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THE DYNAMICS OF LANGUAGE CONTACT IN COMMUNITIES OF PRACTICE: TOWARDS A PLURILINGUAL APPROACH TO LANGUAGE PROCESSING IN AN ALGERIAN CONTEXT

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ACKNOWLEDGEMENTS

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DEDICATIONS

To the memory of my revered father (may Allah's mercy be upon him)

To my beloved mother for her affection, and constant support

To all the members of my family

ABSTRACT

This research attempts to describe and analyze some linguistic practices among Algerian students resulting from contact between Oran Arabic and French. Indeed, this study is based mainly on a double orientation. The first approach appears to be descriptive/ analytic, and tries to apply the theoretical and empirical foundations of the insertional models proposed by Myers-Scotton on a corpus realized among university students recorded in different speech situations even if university remains the major context (formal setting). The second approach seems to be interpretive principally based on quantitative and qualitative methods in order to test the empirical validity and the explanatory power of Myers-Scotton's insertional models.

The main idea underlying this research seeks to establish a link between the asymmetry in the different patterns of Oran Arabic/French Code-Switching realized by bilingual students showing varying degrees of bilinguality, and the asymmetry with regard to the organization of the various system and content morphemes in the mental lexicon.

Despite the structural explanations of the dueling languages permitting the alternation from French to Oran Arabic and vice versa, other factors appear to be influential in the shaping of mixed constructions, namely the speakers' competence in the languages involved in the mixed constructions, the pragmatic intentions of the interlocutors when producing mixed constituents, Embedded Islands and Internal Islands as well as the speakers' attitudes towards the languages involved in bilingual speech.

In fact, this research is basically founded on a corpus of spontaneous conversations recorded among some Algerian bilingual/plurilingual students. The analysis of the students' productions tries to demonstrate the directionality of Code-Switching in an Algerian context where the emplacement, the distribution and the status of the syntactic categories/structures were investigated when French and Oran Arabic have been shown as Matrix or Embedded Languages in the corpus.

Unlike other researches on Code-Switching and mainly studies undertaken by Ziamari, which targeted the correlation of the specificities of Moroccan Arabic/French Code-Switching to the fact of urbanity, this research aims to demonstrate that the linguistic dynamism due to Oran Arabic/French duality is the result of a particular practice that distinguishes a community of practice (that of bilingual students) from other linguistic communities. For this purpose, the context (university) as an urban structure cannot be the only trigger of Code-Switching if the pragmatic intentions of the interlocutors do not favor this linguistic act.

The results obtained in this research showed that the insertion of French constructions in a morphosyntactic frame governed by OrA as a Matrix Language is characterized by a predominance of certain structures, namely noun phrase islands, mixed nominal constituents, and inflectional phrases. Also, the results showed an asymmetry in the roles assigned to languages involved in CS (Arabic and French Oran in this case). Oran Arabic appears as the Matrix Language in most mixed-codes whereas French' role was limited to an Embedded Language despite the abundance of embedded structures from this language.

The insertional models which constitute the theoretical framework of this research provide consistent elements of answers to many questions raised in this study. These models treating issues relevant to syntax and cognition indicate a flexibility of analysis and facilitate the understanding of complex linguistic phenomena generated by plurilingualism. Notwithstanding, other avenues of exploration appear to be completive to this research should target the application of the basic principles of Myers-Scotton's models by adopting a didactic perspective where problems of the acquisition of French and English syntactic categories and larger constructions, error analysis, and problems of interference would be discussed.

KEY WORDS: Oran Arabic/French Code-Switching, asymmetry, cognition, congruence, semantic and syntactic mismatch, Algerian bilinguals, Oran Arabic.

RÉSUMÉ

Cette recherche vise à circonscrire certaines pratiques langagières parmi des étudiants Algériens résultant du contact entre le parler d'Oran et le Français. En effet, cette étude s'appuie essentiellement sur une double orientation. La première démarche se révèle descriptive/ analytique présentant les fondements théoriques et empiriques des modèles insertionnels proposés par Myers-Scotton dans un souci applicatif sur un corpus réalisé auprès des étudiants universitaires dans différentes situations linguistiques même si le contexte majeur demeure l'université (un contexte formel). La seconde se veut interprétative fondée sur une approche à la fois quantitative et qualitative dans le but de tester la validité expérimentale et la capacité explicative des modèles Scottoniens.

L'idée principale sur laquelle est fondée cette recherche cherche à établir un lien entre l'asymétrie dans les différents patterns du code-switching Arabe Oranais/ français réalisés par des étudiants bilingues montrant des degrés de bilingualité assez variés, et l'organisation asymétrique des différents morphèmes grammaticaux et des morphèmes de contenu au niveau du lexique mental.

En dépit des explications structurales de ce duel linguistique permettant le passage du Français à l'Arabe Oranais et vice versa, d'autres facteurs se montrent déterminant dans la construction des structures mixtes, notamment la compétence des locuteurs dans les langues investies dans le Code-Switching, les intentions pragmatiques des interlocuteurs lors de la production des constituents mixtes, des îlots enchâssés et des îlots internes ainsi que les attitudes des locuteurs à l'égard des langues impliquées dans le parler bilingue.

À vrai dire cette recherche est conçue à la base d'un corpus constitué de conversations spontanées entre étudiants Algériens bilingues/plurilingues. L'analyse des productions langagières de ces étudiants tente à expliciter la directionalité du Code-Switching dans un contexte Algérien où l'emplacement, la distribution ainsi que le statut des catégories/ structures syntaxiques ont été interrogés lorsque le Français et l'Arabe Oranais se manifestaient comme Langue Matrice ou Langue Enchâssée.

Contrairement à d'autres recherches sur le code-switching et les travaux de Ziamari, qui se sont assignés comme objectif primaire de corréler les spécificités du Code-Switching Arabe Marocain/Français à des faits d'urbanité, cette recherche vise à démontrer que le dynamisme linguistique dû au duel Arabe Oranais/Français est la résultante d'une pratique particulière qui distingue une communauté de pratique (celle des étudiants bilingues) d'autre communautés linguistiques. À cet effet, le contexte (l'université) en tant que structure urbaine ne peut être l'unique élément déclencheur de l'alternance codique si les intentions pragmatiques des interlocuteurs ne favorisent par cet acte langagier.

Les résultats obtenus dans cette recherche ont montré que l'insertion des constructions du français dans un cadre morphosyntaxique régie par OrA en tant que langue matrice se caractérise par une prééminence de certaines structures, en l'occurrence des syntagmes nominaux îlots, des constituents nominaux mixtes, et des syntagmes flexionnels. Aussi, les résultats ont montré qu'une asymétrie dans les rôles des langues impliquées (Arabe Oranais et Français dans ce cas). L'Arabe Oranais s'est montré comme language matrice dans la plupart des structures mixtes repérées alors que le Français s'est limité au rôle d'une langue enchâssée malgré l'abondance des structures encastrées provenant de cette langue.

Les modèles insertionnels qui font le cadre théorique de cette recherche fournissent des éléments de réponses consistantes aux maints questionnements soulevés dans cette étude. Ces modèles qui touchent à la syntaxe et à la cognition se montrent flexibles au niveau de l'analyse et de fait facilite la compréhension des faits linguistiques complexes engendrés par le plurilinguisme. Nonobstant, d'autres pistes de recherche s'avèrent complétives à ce travail de recherche et viseront l'application des principes de base des modèles Scottoniens en adoptant une visé didactique où les problèmes d'acquisition des catégories syntaxiques du français et de l'Anglais, l'analyse des erreurs, et les problèmes d'interférence seront interrogés.

MOTS CLÉS : le Code-Switching Arabe Oranais/Français, l'asymétrie, la cognition, la congruence, l'incompatibilité sémantico-syntaxique, locuteurs bilingues Algériens, Le parler d'Oran.

ملخص

هذه الدراسة هي محاولة لوصف وتحليل بعض الممارسات اللغوية بين طلاب جزائريين من وهران والناجمة عن الاتصال بين اللغة العامية المستخدمة من طرف هؤلاء المستخدمين واللغة الفرنسية.

في الواقع تستند هذه الدراسة الى توجه منهجي مزدوج. المنهج الأول المتبع في هذه الدراسة ذو طبيعة وصفية تحليلية يهدف الى تطبيق الاسس النظرية والتطبيقية للنماذج المقترحة من طرف مايورسكوتين على خطابات مسجلة بين الطلاب في ظروف مختلفة حتى ولوكان السياق الاساسي هو الجامعة. المنهج الثاني هو تحليلي في مجمله ويصبو اساسا الى التحاليل النوعية والكمية للخطابات المدروسة من اجل اختبار كافة الشروحات والتفاسير المعروضة في النماذج المعتمدة في هذه الدراسة.

تكمن الفكرة الاساسية لهذا العمل في البحث على إمكانية ايجاد علاقة تربط بين الانماط المختلفة الملاحظة في الخطابات والتي تتسم بالتحول اللغوي من اللغة العامية الى اللغة الفصحى والفرنسية و كذا الانجليزية وكفاءة المتحدثين في اللغات المستعملة إلى جانب اختلاف تنظيم المورفامات في المعجم العقلي.

وعلى الرغم من نجاعة التفاسير والتحاليل النظامية المقدمة في هذه الدراسة الا ان هناك عوامل اخرى لها تأثير على التحول اللغوي خاصة من اللغة العامية الى الفرنسية والعكس صحيح. من بين هذه العوامل درجة كفاءة المتحدثين في هاته اللغات المتمازجة والاسباب التي ادت الى التحول اللغوي زيادة الى اتجاهات المتكلمين نحو اللغات المستعملة في الخطاب المزدوج.

هذا البحث يعتمد بالدرجة الاولى على مقابلات سجلت بين طلبة جزائريين ثنائي وثلاثي اللغات في سياقات مختلفة قصد معرفة مدى تأثير السياق على الاختيار اللغوي. كما ان تحاليل الخطابات المزدوجة تمحورت خاصة حول اتجاه التحول اللغوي عربي-فرنسي-عربي وعلاقته بالقيود اللغوية التي من شانها التحكم في التحول من لغة الى اخرى.

خلافا لابحاث عدة اعتمدت على التحول اللغوي عربي-فرنسي-عربي كموضوع اساسي ولنأخذ على سبيل المثال زياماري التي حاولت اقامة علاقة بين التحول اللغوي والعوامل البيئية، هذا البحث يعتبر الديناميكية التي يتسم بها التحول اللغوي في المقام الجزائري نتيجة لممارسات لغوية معينة داخل مجتمعات تطبيقية مغايرة للأنماط اللغوية الممارسة داخل مجتمعات لغوية اخرى.

اظهرت النتائج الاولية لهذا البحث ان ادراج تراكيب نحوية من اللغة الفرسية الى اللغة العامية تتسم بتردد بعض النماذج خلافا لغيرها من التراكيب كالجمل الاسمية وكذا عدم تماثل في الادوار النحوية المنوطة للغتين العربية والفرنسية. فاللغة العامية ظهرت كلغة فعالة في كل الخطابات واكتفت اللغة الفرنسية بدور اللغة المدرجة داخل اطار نحوي عربي.

ان النماذج المعتمدة في هذا البحث قد اعطت تفاسير تحليلية مهمة لجل التساؤلات المطروحة في هذا البحث حيث تتسم هذه الاخيرة بالمرونة في طرح القضايا اللغوية من حيث تعاملها مع التحول اللغوي. وبالرغم من هذا فان قضايا تعليمية اللغة واكتسابها تستحق ابحاثا اعمق فيما يخص تطبيق مبادئ واسس نماذج مايورسكوتين.

الكلمات المفتاحية : التحول اللغوي عربي-فرنسيي , عدم التماثل, الادراك ,عدم التطابق النحوي والدلالي , المتكلمين الجزائريين ثنائي اللغة , اللهجة الوهرانية المحلية.

