English subject pronouns and verbs. However, unlike Spanish –Nahuatl switches where switching was acceptable between III person pronoun and verb, the switching is not possible for any of the personal pronouns in our data.

21. * *nenu* will buy clothes.

    * *nuvvu* will buy clothes.   * *aame / atanu* will buy clothes.

22. * *æna* will buy clothes.

    * *hua* will buy clothes.   * *hiya* will buy clothes.

Extending the analysis of MacSwan to the data above, combining Economy condition and PF Integrity Principle, which states

    "Words whose features are isolated or scattered may not be subject to PF rules, making the derivation crash at PF.", we can conclude that switching is not allowed between pronominals and verbs.

In the case of code switching of lexical NPs, the D raises to the spec of T to check its features and because it carries its complement NP along, no features are scattered or left alone and so the derivation doesn't crash. However, in the case of switching in pronouns, it is a head D which checks the features by moving to T by head movement. At the same time, V also adjoins to T to check its features resulting in a complex head (pronoun from one language and V from another). Such a result is ruled out by PF Disjunction Theorem leading to the crash.

    In other words, lexical NPs by virtue of not being heads are saved whereas pronouns as heads crash at PF. Lexical NPs and pronouns make use of two different checking relations. Lexical NPs are licensed as they involve Spec movement while pronouns aren't as they undergo head to head movement forming a complex unit with V.

    Our data involving switching between subject pronouns and verbs differs from that of MacSwan in III person subject pronoun and verb. In MacSwan's data where switching is disallowed between I and II persons and allowed between III person and verb, there is no switching allowed between any personal pronoun and the verb in Telugu and Arabic. As

MacSwan proposed for his data, the idea of mismatch in case features results in the crashing of derivations. He proposes that the T in the derivations is drawn from Spanish where the T carries a case feature nominative- CASE (NOMINATIVE) and because Nahuatl is a language with case being null (followed from Pollock's (1994)) there is a mismatch in the features and the derivations crash. Along with Case, gender also seems to be the offending factor when it comes to code switching in our data. Due to rich inflectional systems, the pronouns are overtly marked for gender in all persons. Though the analysis can be applied to the data from Arabic where just like Nahuatl, the case is null, there also seems to be a need for the gender to be marked on the T. As suggested by Abdul Hafeed Ali Fakih (2006) and also shown by us in Chapter 3, the Φ features of V in English are –interpretable but they are +interpretable in Arabic and Telugu. Therefore, the T drawn from English which is marked CASE (NOMINATIVE) is not marked for gender which is not the case with the Ts drawn from the two languages (Telugu and English). So the features mismatch and the derivations crash.

The same analysis can be neatly applied to the code switching facts regarding object pronouns. The code switched sentences are

Telugu-English

23 a. * nenu *her* ni premisthunnanu

*nenu *you* ni premisthunnanu

Arabic-English : Switches involving verb and object pronoun:

24. a. * æna ahub *her*

I   love ….

b. *I *ahub* her.   * I love *hiya*.

………. her.

Arabic and Telugu pronouns make an English construction ill-formed irrespective of overt case marking. In (c) and (d) if T has English values for φ, the derivations will cancel since ± gender of φ in Arabic and Telugu pronouns mismatch with Ø gender in English φ . If T has Arabic or Telugu values for φ, the derivations again will cancel when V raises to check its φ features with T.

5.2. Switches within VP

a. Duratives

Telugu and English

In code switches involving auxiliary – v boundary, English 'to be' cannot be followed or preceded by the Telugu durative.

25. a. I am speaking.

   b. * nenu *speaking* unna-nu

      I   ……   be Agr IPS

   c. * I am *matlaDutu*

      ……… speaking

Telugu and English have durative constructions. In Telugu, unna [to be] is a bound morpheme and only surfaces in durative constructions.   Also, the order of the verb is different.   In

English, the order is as follows: auxiliary + main verb + ing. Whereas, in Telugu the order is: main verb+ ing + auxiliary + AGR.

Just like many other languages, in Telugu also some uses of copula appear to be null. For example, look at the following constructions.

26. a. She is a teacher.

  aame teacher

   She   teacher.

   b. They are one.
   vaLLantha okati

   They   one

We will assume that the Telugu copula is realized in durative constructions and isn't in other instances. But just like English 'be', [unna] in Telugu also subcategorizes for a gerundive. In minimalist account, the copula joins with [Durative] by the operation Merge. So no feature checking is required, hence no movement.