Symbols and abbreviations	Significance
[ ]	Broad phonetic transcription
/ /	Phonological transcription
1, 2, 3	1st, 2nd, 3rd person
*	Grammatically ill-formed
4-M	Four types of morpheme
AA	Algerian Arabic
ACC	Accusative case
ADJ	Adjective
AdjP	Adjective phrase
AGR	Agreement
ART	Article
ASP	Aspect
AUX	Auxiliary
B	Borrowing
BL	Base Language
COMP	Complementizer
COND	Conditional
CP	Projection of complementizer
C	Consonant
CA	Classical Arabic
CS	Code-Switching
CS	Construct State
DET	Determiner
DEF	Definite article
DEM	Demonstrative
DNG	Definiteness-number-gender
DNP	Determiner Noun phrase
DO	Direct Object
DP	Determiner phrase
EXIS	Existential
FMC	Free Morpheme Constraint
EGA	Egyptian Arabic
EL	Embedded Language

EC	Equivalent Constraint
EMPH	Emphatic
Eng	English
F	Feminine
F	Fuṣḥa (CA/MSA)
Fr	French
FUT	Future
GB	Government and Binding theory
GEN	Genitive
GER	Gerund
PSG	Phrase structure grammar
Head	Head
PF	Phonetic form
IMPER	Imperative
IMPERF	Imperfective
INDEF	Indefinite
INFL	Inflection
IO	Indirect object
IP	Inflectional phrase
REL	Relative
LM	Language Mixing
L2	Second language
M	Masculine
MA	Moroccan Arabic
ML	Matrix Language
MLF	Matrix Language Frame model
MOD	Modal
MOP	Morphe Order Principle
MSA	Monolingual Structure Approach
MSA	Modern Standard Arabic
N	Noun
NA	Nigerian Arabic
NEG	Negative
NOM	Nominative case
NP	Noun phrase
NSLs	Null subject languages

OrA	Oran Arabic
OSV	Object-subject-verb
OVS	Object-verb-subject
PL	Plural
PP	Prepositional Phrase
PART	Participle
PASS	Passive
PERF	Perfective
POSS	Possessive
PP	Prepositional phrase
PREP	Preposition
PRES	Present
PRO	Covert subject
PROG	Progressive
PAST	Past
REL	Relative
REFL	Reflexive
S	Singular
S-	Sentence-bar
SM	System morphemes
SMP	System Morpheme Principle
T	Tense
TAG	Tree Adjoining Grammar
TOP	Topicalizer
TP	Tense phrase
UG	Universal Grammar
USP	Uniform Structure Principle
V	Vowel
V	Verb
VSO	Verb-subject-object
VP	Verb phrase
XP	Maximal projection
WGIC	Word Grammar Integrity Corollary

Phonetic transcription	Arabic letters	Examples	Gloss
[ʔ]	ا	[ʔima:m]	Imam
[b]	ب	[ba:b]	Door
[t]	ت	[tʊ:t]	Blueberry
[θ]	ث	[θaʔr]	Revenge
[dʒ]	ج	[dʒabal]	Mountain
[ʒ]	---	[ʒi:b]	Pocket
[ħ]	ح	[ħʊ:t]	Fish
[χ]	خ	[χʊbz]	Bread
[d]	د	[da:ɾ]	House
[ð]	ذ	[ðajl]	Tail
[r]	ر	[ri:ħ]	Wind
[ɾ]	---	[ɾamla]	Sand
[z]	ز	[zʊ:ʒ]	Two
[s]	س	[si:f]	Sword
[ʃ]	ش	[ʃaʒra]	Tree
[ṣ]	ص	[ṣɑbʊ:n]	Soap
[ḍ]	ض	[ḍɑwʔ]	Light
[ṭ]	ط	[ṭɑ:bla]	Table
[ʕ]	ع	[ʕajn]	Eye
[ɤ]	غ	[ɤa:ba]	Forest
[f]	ف	[fa:r]	Mouse
[q]	ق	[qahwa]	Coffee
[g]	---	[galb]	Heart
[k]	ك	[kəlma]	Word
[l]	ل	[li:m]	Lemon
[m]	م	[mʊ:t]	Death
[n]	ن	[naħla]	Bee
[h]	ه	[hijja]	She
[w]	و	[warda]	Rose
[j]	ي	[jedd]	Hand

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GENERAL INTRODUCTION

The interest in the study of bilingualism and language contact phenomena has seen an unprecedented growth since the 1960s, mainly Code-Switching (CS) which has attracted the attention of many researchers in different fields. Several studies discussed Code-Switching from different perspectives, focusing mainly upon the quest for a universal model which makes explicit the functioning of the various patterns of code-switched utterances and the motivations behind code-choices used by bilinguals/plurilinguals. In this work we will try to fill the gaps generated by the diversity of perspectives and insist specifically on the mechanisms of language processing in Oran Arabic/French (OrA/Fr) bilingual speech in relation to the findings expounded in Myers-Scotton's insertional models.

Language contact is a diversified domain in which the understanding of the different questions related to the reasons and the ways individual speakers switch from one language to another, requires a multidisciplinary approach. This approach shall take into consideration many parameters like structural typologies of the languages involved in CS, macro- and micro-sociolinguistic context of proliferation, community types as well as eco-structures.

The Matrix Language Frame model (MLF) and its supportive models assume that language processing begins with the construction of a morphosyntactic frame governed by a Matrix Language (ML) into which Embedded-Language (EL) elements are inserted. Accordingly, these models discount surface adjacency in constructing mixed utterances and instead rely on principles of hierarchies or asymmetries. Besides, they rest on the hypothesis that processing is a chunk by chunk operation and that some constraints on Code-Switching should be made by chunks.

The main target of this research work is to show how bilingual speech data, particularly OrA/Fr Code-Switching, may offer certain insights about the architecture of language and the way syntactic constructions *(determiners, nouns, verbs, adjectives, prepositions, adverbs, nominal phrases, adjectival phrases, prepositional phrases, and adverbial phrases)* are combined to build a frame at the level of the abstract structure and how distributional patterns of morphemes *(content/system morphemes)* are reflected in mixed constructions. So, it is the underlying structures of bilingual utterances which make the focus of our study rather than surface realizations which would lead to the

misunderstanding of the process of language production in a language contact situation known to be complex (OrA in relation to other languages/varieties as a case in point).

For this purpose, 27 respondents (17 female and 10 male students) have been recorded in 8 speech situations during 15 hours and 20 minutes. Our objective behind limiting this study solely to proficient speakers is to question the validity of the hypothesis advocating that intra-sentential Code-Switching is a well-governed linguistic behaviour which requires a certain proficiency in the languages involved in OrA- or Fr-based bilingual speech. The selected spontaneous conversations constituting the corpus under study were not transcribed in their entirety for many reasons that will be detailed in the part on methodological consideration. The data obtained displayed a considerable variation in the switch-types, some of them were characterized mainly by the abundance of French inserted constructions *(context 5)* while others displayed a preponderance of MSA *(context 8)* or OrA constructions *(context 1)*. These variations have triggered our questioning about the reasons behind such code-choices. We shall explain in this research the distribution of OrA, MSA, Fr and Eng structures not only in accordance to the three levels discussed in Myers-Scotton's models *(the lemma, the functional and the positional levels)* but also in relation to their functional components.

One of the working hypotheses raised in this research is that bilingual speakers with different degrees of proficiency in the languages involved in OrA/Fr Code-Switching show disparate CS patterns. In earlier studies on Code-Switching, it has been pointed out that CS can be seen as a means of bilingual competence measurement. It has also been noted that intra-sentential switching requires a greater degree of competence in the two grammars involved, whereas inter-sentential switching correlates with lesser competence. These statements would lead us to claim that OrA-Fr, MSA-OrA-Fr, and OrA-Fr-Eng instances of Code-Switching reveal varying degrees of proficiency in these participating languages and signal the speakers' membership to a particular community of practice.

Many expressions and structures have been developed in the literature to reveal that language mixture is a sign of competence, such as Poplack's and Vicente's expressions *"Sometimes I'll start a sentence in Spanish y termino en español"* (sometimes I start a sentence in Spanish and I finish in Spanish), *"Yo hablo español, u īla bġīt ka-naḥḍər là-ʕā rbiyya u hūma ma yfǎhmu ši"*, *"je parle espagnol, et si je veux, je parle l'arabe et ils ne me comprennent pas"* (I speak Spanish, and if I want, I speak Arabic and they do not understand me).

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Some other researchers reported anecdotes like Benalou who narrated the story of an old man from Oran in the 1950's who wanted to show direction to a young French man arriving recently at the Metropolis by saying: "*écoute weldi, c'est simple, bakhando la hdura, subiendo la costerica fi Numéro doce, temmak calle judio, tu comprends derb lihud!*". It is obvious that producing such a statement which displays a perfect assimilation and a well-governed admixture of many idioms requires a high degree of proficiency in the ML and EL, respectively. Our corpus is not empty of these multi-layered expressions, it displays rather four-dimensional structures, as illustrated in the following mixed construction drawn from context (6), "**bon** ɣaːdi naʕʈiːkʊm **directement** lmeaning χɑːʈɑr ʔana hna gaːtlək hijja **normalement** kaːjen fəl f **le titre** kaːtbiːn zuːʒ beşşɑfi hijja kuːn taqri məmbaʕd nti wtəffahmi w <u>tatmaʕʕni</u> taʕʕarfi bəlli kaːjen tlaːta kaːjen *the author-centred translation* kaːjen *the text-centred translation* wkaːjen *the reader-centred translation*", translated as "well, I will give you directly the meaning because I (...) she told you here there is normally in the (...) in the title it is written two but if you read later you understand, and when you mitigate you will understand that there are three: the author-centred translation, the text-centred translation and the reader-centred translation".

At first sight it appears that the above sentence is a mere mixture of many idioms but from a cognitive point of view producing such a sentence may have required a set of complex operations which needs a certain level of competence in OrA, MSA, Fr, and Eng. This plurilingual speaker has given a demanding task at the syntactic and the conversational levels to structure her utterance in a way that her interlocutors would arrive at understanding the chunks combined within the same string of speech.

Following this reasoning, many researchers stressed on the point that the degree of bilingualism influences in one way or another the individual speakers' behaviour in that fluent Arabic-French bilinguals produce well-formed mixed utterances as compared to non-fluent speakers. These findings indicate that the degree of balance in the competence of the two languages involved correlates with the degree of competence in Code-Switching. Following this way of seeing things, this study is limited to fluent bilingual speakers in OrA, MSA, Fr and to a lesser extent Eng in order to examine the

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different CS patterns observed in naturally-occurring conversations among some Algerian university students.

The present work is an endeavour to shed light on the socio-pragmatic processes relevant principally to OrA/Fr Code-Switching on the basis of empirical evidence from the linguistic productions of 27 students. Its major goal is the analysis of the collected data to know more about the linguistic and pragmatic mechanisms in mixed constructions produced by these informants. It is important to mention at this level that little is known about language processing in bilingual speech and very few studies so far have dealt with this aspect among trilinguals within an Algerian context.

On the basis of an empirical investigation, we try to present a sample of a linguistic practice to illustrate one of the phenomena prevalent in Algeria. We will also attempt to approach the sociolinguistic situation in Algeria as anchored in the social behaviour of some bilingual/plurilingual students at the University of Oran. Balanced bilinguals are individuals endowed with a faculty that allows them to express themselves in the different languages at their disposal; they may choose from their repertoire the appropriate code to fulfil certain communicative tasks. They switch their languages within a discourse sample or even within a single clause for various reasons. Several factors seem to be influential in language choice; not only do the social setting and the participants to communication play an important role in determining such a choice, but also language preferences, competencies, and socio-pragmatic intentions seem to convey a certain meaning reflected in disparate compromise strategies.

In monolingual speech, the speakers make use of a number of strategies reflecting language variation and change (accents and different styles and registers). In bilingual speech, however, bilingual speakers use Code-Switching and other features such as contextualisation cues to shape different meanings. Code-Switching is no longer considered as a sign of linguistic insecurity, but rather as a linguistic resource to achieve specific goals within social interactions. In this regard, many questions need specific considerations in this research:

- What are the syntactic constraints that govern the well-formedness of OrA/ Fr and Fr/OrA utterances?
- What are the syntactic categories susceptible to be inserted in the different contexts under study?
- What are the parameters that explain the directionality of bilingual speech investigated in the different speech situations under study?

- What are the factors that trigger off the alternative use of many languages (OrA, MSA, Fr, and Eng) within the same discourse?
- What about the social motivations of the mixed-codes attested in the corpus? What are then the schemes underlying these linguistic practices?
- To what extent are the speaker's linguistic competence and preferences relevant to the different manifestations of CS patterns in this corpus?
- In what way can CS be used as a device for identity construction in a specific community of practice (students' community)? And how is this identity negotiated through various code-choices?

All these questions can receive several answers depending on the theoretical framework adopted. The intersection of the most influential approaches attributes major functions to CS. Code-Switching seems to be used as a means of identification among speakers within groups, as a strategy in verbal interaction as well as a medium of cognitive development.

Identity construction in social practices has become one of the most central notions in sociolinguistic reflections. The theoretical frame of reference for the study of identity has shifted from the variationist-oriented perception which correlates linguistic variables with pre-defined social categories to a model which centres on the negotiation of social categories through language use. Based on this idea, researchers have revealed that speakers build self-images which do not pre-exist social practices where identity is constructed in varied settings. Participants in our research use OrA, Fr, MSA, and Eng as a way to identify themselves to a particular group who share the same interest (we can speak of a community of students who identify themselves with an in-group through their selection of different codes within different speech situations).

In this study, we shall take this interactionally-oriented perspective as a launching point to find more answers about identity construction in relation to Code-Switching. We shall concentrate basically on how OrA/Fr Code-Switching and other CS patterns may express a multiple identity under construction when MSA, OrA, Fr and sometimes Eng are intermingled within the same chunk of speech. We will mainly be concerned with the questions of why these students use certain constructions in MSA or even in Eng while they possess the corresponding equivalents to the selected items in OrA. We shall also discuss the reasons motivating them to make such choices because most of the

time the inserted constructions (Fr, Eng or MSA) within OrA-framed CPs are not used to fill the gaps.

Nevertheless, we aim through this research a simple contribution to the studies on language contact phenomena in an Algerian context. The choice of this topic may provide an empirical investigation which may serve other researchers in different fields like contrastive analysis, error analysis, and the acquisition of syntactic categories (order of acquisition, hierarchy of syntactic categories). For this purpose, we shall adopt a comparative approach which makes our findings constantly in contrast to other results obtained in some other inquiries on Arabic/French and Arabic/English Code-Switching.

This research work focuses on language processing in OrA/Fr code-switched utterances and is therefore subsumed under a micro-sociolinguistic approach which targets the analysis of data gathered in 8 speech situations from quantitative and qualitative perspectives. We shall be using the quantitative approach because we believe that the quantification of the data would clarify certain facts and the figures would make explicit the distribution of the syntactic categories embedded within the most dominant Matrix Languages, namely OrA or Fr in our case.

Data gathering generally follows the main procedures adopted in language contact studies with a special focus on naturally-occurring data. Nonetheless, we refer to the elicitation of participants' judgements about some code-mixed utterances. The reasons behind the choice of natural data and relative well-formedness judgements, according to which informants are required to assess the grammaticality of some CS instances which do not exist in our corpus; consist on the identification of CS patterns. These illustrative examples are required in our study to test the validity and applicability of syntactic constraints checked on the data. In this sense, hypothetical instances of CS were constructed by the respondents to be submitted for judgments among the rest of participants. Yet, the hypothetical examples would not be used for data analysis from a quantitative perspective.

This research is divided into four chapters. The first chapter provides a literature review of the most prominent theories in the field of language contact and bilingualism. A critical synthesis is needed at this level in order to justify the choice of the theoretical framework adopted in our study. The discussion of the grammatical models of CS is followed by psycholinguistic explanations. Other important approaches have been discussed mainly the socio-pragmatic orientations which correlate language processing models to social categories. On the basis of this theoretical background, the Matrix

Language models of Myers-Scotton have been chosen as a frame of reference.

In Myers-Scotton's insertional models, the ML constructs the syntactic frame and supplies system morphemes while EL provides single insertions (content morphemes) to fill the formal slots. We shall call for this model to examine mainly OrA/Fr intra-sentential Code-Switching since the MLF model offers morpho-syntactic constraints on CS occurrences. We shall refer to the 4-M model which is a refined version of the MLF model that reconsiders the criteria of morphemes classification, a more powerful model which has been shown to be effective in other language pairs. We focus rather on the 4-M model and the Abstract Level model because many structural problems have been solved with the new predictions which correlate the mental representations and lexical access in bilingual language production.

The confrontation of these models to our data has shown that most of the predictions of Myers-Scotton's models appear operative. An asymmetry has been remarked with regard to the roles of OrA and Fr, with a predominance of OrA. The ML appears mostly to be OrA and Fr seems to provide the embedded elements. However, some problematic issues would have been raised when two varieties interact within a single CP, namely MSA and OrA. We refer then to Clyne's plurilingual approach to integrate the social correlates disregarded in Myers-Scotton's conceptions of CS.

The second chapter is concerned with the methodological and definitional considerations. We shall provide information about the participants and the methods of data-gathering as well as the approaches adopted for data analysis. The main part of this chapter provides some insights into terms and concepts related to Code-Switching, Code-Mixing, borrowing, intra-sentential, inter-sentential and extra-sentential Code-Switching in order to avoid ambiguities. Indeed, we shall precise the definitions that will be used in this research because of the diversity of definitions which reflect differences in the conceptual orientations in CS studies. Since our work is structurally-oriented and socially-based, we shall adopt conceptions which are not in contradiction with the frame of reference subsumed to explain certain linguistic facts observed in our corpus.

The third chapter is informative and interpretive. We shall describe succinctly the sociolinguistic situation in Algeria, with a special interest to the status of the coexisting varieties in Algeria. Our intention is to make explicit CS patterns observed in our data. We also provide some contrastive hints on the characteristic features distinguishing MSA, OrA and Fr. Nevertheless, Eng is not fully described for it does not play the role

of a Matrix Language in our corpus, and the instances observed in the data rather play metalinguistic functions. Therefore, we would not speak of OrA/Eng Code-Switching as it has been practiced in other settings. We then shall proceed to the quantification of the data. Thereby, quantified data will be analyzed in the light of the principles and conceptions adopted in our work.

The fourth chapter is devoted to the qualitative interpretation of the data. We shall explain how language hierarchy mainly in OrA/Fr bilingual speech is displayed in different distributions of syntactic categories and constructions in the same sentence, resulting in different CS patterns. Moreover, we shall illuminate how the syntactic framing of language processing is determined by the socio-pragmatic intentions of the individual speakers. Indeed, this chapter shows the results of the application of Myers-Scotton's insertional models on our data. Accordingly, the concluding remarks shall close the present work which certainly needs to be extended in further investigations, mainly the contrastive part which should be given more attention.

THEORETICAL APPROACHES TO THE STUDY OF CODE-SWITCHING

1. Theoretical approaches to the study of Code-Switching

1.1 Introduction

Among the language contact phenomena widely discussed in the literature, Code-Switching has been the focus of attention of many researchers, belonging to different fields of inquiry like anthropology, linguistics, sociolinguistics, and even psychology. The researchers investigating the outcomes of language contact phenomena have attempted to provide insights into the linguistic structure, the social nature as well as the psychological reality of constructions characterizing two or more co-existing systems within the same conversation. The studies undertaken on CS in different contexts are characterized essentially by different problematic issues, different methodologies, and subsequently different types of analysis.

This chapter is not meant to give a detailed literature review of the studies which have been most influential in the fields of language contact and contact linguistics, but rather centres around the syntactic models and their socio-psychological implications on bilingual language processing. Indeed, our prime objective in this research is to explain the different patterns of CS among some Algerian bilingual speakers having OrA as their L1, Fr as their L2 and Eng as their L3 with different levels of bilinguality.

Subsequently, we seek through the different approaches discussed at this level the interpretation of some issues related to different behaviours of bilingual/plurilingual speakers with special reference to a particular case in an Algerian context and their implications. These implications cover principally some conceptions such as triggering, congruence, language mode and cognitive-pragmatic interface, notions and concepts that will be discussed in the second chapter of this research. Otherwise, we will be more concerned in this chapter with the theoretical premises of the most influential syntactic and socio-psychological models in CS studies with some evidence from practical issues through which we attempt to check the validity of their predictions on our data and their ability to handle OrA/Fr CS instances. Accordingly, we target the choice of a theoretical framework or rather to combine some other frameworks which seem relevant to answer some of the questions raised in this work. Besides, we hypothesize that syntactic constraints are not universal bur rather language-specific and situation-specific.

1.2 Structural approaches to Code-Switching

Contrary to the early conceptions which viewed CS as a random process and considered that different switches can occur at any point in the sentence, recent structural studies question mainly the grammaticality and well-formedness of mixed utterances and henceforth tend to establish syntactic constraints governing mixed constituents within sentences and even at larger discourse samples.

In fact, studies of this type focus primarily on intra-sentential rather than inter-sentential switching since the latter go beyond sentence boundaries. The explanations provided by these structural approaches aim at determining the grammatical construct underling bilingual mixture and interpreting permissible and non-permissible syntactic mixed constituents. Poplack and Meechan (1995: 199) put this point as follows: "do speakers operate with a single base grammar which is on occasion overlaid with lexical items from another language, or are different grammars activated at different times? If the latter is the case, what structural principles govern the juxtaposition?"

Accordingly, we shall discuss in the following section the linear models, the theory-based approaches, the minimalist and the Matrix Language approaches, ending up with psycholinguistic perspectives to make the link between structural aspects of code-switched utterances and language processing.

1.2.1 Equivalent-based approaches

1.2.1.1 Poplack's Equivalent Constraint

As mentioned earlier, the different studies which directed their attention specifically to the structural aspects of bilingual speech have adopted different theoretical perspectives and methodologies on the definition and analysis of CS occurrences in bilingual speech. These differences in approach have implications for how the linguistic constraints on CS have been handled by different scholars following different lines of thought.

In the 1970s and 1980s, many studies have proposed a wide variety of structural constraints in order to establish restrictions on switching occurrences. Most of them provide construction-specific constraints with a particular emphasis on the linear ordering of mixed sentences. The early studies were concerned with corpora from Spanish/English, French/Arabic and Hindi/English CS, among other bilingual settings.

Generally, these approaches may fall into three major tendencies: phrase structure, theory-based, and production-based models. Researchers following the first tendency

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restrict CS occurrences to differences in word order of the participating languages. Government-based models establish, on the other hand, syntactic restrictions related to lexical and functional categories to permit or block mixed switches, while production-language approaches explore the role of ML in framing the syntactic structure regulating CS utterances in bilingual speech.

But before considering the first tendency illustrating the equivalence or the "*variationist approach*" as named by Gardner-Chloros (2009), it seems interesting to discuss and illustrate some early proposals of syntactic constraints developed in the literature, mainly those which served as a theoretical premise for further research like alternational models (Muysken) and dominance-based or asymmetrical models (Myers-Scotton). In fact, the first constraints proposed are developed either on the basis of differing typological patterns mainly syntactic and morphological features or in terms of structures such as constituency and word order.

Most Code-Switching studies from the 1970s on have made of Spanish-English bilingual speech, recorded among Mexican Americans and Puerto Ricans speakers, a substantial subject of inquiry. These early studies proposed construction-specific constraints as a reaction to the claims advocating that CS could occur at any syntactic site. Gumperz and Hernández-Chávez (1971) have remarked, however, that mixing is deemed to occur in certain contexts rather than others. Mixing is indeed easily possible between a head noun and a relative clause, a subject and a predicate in a copular construction. Conversely, constructions containing a verb in English appear to be ill-formed, as illustrated in the following examples, respectively:

(1) Those friends are friends from Mexico **que tienen chamaquitos**

that have little children
(Spanish/English, Gumperz and Hernandez-Chavez 1971: 118)

(2) An' my uncle Sam **es el más agabachado**
is the most Americanized
(Spanish/English, Gumperz and Hernandez-Chavez ibid: 119)

(3) *The students **had** visto la película italiana
"The students had seen the Italian movie"
(Spanish/English, Belazi et al. 1994: 225)

In fact, Gumperz (1982) was among the earliest to suggest structural constraints referring to the analysis of observed mixed utterances occurring in natural speech on the basis of grammaticality/acceptability judgments of speakers on different language pairs

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in different settings, namely Spanish-English, Hindi-English, and Slovenian-German. Gumperz (1982: 88) proposes a number of constraints, some very specific, showing that both co-ordinate and subordinate conjoined sentences can be switched, "the conjunction always goes with the second switched phrase".

These constraints which favour longer switched stretches of material have been tested by other researchers on other corpora (Spanish/English of Mexican Americans by Pfaff: 1976, 1979, Timm: 1975, Reyes: 1976, etc.). The findings of such investigations claim for many counter examples with a consensus on CS as a rule-governed behaviour. Shafter (1977: 286) also develops two related constraints, indicating that switch boundaries correspond mostly to phrase structure boundaries, and that the language of a phrase agrees with its head word.

On the basis of a number of empirical investigations applying specific constraints to check the validity of certain hypotheses admitting identical surface equivalence between language pairs, Lipski (1978: 258) concludes that: "whereas the portion of a code-switched utterance that falls before the code-switch may indeed contain syntactically divergent elements, those portions falling after the switch must be essentially identical syntactically".

Lipski cites the following example taken from Spanish/English Code-Switching to illustrate this constraint. Indeed, this utterance is acceptable since the second portion of the switch into English *"she wanted to take mechanics"* exhibits the same word order as its Spanish equivalent.

(4) Tonces salio eso que **she wanted to take mechanics**
     "It turned out that she wanted to take mechanics"
     (Spanish/English, Lipski ibid.)

Other constraints are very specific. Timm (1975) proposes five constraints on the types of constructions which can undergo CS, based on Spanish-English corpus. She argues that switching does not occur between pronominal subjects and the finite verbs to which they belong, between finite verbs and their infinitive complements, between a verb and its auxiliary, between verbs and a negating element, and in most NPs containing nouns and modifying adjectives. Consider the following examples:

(5) *Ellos **gave**, *Mira **him**
     "They gave",   "Look him."

(6) *They want **a venire**/ I'm going **a decidir**
                   to come/   to decide

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(7) *Ha seen/ *I must **esperar**
"He has seen"/ "I must wait."

(8) *I do not **quiero**/ *I **no** want
"I don't want."

(9) *His **lugar** favourite/ *su favorito **spot**
"His favourite spot."
(Spanish/English, English/Spanish, Timm ibid: 478)

Constraints regulating pronoun switching constitute the basic inquiry of other researchers who have taken evidence from Spanish/English corpora. For example, Wentz and McClure (1977) and Pfaff (1979) reduce Timm's constraints on switches into clitic pronouns. Pfaff (1979: 306) proposes other constraints by considering surface structures common to the participating languages in the switch. She discusses instances of switches containing adjectives and nouns and considers that: "adjective/noun mixes must match the surface word order of both the head noun". Pfaff's constraint (1979: 303) refers especially to pronoun objects, claiming that "Clitic pronoun objects are realized in the same language as the verb to which they are cliticized and in the position required by the syntactic rules of that language". Meanwhile, Wentz and McClure (1977) agree and affirm that clitic pronouns must be in the language of the verb while Gumperz (1982: 87) proposes that switches between a subject NP and its predicate are likely to occur, but prohibited if the subject is a lexical pronoun.