Verbs will undergo LF checking with T if and only if they bear φ features associated with an inflectional affix. The inflectional affix in English does not carry gender feature, so it does not undergo LF checking. But in code switched sentences, the inflectional affix in Telugu is inflected for gender also and φ features of V in Telugu are +interpretable and so have to be checked. Thus in (25) the gender agreement morpheme on the verb trigger checking of the verb with T because of intervening aspectual verb [unna]. As a result, a complex $[T_0 \ V_1$ and $V_2]$ is formed, an instantiation of the PF filter *$[X_0 \ W_1 \ W_2]$. Again PF Disjunction Theorem

applies at X^0. On the PF disjunction Theorem, there is no derivation for $*[X_0 \; V_T \; V_E]$ or $*[X_0 \; V_E \; V_T]$ since neither PF system can interpret these structures (an undefined item term (gender, in this case) remains in either case $V_{Eng} \; PF_{Tel}$ or $V_{Tel} \; PF_{Eng}$) and so the derivations crash.

27. Estoy *tekititoc*
     'I'm working'

In Spanish and Nahuatl code switching, the switches where Spanish Auxiliary verb can take a Nahuatl verb bearing null affixes (26) are only acceptable because the Nahuatl verb bears no affix, in other words, null affix. But in Telugu, there are no verbs which bear null affixes. Hence, all the derivations involving switching between the duratives and main verbs crash because the derivations where the verb doesn't have maximal agreement morphemes are blocked and they crash.

Now let's look at the data from Arabic and English.

Arabic and English

28. a. I am helping John.

    b. I am *usaaid* John.

    ……….. help(ing) ….

    c. He is *emshi*.

    ………….. walk (ing)

There is no copula in Arabic. It is not realized in any other constructions as it does in some cases (duratives) in Telugu. Arabic doesn't have duratives as well. It has only two tenses –

past and non past. So, when the English durative [be+-ing] is inserted, there seems to be no problem. There is no feature mismatch either in copula [be] agreement or in the durative suffix. The word [emshi]'s (walk) realization can be either walk or walking depending on the English copula agreement. Unlike in Telugu, there are no agreement markers on Arabic verb [emshi] and hence there is no mismatch of features and the derivations don't crash. This is just like the case of Spanish – Nahuatl code switching where Arabic doesn't have any affixes. The derivations don't crash as there are no agreement markers to check if the verb is in Arabic.

b. Negation:

From the data given in the previous chapter, which is reproduced here for ease,

Telugu-English

29. a. * nenu *sleeping* ledu

  I   sleeping   not

  b.   * nenu *eating* ledu

   I   eating   not

  c.   * nenu *not* tintunnanu

   I   not   eating

We can conclude that switching between negation and the verb is not acceptable. Hariprasad (1989) says that Telugu Neg is an affixal and it raises along with the Tense. Following MacSwan, we say that Telugu negation *ledu, kaadu* are incorporating elements, they form a

unit with V by head movement, specifically, the complex $[X^0$ Neg V]. Since the PF Disjunction Theorem bars switches at X^0, complexes thus formed are illicit in code switching. (Note too that $[X^0$ Neg V], in the normal course of a derivation, would raise to T for feature checking, producing $[T^0$ T [Neg V]], another violation of PF disjunction Theorem. These considerations correctly rule out the switches in Telugu and English.

Applying the same to English and Arabic rules out the following switches involving Arabic and English.

30. a. * hua *not* yaakul.

He not eating

b. * hua le *eating*

He not eating

c. Modals: Telugu- English

There are modals in Telugu just as in English. But they are different from their counterparts on two accounts.

A. They are bound morphemes. They cannot be separated from the main verb as the separation leaves the main verb, an infinitive.

31. aame vanDagaladu.

She   cook can III S Fem Agr

By separating the modal and the main verb, we have the following which is unacceptable.

32. *aame *cook* galadu

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B. The structure is also different. In English, the modal is preverbal while in Telugu it is postverbal.

33. She can cook.

aame vanDagaladu.

The code switched sentences from Telugu-English are

34. a. He can sing a song.

* atanu oka pata *sing*agalaDu.   * atanu *can* paaD

b. She can play.

*aame *can* aaD   *aame *play*galadu

Arabic - English: The modals in Arabic are not the exact equivalents of their English counterparts. Arabic modals are just the same as English in being free and preverbal. Their function is performed by normal verbs, often impersonal or prepositions followed by a present tense. The main verbs have interpretable features as discussed earlier and any switching between them leads to ungrammaticality.