Thus, among the restrictions which incited further researcher to build other theoretical frames are those concerned with pronominals. In what follows, we consider the possibility vs. impossibility of switches between pronominal subjects and finite verbs in instances taken from our corpus.

It seems that code-switched utterances from our corpus do not show any evidence reinforcing these restrictions. No instance of a switch between a French pronoun clitic and a verb from OrA or between a pronoun from OrA and a French verb is attested in our data. This conforms to the predictions of Bentahila and Davies (1983), illustrated in the following hypothetical examples:

(10) * Je ɣadi   "I go"
(11) * ana vais   "I go"
(Moroccan Arabic/French, Bentahila and Davies 1983: 312)

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These restrictions have been confined to typological differences characterizing Arabic and French by the two scholars since pronominals behave differently in these two languages. In French, a pronoun subject is compulsory in sentences containing no other overt subject constituent with the exception in the imperative. The subject pronouns cliticize to the verb and can never be used apart from it. In Arabic which is classified as a pro-drop language[1], on the other hand, the verb does not require an overt subject: both /ʔana nəktəb/ and /nəktəb/ convey the idea of writing, meaning "I write", with an overt pronoun subject and without it in the respective examples. As a matter of fact, Arabic pronouns are seen as structurally and functionally parallel to the French disjunctive pronouns (moi, toi, eux, etc.) rather than to the clitics (je, tu, etc.).

Other explanations have been provided by Myers-Scotton's recent work named the 4-M model, to explain restrictions on the switches between pronominal subjects and finite verbs characterizing Arabic/French CS. Under the predictions of the Matrix Language Blocking Hypothesis, when French is the Matrix Language, Arabic pronouns should not be mixed even though they are content morphemes because of the lack of congruency between the two languages in terms of pronoun category status. Yet, since French also has content morpheme pronominals subjects (moi, eux...), these pronouns are likely to occur in Arabic-framed mixed constituents because they are congruent with strong pronouns. Nonetheless, only strong pronouns and not clitics can be embedded within Arabic-framed utterances in respect to the predictions of the System Morpheme Principle. The exception would be an EL Island constituent.

These explanations suggested by Myers-Scotton may explain the occurrence of utterances like example (12) since the pronoun is considered as a content morpheme in the light of the 4-M model's classification.

> **(12)** moi **dxlt**
> "Me, I went in."
> (Moroccan Arabic/French, Bentahila and Davies ibid: 313)

Conversely, our data do not show the same restrictions when it comes to utterances containing switches between an Arabic pronoun and a French verb accompanied by its clitic, as in (13) and (14):

> **(13) Fouzia elle n'a pas arrêté de fixer sa jambe** gaʕdət tʃuf
> Fouzia 3-F NEG-stop-PART to stare at her leg IMPERF-stay-3F IMPERF-look

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[1] We will discuss Arabic as a pro-drop language when dealing with morphosyntactic properties of Arabic.

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fiːha haːkka
In-3F like that
"Fouzia, she didn't cease to stare at her leg. She was looking at her like this."

(14) hʊwwa *he added a new law*
"He, he added a new law."

(15) hadʊːk **ils peuvent faire marketing linguistique, du technique**
those   they can make marketing linguistic   of technical
spécialisé
specialise-<u>Part</u>
"Those they could make linguistic marketing, of specialized technical field."

Besides, examples illustrating the pattern "French pronouns followed by Arabic verbs" as in (12) are not acceptable among the student community participating in this research. Similar cases comprising switches between a verb and an object pronoun are judged to be ill-formed. Restrictions on switches of the type illustrated in (16) and (17) have been related to differences in syntactic behaviour between clitics in Arabic and French. In both languages, pronouns cliticize to the verb (je les ramènerai/ʔana nʒiːbhʊm) "I bring them".

    (16)   *ʔana **les** nʒiːb
         I them   IMPERF-bring
         "I bring them."

    (17)   *je **ramènerai**-hum
          I   bring-FUT-them
          "I will bring them."

Yet, we will not discuss in details the issue of pronominals here because further explanations will be proposed when analyzing the data in the light of Myers-Scotton's insertional models.

On the basis of the empirical findings of the previous studies mentioned earlier, Poplack (1980) formalizes a linear constraint based on structural equivalence at the switch points for code-switched utterances. When working on Spanish/English CS of Puerto-Ricans in New York City, she recognizes that code-switches tend to occur largely at sites of equivalent constituent order, i.e., where the syntactic rules of the languages involved show equivalent surface configurations. Poplack (1980: 586) states that:

> Code-switches will 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. According to this simple constraint, a switch is inhibited from occurring within a constituent generated by a rule from one language which is not shared by the other.

Poplack considers then a switching of the type in (18) as a non-possible switch because of the non-equivalent surface structures for adjective placement in both English and Spanish, respectively.

(18) *a car nueva
A car new
"A new car."
(English/Spanish, Poplack ibid: 587)

This implies that CS is violated within adpositional phrases since one of the languages is prepositional and the other is postpositional. Therefore, if the surface structure of elements at the switch-point is not identical, the switch will be blocked. As Sankoff and Poplack (1981: 5) put it:

> The order of sentence constituents immediately adjacent to and on both sides of the switch point must be grammatical with respect to both languages involved simultaneously. The local co-grammaticality or equivalence of the two languages in the vicinity of the switch holds as long as the order of any two sentence elements, one before and one after the switch point, is not excluded in either language.

Poplack explains the ill-formedness of instances of code-switched utterances like (19), constructed by Gingràs (1974) and tested for acceptability among Chicanos bilinguals, to a mismatch in adjective placement in both languages.

(19) "el man que **came** ayer **wants John** comprar **a car** nuevo
"The man who came yesterday wants John to buy a new car."
(Spanish/English, Gingràs 1974 cited in Poplack op.cit)

In English, attributive adjectives precede the head noun, while they follow it in Spanish, with the exception of a set of adjectives which may also precede the noun. Similarly, constructions of the type revealed in (20) and (21) are prohibited since consistency between NPs in Spanish and English is quite different. The Spanish nominal structure NP→ Det + N + Adj has an English corresponding structure realized as NP→Det + Adj + N. Because the ordering of nouns and adjectives differs in the two languages, the equivalence constraint predicts that no switch is possible at the boundary

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between them. Thus, a construction containing an adjective from L1 followed by a noun from L2 within a noun phrase, regulated by either L1 or L2 rules of adjective movement is unacceptable.

(20) NP → DET N ADJ   (from Spanish)
    DET →The
    N → casa
    ADJ → white
    *The **casa** white
    (Spanish/English, Sankoff and Poplack, op.cit: 14)

(21) *The **blanca** house

The Equivalence Constraint is illustrated with the following example in figure (1.1) where the lines indicate permissible switch points and the arrows indicate the surface relationships of constituents in the two languages. So, switches may occur at, but not between the lines:

A.	Eng	I	told him	that	so that	he	would bring it	fast.
B.	Sp	(Yo)	le dije	eso	pa' que	(él)	la trajera	ligero.
C.	Cs	I	told him	that	PA' QUE		LA TRAJERA	LIGERO.
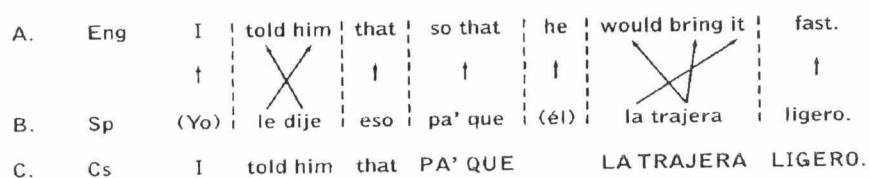
Figure 1.1. Permissible Code-Switching points adopted from Poplack (1980: 586)

The contrast of the two monolingual strings reveals that the two languages show divergent word order *told him → le dije* and *he would bring it fast→ la trajera*, and therefore code-switched utterances of the type (22) and (23) must be considered ungrammatical following the grammar of Spanish/English Code-Switching.

(22)   *I **le**   **dije** that so that **él** **la**   **trajera**   fast

    him   said   he it would bring
    "I told him that it would bring fast."

(23)   *Yo told him **éso**   **pa' que** he would bring it **ligero**

    I   that   so that   fast
    "I told him that it would bring fast."
    (Spanish/English, Poplack 1980: 586)

Muysken (2000) considers that the core structure underlying the EC embodies the idea of alternation stated by Poplack (1993: 85) as follows: "Code-Switching is the **juxtaposition** of sentences or sentence fragments, each of which is internally consistent

with the morphological and syntactic (and optionally, phonological) rules of the language of its provenance." (Original emphasis)

Muysken (op.cit: 6) explains the following example taken from Poplack (1980) to illustrate alternational type of Code-Switching in correspondence to the idea of juxtaposition of elements or larger constituents:

(24) (A) Why make Carol **sentarse atràs (B) pa'que** everybody

sit at the back so that
has to move **(C) pa'que se sagla.**
So that [she] may get out.
(Spanish/English, Poplack ibid: 589)

In this code-switched utterance, fragment **(B)** appears to be a complement to **(A)**, and **(C)** is a complement to **(B)**. Notice that the three fragments **(A)**, **(B)** and **(C)** do not show any relationship of dependency. The Spanish fragment comprising a verb phrase, *"sentarse atràs"* and a purposive complementizer *"pa' que"* is neither related to the English fragment nor to the Spanish fragment. Nonetheless, the three fragments seem to be regulated by the rules common to the participating languages to CS, namely English and Spanish. Put otherwise, the three fragment constituents cannot be handled by an insertional model under which a Matrix Language frames the syntactic structure of the whole construction including inserted elements.

Sankoff and Poplack (1981) argue in favour of a third grammar, incorporating rules from both grammars participating in CS to handle instances of code-switched utterances. According to them, switching from one language to another requires a competence and a full control over the rules of the grammars in contact. In fact, what primes in Poplack's perception of the co-occurrence of two monolingual constituents within the same string of speech is that the patterns of CS, governed by the rules common to both languages, suggest a high proficiency in both from the part of bilingual speakers. Evidence for this is the smooth transition from one language to another which involves no hesitations, pauses, corrections or disruptions in speech, as reported by Winford (2003: 128). This way of reasoning is quite opposite to the structural principles underlying insertional models that argue for a BL or a ML governing bilingual constructions in an asymmetrical manner.

Lederberg and Morales (1985) have conducted a study involving 75 Mexican-American adults in order to address the issue of separate grammars/a third grammar of Code-Switching. The study is designed to test two main hypotheses by questioning the

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nature of the rules governing bilingual speech. The authors question whether the rules of CS are of construction-specific or interconstructive nature through a systematic elicitation task targeting the identification of the grammatical judgements of the subjects participating to their study. Furthermore, this issue is raised by testing the effect of three variables (age, exposure and the degree of bilingualism or language dominance) on judgements containing CS instances. Nonetheless, the results obtained infirm the idea of a third grammar of CS and corroborate Pfaff's (1997) assumptions who rejects Poplack and her associates' reasoning and claims that the rules of CS are based on knowledge of the rules from both languages, and that syntactic constraints are part of the bilingual speakers' general tacit knowledge. Lederberg and Morales (op.cit: 134) express these results as follows:

> The evidence from bilingual adults suggests that the grammatical rules governing Code-Switching are not based on extensive exposure to code-switching. Although the two groups of adults differed on the overall acceptability of certain constructions, the pattern of responding on the four constructions was similar for all adults. Thus, although code-switching experience affected the strength of a rule's effect on grammatical judgements, the same rules seemed to govern the grammatical judgements made by both types of adults. This suggests that the rules for code-switching are primarily based on knowledge of the grammars of the two code-switched languages in combination with some general linguistic knowledge. By "general linguistic knowledge" we are referring to non-specific knowledge about languages that a speaker learns by learning any language.

Cantone (2005) also discusses this issue by analyzing data from Italian-German bilingual children. Evidence against a third grammar of Code-Switching does hold true for all the switches discussed in this study. The author seems to follow MacSwan's (1997, 2000) framework of Code-Switching by assuming that there are no formal properties of CS and no grammar of mixed utterances. Rather, the only rules governing the well-formed utterances come from the languages involved.

In fact, the basic assumption of this lexicalist approach considers that two separate lexicons in the bilingual mind make use of one invariant Computational System. This supposes that the features encoded in each lexicon within a monolingual mode should be checked during the derivation to lead an utterance at LF and PF levels. On the other hand, two lexicons are found to interact in a bilingual mode in order to construct mixed structures. The lexically encoded feature triggers off a phrase structure where the single items selected from the mental lexicon and introduced to derivation are subject to

checking. In case of mismatch, the derivation crashes, while these features undergo movement generating a phrase structure that satisfies the requirement of the specific language they have.

Cantone (2005) considers that the interaction of two lexicons could explain better the switches in the following examples:

(25) Il dottole hüpft qua aus diesen loch raus,   adesso

"The doctor jumps here from this hole out <pause> now."μ

(26) e que- qua con il schwanz po pixen poi fa male

And here with the tail can 2Psg prick then makes hurt

(27) sei   te dran,   a a prendere una karte
Are 2Psg   you in <pause>   to take a card
(Italien/German, Cantonne 2005: 493)

Winford (2003:129) notices that Sankoff and Poplack's grammatical model which is based on a grammar comprising grammatical categories and a combined lexicon from both languages, is not different from that proposed by Woolford (1983) to explain Spanish/English Code-Switching. The following figure illustrates the mechanisms that generate a Spanish/English mixed utterance.
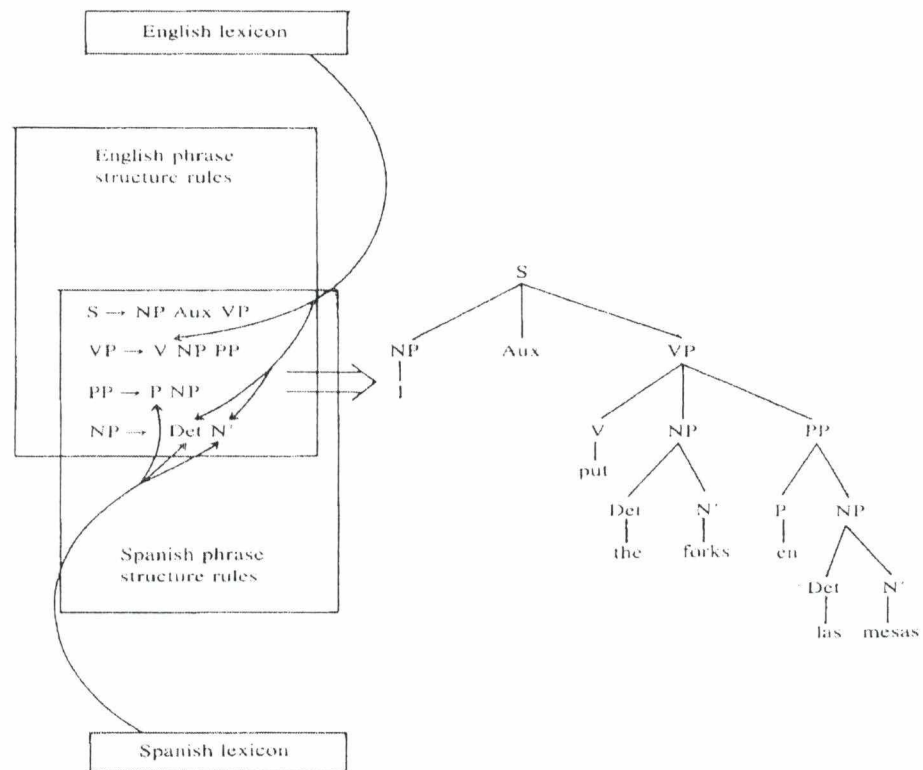
Figure 1.2. Model of a Code-Switching grammar (Woolford 1983:525)

Many scholars have questioned the universal validity of the EC by testing its predictions on typologically divergent language pairs. Various researchers have provided counter-examples to Poplack's claims like Berk-Selingson (1986) (Spanish/ Hebrew), Bokamba (1988) (Lingala/French), Forson (1979) (Akan/English), El Noory (1985) (Arabic/English), Romaine (1989) (Punjabi/ English), Pandit (1990) (English/ Hindi).

Bokamba (1988) discusses Poplack's constraint admitting that it does not hold true for code-mixed varieties comprising African and Indo-European languages despite its tenable application on Chicano/American English CS. The author (ibid: 34-35) states that:

> To state that the various constraints proposed thus in the literature, largely on the basis of SAE have been violated in many other mixed varieties does not mean that they are necessarily useless. On the contrary, these constraints have been useful in addressing certain language specific questions in SAE and a few other Indo-European mixed varieties. They represent in this regard a necessary phase in the research on code-switching and code-mixing, but they cannot be construed to be extendable a priori to other code-mixed varieties.

He (ibid: 40-41) adds:

> More examples of morphologically code-mixed utterances can be cited from Lingala, KiSwahili, and the Bantu languages, but they will not alter the basic analysis we are proposing here, and that is, the surface constraints on CM formulated on the basis of the SAE mixed varieties cannot be extended to the Bantu facts presented here. To the extent that this is correct, these constraints cannot be assumed to be 'universal' as is often suggested in the literature. Second, as indicated earlier, the proposed surface constraints have little explanatory value both syntactically and psycho-linguistically; they do not explain how code-mixed utterances are derived or generated.

Nartey (1982) provides counter-examples to the EC from AdCme/English data collected among a group of younger educated Ghanaians. In fact, AdCme is a Kwa language spoken in South-eastern Ghana, characterized by SOV word order, and head-first NPs (not English SVO and Adj + N in the NP).

(28)   e   hé **house red** ó
        he/she   PAST   tone buy house red ART
        "He/she bought the red house."
        (AdCme/English, Nartey 1982:187)

Bentahila and Davies (1983) recognize problems with the EC and come across several counter-examples when dealing with Moroccan Arabic/French corpora. They (ibid: 318) cite a number of cases of structural non-equivalence that invalidate the predictions of the EC by saying that:

> The possibilities of Arabic/French Code-Switching revealed by our data can be shown to cast doubt on the validity of such constraints for Code-Switching of this type. They include a number of cases where there quite clearly there is not such surface equivalence between the two languages, yet where a switch can be made.

The authors claim that (29) is perfectly acceptable and explain this switchability with regard to adjective placement in both languages. Certain adjectives in French precede the noun while all adjectives follow the noun in Arabic. A switch is possible only where an adjective follows a noun since this is the only ordering shared by both French and Arabic. According to the equivalent-based restrictions, possible switches would be expected within the NP where the adjective follows the noun, since it is the only common position between the two languages.

(29)   c'est le seul ustad
          It is the only teacher
          (French/Arabic, Bentahila and Davies ibid: 319)

Nonetheless, mixed-codes involving pronominal adjectives are attested in the literature, as can be indicated in the following examples:

(30)   J'ai vu un ancien tilmid djali
          "I saw an old student of mine."
          (French/Arabic, Bentahila and Davies: ibid)

(31) a. kul waaħid   ʔiluu **own** diħki
          Every one   has   laugh
         b.* kul waaħid   ʔiluu diħki   **own**
          Every one   has laugh   own
         c. kul waaħid   ʔiluu diħki-tu l-xaṣṣa
          Every one   has laugh-his the-own
          "Everyone has his own laugh."
          (Arabic/English, Atawneh 1992: 230)

When analyzing French and Moroccan Arabic switching in the light of linear constraints, Bentahila and Davies (op.cit) suggest explanations to the occurrences of switch instances that take place between French and Arabic regardless of surface structure differences, as noted in (30). The authors remark that a switch between a

French prenominal adjective followed by an Arabic noun is allowed while a postnominal Arabic adjective is disallowed to occur before a French noun. This means that all adjectives in Arabic are sub-categorized as postnominal. They point out that no restrictions relevant to differences in surface structure at switch points appear to be potentially pertinent in Arabic/French CS. Yet, it is sub-categorization that determines which word from either language can take place in a phrase having this word as its syntactic head.

In (31), Atawneh (1992) discusses the placement of the adjective "own" in relation to the noun it modifies, "diħki" (laugh). In (31a), the position of the adjective matches English word order which requires that the adjective precedes the noun it modifies even though it is the Arabic noun which usually entails the adjective to follow it, as indicated in (31c). Nevertheless, a mismatch is noted in (31b) in which the adjective "own" follows the Arabic noun to produce an ungrammatical structure. Thus, the case of (31a) is a clear violation of the Equivalent Constraint.

In terms of the subcategorization principle, Bentahila and Davies (op.cit:329) assert that "all items must be used in such a way to satisfy the [language-particular] sub-categorization restrictions imposed on them". Example (32) is possible but (33) is not allowed because it violates the rule of sub-categorization:

(32) un professeur ʕaDim
"A teacher excellent"

(33) *un ʕaDim professeur
"An excellent teacher."
(Moroccan Arabic/French, Bentahila and Davies op.cit:321)

Doron (1983) also notices that lexical sub-categorization would be helpful in identifying the different patterns of CS. In the same vein, Woolford (1983) suggests that switching would be possible in case of a match in the sub-categorization frames of the relevant heads in the two languages. She explains the ill-formedness of switched utterances involving object pronouns and verbs in Spanish/English bilingual speech on the basis of the "Sub-categorization Principle", in that Spanish verbs subcategorize for a following free pronominal object.

Muysken (1990) and Azuma (1991) have used sub-categorization as a syntactic device in distinguishing possible from non-possible patterns of CS. For example, Azuma (1991: 7) assumes that "The main verb in a clause subcategorizes for and

provides a planning frame into which content word insertion must be […] within the specification of the planning frame". On the other hand, Myers-Scotton posits in many researches that lexical sub-categorization operates at more abstract level in the MLF model contrary to Bentahila and Davies's predictions (1983) which lie on surface structure and language-specific traits of sub-categorization. She argue that the sub-categorization of entries in the mental lexicon structures sentences at a deeper level and explains the asymmetries captured between content and system morphemes within ML/EL. Yet, sub-categorization appears to be influential on other studies, mainly that of Mahootian (1993).

It seems that these approaches have provided new perspectives to explain possible and non-possible code-switched utterances in different language pairs by appealing to structural relations rather than linear sequencing.

Nishimura (1986) suggests other counter-examples from Japanese/English CS to illustrate switches between constituents with different syntactic order (SOV for Japanese in contrast to English with SVO structure), as in example (34). Therefore, the occurrence of the English object to a Japanese verb in this position violates English word order. The intense number of counter-examples established against the EC shows clearly that it does not hold true for all language pairs, be they typologically similar or different, and therefore fails to be a universal constraint.

(34) only small prizes **morattane ne**
"We got only small prizes, you know."
(Japanese/English, Nishimura 1986:128)

Berk-Seligson (1986) arrives at similar conclusions when examining Spanish/ Hebrew Code-Switching in Israel among speakers of Latino or Judeo-Spanish and Hebrew. The author argues that the EC does not seem to be valid for languages which are syntactically dissimilar. The author shows that switches from Spanish to Hebrew are often characterized by omissions of articles, copulas and prepositions. Consider the two examples below illustrating the omission of determiners in Spanish/Hebrew mixed-switches:

(35) a. Akí ay **misrád** abàšo.
"Here there is (an) office down below."
b. I ànde ez **kotél hamaraví, haír atikà**, aí nasyó mi márdre.
"And where (the) Western Wall is, the Old City, there my mother was born."

c. Ėya kere **mispár** del telefóno de tu ížo.
"She wants (the) telephone number of your son."
(Spanish/Hebrew, Berk-selingon ibid: 328)

The example (35a) shows the absence of an indefinite Spanish article equivalent to English (a, an) before a Hebrew noun. Berk-Selingon explains that such a case can be accounted for by Hebrew syntactic pressure; since the indefinite article does not exist as a syntactic category and is not overtly represented in Hebrew. On the other hand, examples (35b) and (35c) show the absence of a definite Spanish article before a Hebrew noun and noun phrase. These two cases illustrate a violation of Spanish and Hebrew syntactic structure. In the case of (35b), the noun phrase *kotél hamaraví* "the Western Wall" should have the definite clitic marker {ha-} prefixed into the noun *kotél*, to express the definiteness of the noun phrase in a Hebrew sentence. In (35c), in contrast, the absence of a definite article before the noun *mispár* does not violate Hebrew syntactic structure since the definite article should not appear initially in Hebrew noun phrase structures of the type N1+N2. In such cases, the article would precede the second noun as in *mispár ha* telefóno.

The author (ibid.) notes that the appearance of a bare form resulting from the Hebrew article is hard to explain since its presence would not violate the Spanish syntactic structure. The omission of the Spanish determiner is not difficult to understand because of the morphological realization of both Hebrew and Spanish determiners. The Hebrew determiner is a bound morpheme attached to its noun (prefix), whereas the Spanish determiner is a free morpheme. Nonetheless, the explanation she provides seems simplistic since she has related the emergence of this type of bare forms to structural pressure of Hebrew which prevents some bilingual speakers from using a free determiner before a Hebrew noun or noun phrase and subsequently they drop it completely.

Although the absence of a definite article before the Hebrew noun *mispar* "number" in (35c) is not a violation of determination rules in Hebrew, it is in Spanish. However, the presence of {el-} before a Hebrew noun or noun phrase in a Spanish-framed sentence would violate the predictions of the EC. Berk-Selingon (ibid: 328) concludes then that:

> Apparently, speakers preferred to violate the equivalence constraint in favor of Spanish when it came to a grammatical constituent which existed in one language but not the other, thereby doing away with the constituent entirely.

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However, their tendency to break both Spanish and Hebrew rules at one and the same time in their omission of the definite article is difficult to explain.

As the previously cited examples show it, one of the shortcomings of the Equivalence Constraint would be its heavy reliance on categorial equivalence across categories at the syntagmatic level. Yet, categories exhibit important different behaviours cross-linguistically. Muysken (1998: 31) points out a categorial mismatch between clitic and non-clitic pronouns, determiners, demonstratives, and auxiliaries when the two languages involved in CS are typologically different.