35**.** a. He must sing.

hua / hiya yagib yughanni

He / She must sing.

b. * hua / hiya yagib *sing*.

* hua / hiya *must* yughanni

d. to infinitives   Telugu-English:

36. a. I am going to see my sister.

nenu naa chellelini chuDaDaniki veltunnanu

I   my sister Accu see to   go dur I S Agr

* *I am going* naa sisterni chuDaDaniki[1]

*nenu naa sisterni *to see* veltunnanu

b. I want to buy some clothes.

nenu baTTalu konalanukunTunnanu.

*I want *kon* baTTalu.

Same is the case with Arabic. There is no such construction in Arabic.

37.   a. I am going to visit my sister.

* ana *am going* liziyaraat okhti.   *saufa edhab *to visit* my sister.

b. I want to buy some clothes.

**uri:d* to buy some clothes   * I want *eshteri* some clothes.

Rizzi (1982) analyzed Italian modals, aspectuals and motion verbs as "restructuring" verbs. All the sentences above are examples of such restructuring verbs. As was observed and

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[1] [naa sisterni chuDadaniki I am going] is a possible switch. However, many native speakers reserved their comments with regard to the acceptability of this switch. At this juncture, we don't have anything to say about this. More data and further research need to be conducted.

analyzed earlier in pure languages (Rizzi, 1982) and code switched sentences (DiScullio et al), any mixing in the adjacent verbs leads to unacceptable sentences. As the examples given above come from mixing in modals and aspectuals, all the sentences, both in Telugu-English and Arabic-English are rendered unacceptable.

5.3. Switching within D P

a. Demonstratives: While demonstratives in Telugu are morphemes [aa / ii] corresponding to English 'this' and 'that', it also has demonstrative pronouns which have agreement markers for gender, person and number. The code switched sentences are

38. a.   ii *girl* naa friend

This ammayi naa friend

b.   aa *boy* vasthaDu

That abbayi vasthaDu

Arabic – English: Code switched sentences are the following:

39. a. That girl

hada girl

b.   That book

hada   book

It follows from the above code switched data, both from Telugu-English and Arabic-English, that switches between English demonstratives and Telugu/ Arabic nouns; and Telugu/Arabic

demonstratives and English nouns are all acceptable. This can be accounted for if we assume that there is a parallelism between V-movement and N-movement which is proposed for Romance languages by Longobardi just as between CPs and DPs. Just as V moves to T to check its +/- features, N also moves to D to check its features. In addition, Pollock (1989) suggests that the range of differences between crosslinguistic word order variations in DPs can be explained on the basis of overt or covert movement of the N. Because the demonstratives in English, Telugu and Arabic are not inflected for number, gender or person, the switches are acceptable. The demonstratives or the nouns do not carry any interpretable features, and they don't have any features to check overtly or covertly. The demonstratives in all three languages are drawn from the lexicon with φ features and the Ns which raise to check have φ features. So there is no clash or mismatch in the features as they are both null and the derivations are successful.

Data from naturalistic observation:

Telugu- English

      40. a. aa *book* raasindi aamene

        That book wrote she self

        She only wrote the book.

Arabic – English

      41. a. *hada* chart   b. *hada* book

        This chart   This book

b. Determiners: Now let's see what happens to the code switched sentences involving a switch between determiner and noun. First let's see the data from Telugu.

42. a. I have a son.

   naaku oka koDuku. (unnadu)

   Me   one son   to be

   b. naaku   oka *son* (unnadu)

   Me (dative) one son   to be

   I have a son.

43. I want a *dinDu*.

…………pillow.

44. Let us meet in the *kotta samvatsaram*

…………………..new   year

Though, Telugu is a 'determiner less language' as many other languages, the switches between English determiners and Telugu nouns are acceptable. In Telugu, [oka] roughly substitutes for [a] in English. In switches involving English indefinite article 'a' and Telugu noun, the Telugu noun which is barren of any features need not raise to check any features and hence the derivation is successful. In the instantation of a switch between Telugu [oka] and English noun (son) , the noun raises to D to check its number feature and since Telugu [oka] has the feature number, the features match and the derivation is successful. As for the

switch between English definite article 'the' and Telugu noun (kotta samvatsaram), the noun inherently has a definitenss feature which is checked against the definiteness feature of 'the' and hence the features match and the derivation is successful.