When examining cases of Moroccan Arabic/French Code-Switching, Nait M'barek and Sankoff (1988) note that French declarative sentences have the word order subject-verb as opposed to Arabic which allows for both SV and VS orders. This difference triggers off violations to the Equivalence Constraint. Consider the following examples:

(36) à l'époque où les Arabes *weşl-u ħetta* **l'Andalousie**
at-DEF time when DEF Arab-PL arrive-PL to DEF Andalusia
"At the time when the Arabs reached Andalusia"
(Arabic/French, Nait M'barek and Sankoff 1988:145)

(37) ʕemmor-hûm žawa-k **les plats que tu fais ici**
Never- 3PL come-PL-2SG DET-PL dishes REL 2SG make here
"The dishes that you prepare here never have the taste."
(Arabic/French, Nait M'barek and Sankoff ibid: 145)

The EC rules predict that (36) is possible because it follows a linear left-to-right switch under equivalent word order from a French subject NP "les Arabes" (the Arabs) to an Arabic verb *weşlu* "they arrived". However, (37) is not possible because the word order verb-subject does not characterize French declarative sentences. In spite of these predictions, (37) is a well formed code-switched utterance and therefore it represents a clear violation to this constraint.

Moreover, French nouns inserted with their definite articles constitute another instance of violation to the EC. Nait M'barek and Sankoff (1988) argue that the notion of "insertion" must be introduced to account for the frequent use of NP constituents with French article + French noun in an otherwise Arabic context.

Boumans (1998a :14) assumes that the predictions of the EC differ widely, when it comes to two languages with similar constituent order (NP subject-V) and dissimilar constituent internal word order (N-DET and DET-N).

Similar examples are provided by Myers-Scotton (1988) from Swahili-English CS which exhibits Swahili word order that requires noun-adjective ordering despite the fact that both noun and adjective come from English. Example (38) illustrates this fact:

(38) ni-ka-i **taste** ni-ka-ona i-na **taste lousy** sana
is-consec-obj-CL.9 Is-consec-perceive it-with taste lousy very
"And I thought it had [was with] a very lousy taste."
(Swahili/English, Myers-Scotton, 1988:74)

Other examples like (39) and (40) have been proposed in Myers-Scotton (1993b) when analyzing the Nairobi data, illustrate a mismatch between Swahili and English word order within the noun phrase since Swahili requires a head-first NP and English calls for a head-last NP.

(39) una weza kumpata amevaa nguo nyingine bright
clothes other bright
"You can find her wearing other bright clothes."
(Swahili/English, Myers-Scotton 1993b: 28)

(40) Ananekana kama ni mtu innocent
COP person innocent
"He looks like [was with] is an innocent person."
(Swahili-English, Myers-Scotton ibid: 29)

As for studies that involve two varieties of Arabic, Sabir and Safi (2008) realize that the different instances of diglossic switching between Standard Arabic and Hejazi Arabic adhere to the predictions of the EC. Here is an illustrative example:

(41) **ti-ʕrif-u keyf** ʔa-ḥṣulu ʕala ʔal-maʕlumati

know- you (PL) how I- get on the-information
"Do you know how I get the information?"
(Modern Standard Arabic/Hejazi Arabic, Sabir and Safi 2008: 100)

The question word "keyf" is followed by a verb both in Hejazi Arabic and in MSA. Example (41) adheres to the EC by respecting the required syntactic elements. The verb "ʔaḥṣulu" 'to get' is always followed by a prepositional phrase (PP) that is headed by the preposition "ʕala" in MSA. However, its equivalent Hejazi Arabic "ʔalaagi" requires an NP as a complement. Sabir and Safi (ibid.) claim that this discrepancy is not a violation of the EC; but rather specifies how the complement is sometimes unpredictable: it is the verb which selects the argument, and must therefore be specified in the lexical entry of the verb.

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The EC stipulates that code-switches cannot occur at points where the surface structures of the language pair differ. The major problem with this constraint is that it posits word order of the languages involved in CS as the main restriction. Counter-examples discussed in the literature violate its predictions and restrict its universal validity. The same criticisms are levelled to Woolford's phrase structure congruence model which states that switches are precluded if phrase structures of the participating languages do not map. Here are the main violations to the EC recorded in our corpus.

It seems important to recall the main instances of CS occurrences in spite of the non-equivalence of structures from OrA and Fr. The first case indicates a switch between a subject and a main verb. Declarative sentences in OrA require mainly a VSO ordering whereas Fr calls for SVO ordering. Yet, instances of switches between subject and verb following either OrA or Fr surface order are attested in our data.

(42) **langues appliquées automatiquement** taʕṭe-lək
applied languages automatically   IMPERF-give-SF-to-2S
le   droit baːʃ truːɦi   l *ESP*
DEF-M right in order IMPERF-go-2F to- ESP
"Applied languages automatically allow you to study ESP."

(43) w fə lliːl   ʒʒi   **S-SAMU**
and in DEF-night IMPERF-come-3F DEF-UAS
"The UAS comes at night."

Example (42) adheres to the EC but example (43) violates its predictions. Similar examples to (42) are abundant in Bentahila and Davies (1983) who consider them as clear violation to the equivalence-based model. Redouane (2005) arrives at the same conclusion with respect to her MA/Fr corpus. Here is an illustrative example:

(44) ḥanut dyal ḥwayj **se trouve** fejjanb
"A clothing store is in the corner."
(Moroccan Arabic/French, Redouane 2005: 1927)

Bouamrane (1986: 34) states that the examples given by Bentahila and Davies (1983) on cases of structural non-equivalence with respect to declarative sentences are fairly acceptable instances among Algerian bilingual speakers but do not constitute good examples to refute Poplack's model. The author argues that constructions like "ʒa le controle" are likely to occur in MA since its corresponding construction in Fr would be "Il est venu le contrôle".

Counter-examples to the EC are linked to switches between nouns and adjectives.

The model disallows switches between nouns and their adjectives if they exhibit different constituent order in the language pair. In our data, there is evidence of switches which comprise OrA nouns followed by Fr adjectives where Fr adjectives require the opposite order. Here are some examples:

(45) **les étudiants** <u>luχriːn</u> ma-bɤaːw-ʃ   jʒʊ
DEF- students others   NEG-PERF-want-3PL-NEG IMPERF-come
mʕaːna ʕand l**prof**
with-1PL to   DEF-teacher
to the teacher
"The other students did not want to come with us to the teacher."

(46) kaːnʊ   jeʃrʊ   **des**   **lots de terrains**
EXIST-3PL IMPERF-3PL INDEF-PL plots
w   jeʈrafikʊ   b   **des noms** <u>wufidʊχriːn</u>
and   IMPERF-falsify-3PL with INDEF-PL names   others
"They were buying plots and they altered them with other names."

(47) ʒəbtəlha   **un**   **coeur** ṣɤeːɾ **comme cadeau**
PERF-bring-1S-to-3F INDEF-M heart small   as   gift
"I brought her a small heart as a gift."

The above examples do not corroborate with the predictions of the EC. Fr/OrA Code-Switching operates between nouns (les étudiants, des noms, un cœur) and their adjectives (/luχriːn/, /wufidʊχriːn/ and /ṣɤeːɾ/, respectively) regardless of surface structure differences between Fr and OrA. The switches take the word order of OrA since it is the BL in these structures. The French word order is that certain adjectives precede nouns while here the adjectives follow the OrA nouns. This case contradicts Pfaff's (1979: 306) claim that the switch "[…] must match the surface word order of both languages of the adjective and the language of the head noun".

Fr adjectives and the OrA nouns they modify occur also freely despite word order differences, as in (48):

(48) **des bricks** w ĥriːra **très bonne**
some bricks   and soup very sweet
"Some bricks and a very sweet soup."

Other cases of non-equivalence come from the determiner system. In Arabic, a sequence of two determiners is permitted within a noun phrase whereas French grammar rules disallow such a cluster. Despite this difference, CS is permissible at this

particular switch-point. The following examples conform to the PS rules of OrA but not those of French and therefore violate Poplack's predictions:

(49) **bon** ʃ hæːd **la**   **citation** lli baʕdha nnaqd   taːʕ haːda
well in this DEF-F quotation that after-3F   DEF-criticism of this
"Well, in this quotation followed by the criticism of this (one)."

(50) jqarrʊ-na   fə (t) **troisième année** waɦid **les courants**
IMPERF-teach-PL in DEF third year some DEF-PL movements
philosophiques kima Sartre lli jahdar   ʕla **l'athéisme**
philosophical   like Sartre who IMPERF-speak-3S on DEF-atheism
"They teach us in the third year some philosophical movements like Sartre who speaks about atheism."

Example (49) violates the EC since it respects the requirements of OrA, not that of Fr. Recall that French grammar requires that a noun must be preceded by a single definite determiner "cette citation" (this quotation). In this example, two determiners are clustered, the demonstrative "hæːd" and the Fr definite article "la". Similarly, (50) comprises a cluster of an indefinite article "waɦid" from Arabic and the definite article "les" indicating the Fr plural from.

Another case of structural non-equivalence is related to the use of a definite article before an adjective. Arabic requires that an adjective must be associated to a definite article within a define noun phrase which is not the case for French. Constructions of the type "al fataːtʊ lɣabijja" (the girl the stupid) are grammatically correct in Arabic contrary to French. Yet, such switches occur in the data with respect to directionality. Examples (51) and (52) indicate this fact:

(51) l-cour   zzaːwʊʒ
DEF-lecture DEF-second
"The second lecture."

(52) **les étudiants**   ttwaːla
DEF- student-3PL DEF- last
"The last students."

Despite the counter-examples showing that the EC fails empirical testing, the equivalence-based model has succeeded in determining some structural restrictions imposed on some syntactic categories at certain syntactic sites for languages marked by typological fit (congruence). For example, the model predicts that switches are

impossible or rare between clitic and non-clitic pronouns, and accounts for cases of mismatch in negative placement.

As a reaction to the EC and Lipski's hypothesis, Sridhar and Sridhar (1980) propose their own constraint based on linear ordering to establish restrictions on points of permitted Code-Switching in Kannada/English data. The Dual-Structure Principle states that:

> The internal structure of the guest constituent [EL constituent] need not conform to the constituent structure rules of the host language [ML], so long as its placement in the host sentence obeys the rules of the host language.

Sridhar and Sridhar (1980) criticize the EC for being problematic with regard to the constituency of switched elements and the degree of mapping between the surface structures of the languages involved in CS.

In (53), even though "told him", "le dije" and "would bring it", "la trajera" are equivalent at certain level of analysis; the order of elements within these constituents is not equivalent. This means that word order in the verb phrase in the main and the subordinate clauses is violated.

(53)   Eng. I told him that so that he would bring it fast
         Sp. (Yo) le dije éso pa' que   (él) la trajera ligero
         Mixed. I told him that **pa'que**   la trajera ligero
         (Spanish/English, Poplack 1980:586)

To illustrate the "Dual-Structure Principle", Sridhar and Sridhar (ibid.) have given instances of NPs and VPs from English inserted in Kannada sentences. Here is an illustrative example from their data:

(54)   Nanna abhiprayadalli **his visiting her at home** sariyalla
         my   opinion-in   proper-not
         "In my opinion, his visiting her at home is not proper."
         (Kannada/English, Sridhar and Sridhar ibid: 9)

The authors demonstrate comparatively that the internal constituency of mixed elements is generated by a separate set of rules since the counterpart construction of (54) in Kannada shows many differences, including the subject as a nominative in Kannada but marked with possessive ending in English; the verb follows the object in Kannada while precedes it in English, the locative is in postposition in Kannada whereas it is a preposition in English; and the adverbial phrase "at home" precedes the

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verb in Kannada while it follows the object in English. Despite these points of surface structural non-equivalence, example (54) is a well-formed utterance. Thus, it is the internal structure of mixed constituent which constrain Code-Switching.

Atawneh (1992) acknowledges that his data conform to this principle, mainly English nouns and noun phrases which preserve their internal structure despite the fact that they violate the rules of Arabic (the host language). Conversely, this principle does not hold true when it comes to English verbs and verb phrases inserted within an Arabic frame. Here are some illustrative examples:

(55) bitʕmalu   **second floor** zay heyk
      PRS-you-do   second floor like this
      "You do second floor like this."
      (Arabic/English, Atawneh 1992: 326)

(56) **massayt**   el-bass
      miss-I-PAST the bus
      "I missed the bus."
      (Arabic/English, Atawneh ibid: 326)

In (55), the English NP "second floor" occupies the same position of an Arabic NP in conformity with Arabic Structure rules. Yet, the internal structure of this constituent follows English word order since the adjective "second" precedes the noun "floor". In case of a mixed constituent, the structure would be "door taani" (door second) following Arabic word ordering where the noun precedes the adjective.

On the other hand, the English verb "miss" in (56) takes the structure and the pattern of an Arabic verb to be inserted in an Arabic constituent. This verb has been adapted morphologically into Arabic and subsequently its internal structure has also changed. Nevertheless, word ordering is equivalent in the mixed utterance and does not violate equivalent-based models. Furthermore, the "Dual-Structure Principle" is violated here because Arabic verbs must change their internal structure to occur in Arabic/English mixed constituents.

We arrive at the same conclusion after the examination of our data. This constraint explains accurately the grammaticality/ungrammaticality of French inserted nouns, noun phrases, verbs and verb phrases. Consider these two examples from our data:

(57) jneʒʒəm   j**enseigni**   gaːʕ **les**   **modules**
      IMPERF-can   IMPERF-teach-3S   all   DEF-PL units
      "He can teach all units."

(58) texécuta   **lprogramme**   ttafiħum
PASS-excute-3M   DEF-M program   of -3PL
"Their plan has been realized."

In (57), the first class French verb "enseigner" (to teach) has been adapted into Arabic pattern to be inserted in this utterance while the noun phrase "les modules" (the units) hold its internal structure. Similarly, the two affixes expressing passivation {t-} and third person singular masculine {-a}, are attached to the French verb "executer" in (58) to fit the Arabic structure. Besides, this is a case of clear violation to the FMC since the ordering is that of Arabic.

1.1.2 The Free Morpheme Constraint (FMC)

The great number of counter-examples established against the FMC shows clearly that it does not hold true for all languages involved in CS, be they typologically similar or different, and therefore fails to be a universal constraint. Sankoff and Poplack (1981: 5) arrived at the conclusion that another additional principle would be operating within the same social context involving Spanish/English CS among Puerto-Ricans in New York City. It is the "Free Morpheme Constraint" (FMC) which states that: "a switch may not occur between a bound and a lexical form unless the latter has been phonologically integrated into the language of the bound morpheme".

Put otherwise, a switch between an unincorporated bound morpheme from a language cannot form a switch with a lexical morpheme from another language. The exception is when a stem is phonologically integrated into the language of the morpheme. Besides, there is no switch before and after a bound morpheme. Here are some Spanish/English instances taken from Poplack (1981: 190) to illustrate this point:

(59) *estoy **eat**-iendo
I-am eat-ing
"I'm eating."

(60) *****watch**-*ar*
to watch
"Look."

(61) *****quit**-*ear*
"To quit."

The FMC holds that the switch between the English verb stem "eat" and the Spanish suffix for present progressive {-iendo} is impossible unless the former is

integrated into Spanish. Similar cases are the English verb stems "watch" and "quit" to which are attached the Spanish suffixes {-ar} and {ear}, respectively.

Some studies have shown that the claims of Sankoff and Poplack (1981) cannot hold true for other language pairs. Examples of the language pairs that provide counterevidence to the FMC include Lingala/French (Bokamba, 1988), Finnish/English (Halmari, 1997), Turkish/Dutch (Backus 1992), Arabic/English (Bader and Minnis 2000, Bader 2003), Arabic/French (Bouamrane, 1988), Berber/French (Benali, 2007), Berber/French/Arabic (Benhattab, 2011).

Bokamba (1988) demonstrates that the FMC runs into problems, as can be shown in (62) in which the French verb "permettre" (to allow/permit) is slotted in the Lingala finite verb morphology through its affixation with functional elements from the base language (Lingala): the subject agreement prefix a-, referring to he or she, and the imperfect tense/aspect -aki.

(62) e   bongo ye **apermit**aki   bino'te to-leka
          then   then he/she AG-permit-PREST you that AG-pass
          So then she let you pass?
          (Lingala/French, Bokamba 1998: 38)

Halmari (1997: 76) reveals the inappropriateness of this constraint with her Finnish/English data. She explains that the free morpheme constraint does not account for Finnish/English CS since the languages involved exhibit two distinct morphologies. Typologically, Finnish is a highly agglutinative language and English is a relatively isolating language. Several examples like "library**in**" (in the library), "rule**it**" (ruler), "**stage**ille" (stage) show that unintegrated English nouns into Finnish can be attached to Finnish bound morphemes (case suffixes) and thereby violate the Free Morpheme Constraint predictions. Again, Halmari (ibid: 179) gives the following mixed utterance to refute the FMC since the English noun "lunch" has not been integrated into the phonological system of Finnish:

(63) meïan opettaya aina   **lunch**+in   alla   kyssy
          our   teacher always +GEN   under   ask+3SG
          "Our teacher always asks before lunch."
          (Finnish/English, Halmari 1997: 179)

Backus (1993) acknowledges that Turkish case markers, plural affixes and other derivative and inflectional endings are freely attached to Dutch nouns. Here are some examples taken from Turkish/Dutch CS:

(64) O **blonde** 'dan alïyordum
   that blonde-ABL I got
   "I took (lessons) from that blonde (girl)."

(65) ne yapïyor **Jood'**lar?
   what do-PRES-3 Jew-PL
   "What are the Jews doing?"

(66) bir tane **donkere** **jongen'**nan
   a dark boy-with
   "With a dark boy."
   (Turkish/Dutch, Backus 1993: 225)

Mixed forms in Maori/English CS drawn from Eliasson's data (1989) also invalidate the predictions of this model. In her corpus, Maori suffixes are added to phonologically unintegrated English items like "help**tia**" (be helped), "changed**ngia**" (was changed). Furthermore, data taken from Bader and Minnis (2000) in their Arabic-English CS data show the use of Arabic affixes for the definite article, the objective and possessive pronouns to English words as a clear violation of this model. Other counter-examples which show that this constraint fails empirical testing are drawn from Atawneh corpus. Consider the following illustrative cases:

(67) haada illi bi-**help** l-bint
   this what PRS- help the girl
   "This is what helps the girls."
   (Arabic/English, Atawneh ibid: 229)

(68) fii ħažaat ni-**play**-ha?
   there things we-play-them
   "Are they things to play with?"
   (Arabic/English, ibid: 232)

(69) ana bidd-i ʔa-**think** bi-n-**number** ʕašaan ma-ʔa-**cheat**-iš
   I want-I I-think with the number so that NEG-I-cheat-NEG
   "I want to think about the number so that I don't cheat."
   (Arabic/English, Atawneh ibid: 237)

The above examples violate the predictions of the FMC since Arabic affixes (the presentative prefix {bi-}, and the prefix {ni-} marking the plural imperfective tense) are attached to the English verb stems (help, play and think) without being integrated into the internal structure of Arabic.

Example (70), however, includes the English verb "to spell" conjugated in the past tense "spelt" which becomes "spalleyt" in this mixed utterance after being

incorporated into Arabic to fit into its syllable structure. In fact, this integrated verb receives changes in its internal structure in accordance to the structure of its Arabic counterpart "ħažžayto". Yet, we don't consider this example as counterevidence of the FMC since the verb is being integrated into the host language which is Arabic.

(70)　haada illi　　　Ɂana **spalleyt**-o
　　　　this　　that　　I spell-I-PST-it
　　　　"This that I spelt."
　　　　(Arabic/English, Atawneh ibid: 237)

Bader (2003) gives a number of examples to undermine the adequacy of the FMC, as in (71) and (72):

(71)　j'ai katabé trois lettres
　　　　I　write-PAST three letters
　　　　"I wrote three letters."

(72)　inšaaTir
　　　　"Unclever."
　　　　(French/Arabic, Bader 2003: 48)

In example (71), the French speaker has used the French past participle {-é} attached to the Arabic verb stem "katab-" (write). Here, it is a case of a bound morpheme suffixed to an Arabic verb stem which behaves as if it is attached to a first class verb in French (a verb ending in -er). On the other hand, example (72) is a violation of the FMC because the Arabic adjective "šaaTir" (clever) is prefixed by the French negative marker {in-} expressing opposition. Bader (ibid: 48) puts forth this explanation:

> The use of such a word may be explained by the fact that the Frenchman, who uttered it at while conversing in English, did not know or could not remember the English word stupid or its Arabic equivalent Gabiy, and resorted to such an unfamiliar process of word-formation. In any case, inšaaTir represents a violation of the Free Morpheme Constraint.

Some researchers suggest that this constraint is only adequate to non-agglutinative languages but counter-examples come also from these languages. Levelt (1989) points out that different languages may have different entries in the mental lexicon. While isolating languages like English may have a lexicon with full words, agglutinative languages have a lexicon consisting of stems, affixes and multimorphemic words in which many affixes are combined to a stem to form a new word. So, the occurrence of a

stem from one language attached to an affix from another language is but normal. Levelt (ibid: 78) states that:

> Different languages may have different types of lexical entry in a mental lexicon. In Turkish, for example, affixes have a separate lexical entry from stem. The stored form will probably consist of all stems, all possible affixes, and a certain number of frequently used multimorphemic words, English at the other extreme. English speakers use words they have probably used before and these are stored in their mental lexicon as full words (not as stems and affixes).

Myers-Scotton (1993b: 27) shows a great number of inflected verbs made up of an English verb stem and Swahili inflectional morphemes, she concludes then that "Poplack and her associates should be accredited as being very influential in setting standards for CS research, in striving for constraints which are at once general but also stated in form that is clear what would constitute counter-examples to the predictions".

Benhattab (2010) suggests a number of cases from different language pairs which include Berber/French and Berber/Algerian Arabic to be violations of the FMC predictions. Here is an example taken from his data in which the violation of the FMC lays in the fact that the noun "arras" (the race) takes a null bound morpheme which neutralizes the 3rd sing feminine Arabic affix.

(73) addin arras
Religion race
"God sake."
(Berber/Algerian Arabic, Benhattab 2010:133)

Muysken (1997c: 362) refers to this type of CS as "congruent lexicalisation" where the two languages share a grammatical structure which can be filled lexically with elements from either language. Similar examples suggest that the rules used to construct CS utterances may be drawn at times from one language and at times from the other. Sankoff and Poplack's CS grammar then contains the combined lexicon as well as grammatical categories of the two monolingual grammars. Their model appears essentially the same as that of Woolford (1983: 523), who investigates Spanish-English CS.

Testing the FMC on our data allows us to share the same conclusions as Bader and Minnis (2000) as to the use of Arabic affixes for the definite article, the objective and possessive pronouns to French content words to invalidate this model. Consider (74), (75) and (76) which are drawn from our data.

(74) maintenant perfectioni   **n-niveau** tta:ʕek wʊddʊχli
Now   IMPER-2S   DEF-level of-2S   and IMPER-enter-2F
"Now, you reinforce your level then you enter."

(75) li:q hada:k **lmessage** ki tətransmiti:h   jli:q
must   that DEF-message when IMPERF-transmit-2M-3M must
taʕʕarfi   ləmmən ɾa:ki   ɾa:jɦa˙
IMPERF-know-2F to whom PRESENTATIVE-2F   go-PART-3F
tməddi:h
IMPERF-give-2F-3M
  "When you transmit that message, you should know to whom you are going
  to give."

(76) ʕla ʃa ɾa:hʊm   **mconcentre**:n↗
on what PRESENTATIVE-3PL PART-concentrate-3PL
"On what are they concentrating?"

It appears that the first class French verb "perfectionner" is adapated into OrA in
(74) and that the third class French verb "transmettre" is cliticized by Arabic object
pronoun and that the adjective "concentré" in (75) and (76), respectively. The affixation
of the French categories by Arabic functional elements indicates that the FMC is
inadequate to restrict CS occurrences in OrA/Fr database.

To explain the counterexamples against the EC, Poplack and her associates
consider other phenomenon resulting from languages in contact as strategies used by
bilingual speakers. Among these strategies, "nonce-borrowing", "constituent insertion",
"smooth switching" and "flagged switching".

Poplack et al. (1988: 191) refer to singly occurring words as instances of nonce
borrowing[2] and claim that "borrowing as a process differs radically from Code-
Switching and failure to separate data on the two phenomena can only obscure the
conditioning of each."

In the same line of thought, Poplack and her associates (1988: 192)
distinguish between CS and B regarding distributional grounds and acknowledge that:
"the morphological and syntactic role of a nonce borrowing is equivalent to that of an
established word, which is in turn, identical to its host-language counterpart, and in this,
the two contrast with Code-Switching".

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[2] The issue of Code-Switching and borrowing will be discussed in details in chapter two. Many theories
have been put forward to offer clear-cut distinguishing criteria, adopting diversified methodologies and
procedures of analysis.

Nonce-borrowings are singly occurring words from the other language which differ from borrowings and code-switches in terms of the degree of adaptation, the frequency of occurrence and their distribution in the community. Consider the following examples from our data:

(77) dərt   **s- sommaire**   tta:ʕi f **une page**   w
      PERF-make-1S   DEF- table of contents of-1S   in DEF-F page and
      siritah   ha:kka
      PERF-reduce-1S-3M   like this
      "I have made the table of contents in two pages and I reduced it like this."

(78) majet**influensa:**ʃ   mʕa ddifonsara:t
      NEG-IMPERF-influence-3M-NEG   with DEF-defender-PL
      "He is not influenced by the defenders."

In (77), the French noun is an instance of Code-Switching since it is not fully adapted into OrA system. In (78), however, the negative marker affix and the imperfective marker have been attached into the French verb "influencer" which is considered as a nonce-borrowing in accordance with Poplack's criteria. Conversely, the French plural noun "défenseurs" has been adapted into OrA as "difonsa:ra:t" and hence it constitutes an instance of borrowing.