 Arabic English

43. She bought the house.

………….. *al* house.

44. She bought a car.

………….. *a* siyyarah.

The switches between Arabic determiner and English noun and the switch between English determiner and Arabic noun are also acceptable. The analysis given for Telugu-English data can be neatly applied to Arabic-English data also. The feature $\pm$definiteness matching of the determiners in the three languages can be easily used for accounting the data from both the pairs of languages.

5.4. Switching within CP

a. that-complements

The word order in this category is contrasting as was seen in the last chapter. English has the complementizer at clause initial position whereas Telugu has clause final complementizer. as the word orders are contrasting. Hence, it is interesting to know whether the code switched sentences are grammatical in the two languages.

Telugu -English:

45.a. I told him that I like Chiranjeevi.

Chiranjeevi ante naakistamani ataniki cheppanu.

means me to like that him to told

b. I told him Chiranjeevi *ante naakistamani*.

c. I told him I like Chiranjeevi *ani*

d. * ataniki cheppanu *that* Chiranjeevi ante istam.

As can be seen from the above data, switches involving embedded clauses are accepted falsifying claims of Belazi et al (1994). They propose (46)

46. A code switch may not occur between a functional head and its

complement.

These findings are not surprising if we assume that each lexical item introduces features into the derivation which must be checked. The verbs in these constructions bear the selection feature, [C] which is checked under merger with the CP complement. To add further, the C merges with the tensed complement before it merges with the V. so, if the Telugu [C] merges with tensed English IP, or of the English [C] merges with tensed Telugu IP complement, they do so according to the strength of the complementizer. Further interesting fact is that the ordering of the complements and the complementizer. In Telugu, the C is strong and attracts the IP to its left unlike English where the complement follows the complementizer. So, in code switched sentences, the language of the complementizer decides the resulting word order. In other words, if the complementizer is Telugu, the tensed English IP complement

occurs to the left of the complementizer and if the complementizer is English, the tensed Telugu IP complement occurs to the right as required by the language. However, if the sentence has an English complementizer and a tensed Telugu IP complement, the word order is that of English, then the sentences are unacceptable.

Arabic-English

47. a. He's going to understand that he spends a lot of money.

hua baad efam biannahu yenfeq bi israaf

He   afterwards understand that III S Masc Agr ……..

b. He is going to understand that *yenfeq bi israaf.*

c. He is going to understand *biannahu* spends a lot of money.

48 a. I told him that I love football.

……na khabarthhum bienna na   ahub kurat l kadam

I   told him   that   I love   ball the foot

b. I told him   *bianna* I like football.

c. I told him   that   ana   ahub football.

The same analysis can be extended to the Arabic-English data, only difference being the ordering of the complementizer and its complement. The word order in CP in both languages is same.

b. conjunctions (because, and):

Code Switches found at this boundary: (Telugu-English)

49. a. Ramu Seetha-nu preminsth-unnaDu inka *he's going to marry her*.

Ramu Seetha-nu preminsth-unnaDu and he's going to marry her.

Ramu Seetha-nu preminsth-unnaDu *and* aame-nu pelli cesukobot-unnaDu

Ramu loves Seetha and aame-nu pelli cesukobot-unnaDu

Code switches in Arabic-English:

50. a. ana ishtogel qhilal el nahar *and* idris qhilal alleil.

ana ishtogel qhilal el nahar *wa study in the evening*.

I work during the day *wa* study in the evening.

I work during the day and *idris qhilal alleil*

The same analysis given for that-complement switching can be applied for switching in this category as they all fall under the category- switching in embedded clauses.

5.5. Switching in modification structures.

Switches involving modifications structures have been reported to be disallowed in earlier theories. But there seems to be no restriction as far Telugu and English code switching is concerned.

Telugu-English: 51 a. Hyderabad is a big city.

Haidarabad pedda nagaram

b. Sushmita is a beautiful girl.

Sushmita andamaina ammayi

In code switching, the sentences are as follows.

52 a. haidarabad *pedda* city.   b. Sushmita *beautiful* ammayi

    b. Oh! adi chala *pedda* story   d.aameku oka tella *building* undi.

The word order in modification structures in Telugu and English is same; that is adjective precedes noun and it bears no agreement markers. Because the word order is same and there are no agreement features on the adjectives to match with the nouns, there is no clash in feature match and the derivations are successful.

Arabic-English: However, the switching between Arabic and English modification structures is not simple and easy to explain because of many differences between their word orders.   To illustrate,

53. l-bint-u l-jamiilat-u

   the-girl the – beautiful

   the beaufitul girl

54. 1-kitaab-u   l-ʔaxdar-u   s-sagiir-u

   the book – nom   the green –nom   the little –nom

   (from Fassi Fehri (1999))

As can be seen from the above examples, adjectives follow the noun and they agree with the noun in definiteness, gender and number. Also, the order of adjectives observed is the mirror image of that found in English. Citing examples from Spanish (Bosque & Picallo (1996),

Fassi (1999) points out that although these Arabic adjectives occur post nominally, they are interpreted as attributives as has been argued by Cinque (1994a) and Bosque & Picallo (1996) for Romance languages.

Regarding the word order in adjectives, Cinque (1996) proposes (inspired by Kayne's Antisymmetry (1994)) that all adjectives and modifiers (whether prenominal or postnominal) are generated as left specifiers of N. The N-A order is then obtained through (a) N or (b) NP movement, targeting higher left located heads on specifiers, respectively. N raising occurs in prepositional (or A-N languages) where adjectives do not move and NP raising occurs in postpositioning (or N-A languages). But Fassi (1999) says that NP raising cannot be adequately applied to Arabic because it is not a postpositional language. He says that N raising is enough for deriving N-A ordering in Arabic. He adds further saying that in Cinque's (1996) proposal adjectives remain *in situ*. Fassi (1999) says the Arabic adjective also moves as it has rich inflectional properties just as the noun. He says the adjective movement is motivated by the features of Arabic adjectives which target DP, to check their agreeing Case, article and phi-features against those of higher functional head, which he says a segment of D and designates as small d with no theoretical content. As agreement features have to checked, the adjective must raise to that of a Spec of a functional projection F. If F is identified as a segment of D, then D might be said to have strong AGR features. On the other hand, adjective cannot raise higher than the noun because they result in a A-N word order which is ungrammatical as in (55)

55* l-jamiilat-u l-bint-u

the – beautiful the-girl

* the girl beautiful

So he suggests that the AP raises to a functional projection which is found lower than the D (or its segment) in which N is located. He designates them as dp and DP. Then he proposes that AP raises to Spec,dp and then N raises to Spec,D which then yields the right word order as in (53 and 54). The tree structure will look like the following

56.
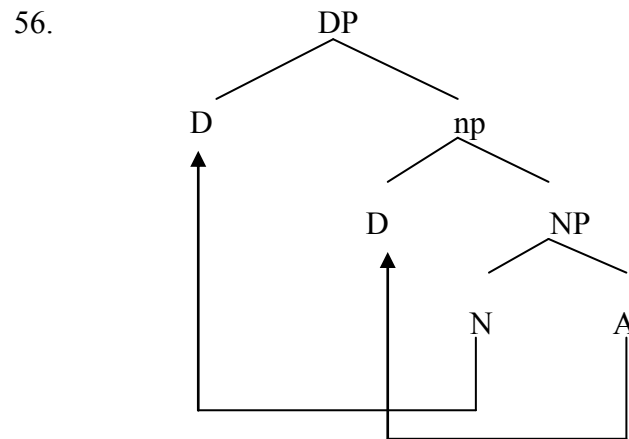
N raises to check its CASE, gender and number features to D and adjective raises to small d to check its features deriving the grammatical N-A order.

With regard to another difference between Arabic and English adjectives, both the head noun and the modifying adjective carry articles, as the examples in (54 and 55) show. Fassi (1999) draws parallels between the lexical NP which need a DET (albeit vacuous in some cases like Telugu) to project, and APs which need to be headed by a DET. He finds support for this argument in Kayne (1994) who argues that (on the basis of distributuional contrasts within Germanic and Romance noun phrase structure) adjectives, relative clauses

and possessives are basically IP/CP complements (of D). Fassi (1999) adds, moreover, the agreement in Definiteness between adjectives and nouns can be thought of as resulting from embedding the two categories in a single functional DP domain, in which the same value of features must be matched. He finds further support for two determiner sources on nouns and adjectives from languages like Greek, Romanian and Scandinavian (Alexiadou & Wilder 1998) etc.

To conclude this section on Arabic adjectives and their differences, we can safely assume that along with N, Adjective also moves to check its features and the double determiners are licensed because of the embedding nature of Arabic nouns and adjectives. This provides an interesting background for the analysis of code swiches in modifying structure involving nouns and adjectives from two languages- English and Arabic.

Arabic and English   57. She is a beautiful girl.

    a.   She is a beautiful *bint*.   b. *She is a *bint* beautiful.

    ………………….girl.   ……….girl………..

    c. *She is a *gameela* girl.   d. *She is a girl *gameela*.

    ………….beautiful ….   ……………beautiful.

    58.a. *book* a?khdar   b. * *a?khdar* book

        book green   green book

    c. **kitaab* green   d. green *kitaab*

        book green   green book

Summary of code switches in modification structures
English N + Arabic adjective --- * girl gameela ---- unacceptable (word order N-A)
English N + Arabic adjective --- *gameela girl ---- acceptable (word order A-N)
Arabic N + English Adjective --- *bint beautiful ----- unacceptable (word order N-A)
Arabic N+ English Adjective ---- beautiful bint ------ acceptable (word order A-N)

When it comes to code switching, there seems to be a restriction. A switch between English adjective and Arabic N is acceptable where the resulting word order is Adj-N (English) while the rest of the combinations in the paradigm are unacceptable.

The Arabic adjective has interpretable features like gender, number and person which have to be checked during the derivation. Quoting Fassi (1999) from the previous section on Arabic adjectives, the adjective which has interpretable features like gender, number and person must raise to check its features for the derivation to be successful. But in this case, the small d where the Arabic adjective raises to is not present as the noun is drawn from English in case of (57 (c,d) and 58 (a,b). Hence, the interpretable features of Arabic adjectives do not get checked and the derivations cancel.

In the cases of (57 (b) and 58 (c), quoting Santorini and Mahootian (1995: 13) who propose that treating adnominal adjectives as phrasal adjuncts rather than as heads has the striking consequence that code switching between languages with pre- and postnominals adjectives should on occasion give rise to adjectives and nouns from one language appearing in an order unique to the other.. In other words, the word order in our examples can either be in N-A order or A-N order. Then the important question arises as to why only A-N order is grammatical? Gumprez (1976), Belazi et al (1994) claim that Adjective-Noun order is determined by the language of the adjective whereas, Poplack (1980) claims that the order is unconstrained. MacSwan (1997) also suggests that the word order requirements of the adjective are favored in Spanish-Nahuatl. Also, the strength of the adjective plays a role in the selectional feature of the nouns. We will assume then that the English adjective is strong and selects the A-N word order. This idea is supported by my data in Arabic-English where the word order of the noun is followed; however, it is difficult to decide in Telugu-English data because the word order is same.

5.6. Conclusion:

In this chapter, data from two pairs of languages, Telugu-English and Arabic- English both from grammatical judgments and naturalistic observation was analyzed. The boundaries where code switching was contested were analysed utilizing fresh data from two language pairs. One interesting feature is the switching between determiner and the noun (Switching in DP). Telugu is a determinerless language. It has a roughly corresponding [oka] meaning 'a' in English. Arabic has only one definite determiner, whereas English has both definite and indefinite articles. This switching has not been studied earlier to my knowledge. This issue is resolved by using the feature matching theory, $\pm$ definiteness feature of the determiner.

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Another interesting feature is the switching between Arabic nouns and English adjective and vice versa. This is resolved assuming Fassi Fehri (1999) that the small d where Arabic adjective checks its features is not available in English D and hence the derivation crashes. As for the adjective –noun order, the English adjective does not have any interpretable features to check and hence the derivation does not crash. With regards to the other code switching data, none of the code switching specific theories put forward by earlier linguists can account for the range of facts presented in this and the previous chapters. It is also vital to note that all the data presented here has been accounted for without any external syntactic apparatus. The same constraints or rules that are prescribed for monolingual data can be used to explain the code switching data as well. It is also interesting to note that the language pairs observed differ in the basic word order structure. In other words, Telugu is a strict SOV language whereas English is a SVO language. Arabic on the other hand is again an SVO language. As a result, we looked at contrasting pairs of languages which have not been done until now. Telugu –English, an SOV-SVO language code switching that has not received any attention from the linguists so far, has been accounted for using the same syntactic apparatus or no additional language specific rules have been prescribed. Also, Spoken Arabic (SVO) as I would prefer to call it, different from Standard Arabic (VSO language) used in this data is also specific to Oman's context.

Finally, quoting MacSwan "Nothing constraints code switching apart from the requirements of the mixed grammars." Another important outcome of this research and many others like these has been that feature strength of lexical and functional categories accounts for the cross linguistic word order variations.

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