Poplack et al. (1989: 392) have responded to the general claims against their principles and posited that: "Once we have established that speakers are indeed alternating between languages in a smooth, unflagged way, we must circumscribe the variable context, i.e., determine whether the other-language material under investigation in fact constitutes a code-switch".

Smooth Code-Switching obeys the predictions of the EC. The switching occurs only at switch sites where word order and sub-categorization prosperities of the languages involved in CS are respected. The bilingual speech is characterized by a smooth flow of language without pauses, hesitations or interruptions. On the other hand, Flagged switching is generally marked by pauses, repetitions and/or metalinguistic comments.

In Poplack et al's (1989) Finnish/English data, the realization of a great number of single word switches which did not receive morphosyntactic integration was a major motivation of the recognition of flagged switching as a distinct strategy in language contact phenomena. Observe the examples below distinguishing "smooth switching" from "flagged switching":

(79) ʕandha **une** **très belle défense**
have-3F INDEF-F very good defence
"It has a very good defence."

(80) **Frings** malʕabʃ **sachant que Frings c'est un**
Frings NEG-PERF-play-NEG know-PART that Frings this is INDEF-M
milieu défensif raːk faːhemni
midfielder defensive PRESENTTAIVE-2M understand-PART-1M
"Frings didn't play, knowing that Frings is a defensive midfielder. You understand me?"

(81) qbəl majmuːt ʃəwwhuːh balaːk ktar məl
before NEG-IMPERF-die-3S PERF-distort-2M may be more of DEF
kəlb ʃəwwhuːh wiːn jbaːn lKaddafi
dog PERF-distort-3M-2S where IMPERF-appear DEF-Kaddafi
ʃəwwhuːh waħd ttəʃwiːh **en fin de compte** maːt ʕla ʃaːhⁱ
PERF-distort-3PL-2M INDEF distortion at last PERF-die-3S on what
"Before he died they disfigured him. May be, they disfigured him more than a dog. What happens to Al Kaddafi compared to him? They disfigured him in a way (…) At last, he died on what?

Sankoff and her associate resort to "constituent insertion" as a separate strategy to cope with problems of non-equivalence developed in certain contexts, mainly that advanced by Naït M'barek and Sankoff (1988) in their study of Moroccan Arabic/ French Code-Switching. The authors recognize problems between French declarative sentences with SV ordering and those of Arabic which permit both SV and VS word order, an issue considered to be a clear violation of the EC. Here are two illustrative examples of "constituent insertion", taken from our corpus:

(82) waːh **maçon** taːʕ beṣṣaħ wməħtaːrəf
yes mason of real and professional
"Yes, he is a real but professional."

(83) **la licence** truːħʊ f **les grandes spécialisations**
DEF-F BA IMPERF-go-2PL in DEF-PL big-PL specializations
"(With regard to) the BA, you will be oriented into the main special fields."

The question of the universality of Poplack's constraints has triggered a controversy among scholars who debated the validity of these constraints when investigating typologically different language pairs, mainly agglutinative languages which appear to violate both constraints through cases of incongruence. Yet, this controversy has led scholars to seek solutions to problematic cases by suggesting new

frameworks which adopt very different perspectives and methodologies to CS occurrences, as advocated by Jacobson (1998: 59):

> Obviously, the controversy does not lead to a solution but merely stresses the fact that code-switching universals are still not within grasp. It appears that not enough language contexts are yet known to make any far reaching predictions about the principles that govern "all" language mixing events. Maybe, the scholarly debate was merely a suggestion that a different route should be taken to unravel the complexity of the Code-Switching behaviour.

In this vein, the dependency-based models on Code-Switching may be viewed as an alternative perspective to the equivalent-based models. The applicability of Poplack and her associates' models on different bilingual database in typologically different language pairs display some shortcomings as an operating framework. As a matter of fact, the government perspective appears as a powerful means to tackle problematic issues that equivalence-based analyses failed to answer. The main idea that underlines dependency approaches is that Code-Switching is restricted by government and binding restrictions. Some researchers argue that government approaches would lead to promising results in explaining language contact phenomena, as advocated by Muysken (2000: 19): "this approach stresses rather on dependency than equivalence, assuming that code mixing obeys a general constraint of lexical dependency".

1.2.2 Theory-based approaches to Code-Switching

The various researches proposed to identify the different syntactic patterns for CS occurrences aim at providing universal syntactic constraints. This quest for universality passes thereby from peculiar data-sets to a very deep and abstract level grammar designed on the basis of generative frameworks. Inspired by Chomsky's principles and parameters approaches, some scholars suggest conditions for CS in terms of government and binding relations.

Woolford (1983) and DiSciullo et al. (1986) are the first to use syntactic trees to explain CS. Mahootian (1993) uses the Tree-Adjoining Grammar (TAG), Belazi et al. (1994) suggest the "Functional Head Constraint" and MacSwan (1997) develops a minimalist approach to Spanish/Nahualt Code-Switching making empirical evidence for the theoretical notions available in Chomsky's minimalist program (1995).

In what follow we will try to look more closely at the most influential models exploring CS restrictions from generative perspectives, their shortcomings when tested

on some language pairs and in what way the data in our corpus can/cannot make valid predictions.

1.2.2.1 Woolford's Phrase Structure Congruence model

Woolford (1983) is the first researcher who establishes structural constraints on CS occurrences within the generative framework on the basis of Chomsky's principles and parameters theory. She seeks answers to the theoretical problems related to the phenomena of CS and LM, attempting to explain the ways through which the grammars of the co-existent systems operate to produce mixed codes.

In Woolford's model (1983), the two grammars work in cooperation but their rules receive no changes. This means that "hybrid rules" do not exist, each grammar functions independently to generate only a part of the tree that represents the produced utterance. The author claims that lexical items from each language can fill only the terminal nodes created by PS rules of that particular language whilst the common PS rules between the two languages involved in CS create terminal nodes which may be filled by lexical items from either language. Then, this model predicts that there should be points along strings at which no Code-Switching is allowed. Thus, it corroborates Chomsky's assumptions[3] on "constituent structure" of noun phrases under the rules of X-bar theory and the degrees of lexical projection of the constituent structure under verb phrases. In fact, the nodes under X-bar theory are attached to the same hierarchical projection of a lexical head where the topmost node has the most bars compared to the other nodes which have fewer bars. Thus, the general assumption of Woolford's model is that there is no Code-Switching within a single word.

Woolford's constraint appears to account well for her Spanish/English CS because both languages share fairly similar grammars. But, some scholars consider Woolford's model as a mere reformulation of Poplack's EC (1980). Furthermore, subsequent reviews elucidate that these predictions do not always map with mixing between noun-adjective/adjective-noun phrases. To account for these claims, Woolford proposes the constraint on lexical insertions in mixed-codes with regard to switches between nouns and posnominal adjectives. She acknowledges that no switch is allowed within a constituent in which the deep structure word order is different in the two monolingual

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[3] The projection principle has been revised by Chomsky who considers the thematic structure as a part of the formal syntactic representation of elements within a sentence. The principle states that "representations at each syntactic level are projected from the lexicon, in that they observe sub-categorisation properties of lexical items".

grammars. In her view, the rule that triggers off postnominal adjectives is peculiar solely to Spanish, as exemplified in the following well-formed mixed-codes:

(84) Tenian patas flacas, pechos **flat**
"They had l skinny legs, flat chests."
(Spanish /English, Poplack1980:600)

(85) This little **abastos**
"This little grocery store."
(English/Spanish, Woolford 1983:527)

(86) I want a motorcycle **verde**
"I want a green motorcycle."
(English/Spanish, McClure 1977: 9)

Woolford claims that following the GB theory specifications for the internal constituency structure of noun phrases no switching takes place between a noun and a modifying adjective because they are elements under Ń. Nonetheless, DET is a separate node in the NP and since the phrase-structure rule expanding an NP into a determiner followed by Ń is common to both languages, the author advocates that determiner can be filled from either lexicon, as can be seen in (85) and (86). She stipulates also that, since only Spanish has a PS rule which expands an Ń into N followed by A, the nodes this rule creates can only be filled from the Spanish lexicon. This rule supports the claim that the node headed by N (noun) which is realized as N followed by Adj (adjective) follows an ordering which is not possible in English. Therefore, Woolford argues that this restriction on lexical insertion in non-branching nodes conforms to GB theory specifications. The author (1983: 528) states that: "It is clear that this restriction on lexical insertion applies to nonbranching nodes created by unique rules, but the effect, in general, of nonterminal nodes created by unique phrase structure rules on the terminal nodes they dominate has not yet been determined".

Examples (87) and (88) illustrate these restrictions:

(87) *I went to the house **Chiquita**
"I went to the little house"
(English/ Spanish, Pfaff: 306)

(88) *El man **vieyo** esta enojado
"The old man is mad."
(English/ Spanish, Pfaff: 306)

Woolford also suggests that her model can explain the restrictions on switches between an English clitic object pronoun and a Spanish verb. Earlier constraints on

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clitics state that a clitic must be in the same language of the verb and should occupy the position required by the verb of that language. Examples (89), (90) and (91) are not grammatically well-formed because following Woolford's model the PS rule that generates object clitics in preverbal position is only Spanish and therefore the clitic and the verb must be drawn from Spanish.

(89) * Yo lo bought
"I bought it."

(90) I/Yo it compré
"I bought it."

(91) *She sees lo
"She sees it."
(English/Spanish, Woolford ibid: 529)

Woolford accounts for other cases which comprise an English adverb in an otherwise Spanish utterance following the assumptions of her model. She argues that the VP node is expanded by a general X-bar type PS rule common to both languages which allows a node in the sentence structure, like an adverbial phrase, to be filled in that slot from either language. For example, in utterances like (92) part of the VP structure may be generated by a common PS rule while the rest of the VP may be projected from a verb in English provided that it follows the requirements of a subcategorization frame unique to this language.

(92) Yo lo compré yesterday
"I bought it yesterday."
(English/ Spanish, Woolford ibid: 530)

Myers-Scotton (1993b: 41) argues that the last argument in Woolford's claim "is more theoretically interesting and better supported by empirical evidence than her claims. It is similar in spirit to the position of those scholars mentioned above who are seeking to base constraints on subcategorization clashes".

Furthermore, Myers-Scotton (ibid: 40) criticizes heavily the Phrase Structure Congruence model and considers the restrictions imposed on CS utterances as an ultimately unsuccessful model since a large number of counter-examples have been provided. The author (ibid.) states that:

> Woolford's proposal is couched in terms of the GB, but, in fact, her main claim is essentially the same as that of the equivalence constraint. When there is an overlap in syntactic structural specifications between the two

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languages, speakers may draw lexical items freely from either language. But when a phrase structure rule unique to a language x is in place, then only language x lexical items may fill the terminal nodes; the same applies when a rule from language y is in force. That is, Woolford claims that, in areas other than overlap, the language to which the phrase structure is unique is the only one from which lexical items may be drawn.

Lotfabadi (2002) gives many sites of equivalence between Persian and Swedish despite word ordering differences between both languages. The author argues that cases of multi-word phrasal insertions give support to Woolford's predictions. For instance, in example (93), a Swedish PP is embedded in a Persian-framed utterance without any problem. The Swedish PP in this example shares an identical structure with its corresponding monolingual PP in Persian. Therefore, sequences of words in (93) could come from either language, Swedish or Persian.

(93)   Farq hast **mellan tulpaner o ogräs**
        difference is between tulips and weeds
        "There is difference between tulips and weeds."
        (Persian/Swedish, Lotfabadi 2002: 167)

Lotfabadi also argues that Woolford's theory seems to be operative within PPs where Persian *ezâfe* occurs between a Persian preposition and a Swedish noun. Indeed, Persian *e-ezâfe* occurs between the head of the phrase and a modifying element. Here are two illustrative examples drawn from Lotfabadi's corpus:

(94) a. lebâs-et tu-ye **garderob-e**
        dress-Clitic.Pro in-Ez wardrobe-Copula.3Sg
        "Your dress is in the wardrobe."

     b. be **ambassad** zang zad-am
        to Embassy ring hit-1Sg
        "I called the Embassy."
        (Persian/Swedish, Lotfabadi ibid: 168)

In the above examples, Persian *e-ezâfe* links the head preposition to its Swedish object complement in (94a) and to its Swedish noun complement in (94b). Despite the fact that PS rules generating PPs are not totally identical between Persian and Swedish when *eezâfe* is realized, switching between prepositions and nouns is allowed.

It seems that the above-mentioned cases of code-switches between Persian and Swedish give support to Woolford's theory of PS rules matching. Nonetheless, sequences of noun-adjective from Persian and Swedish appear to invalidate the

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predictions of the Phrase Structure Congruence model in noun-adjective mixed constructions. Similarly, our data comprise cases of adjective-noun code-switches which show that Woolford's model does not hold true. Consider the following examples to illustrate this point:

(95) fʊwwʊtna   wafid **l'excursion** ʃaːbba bəzzaːf
      PERF-pass-1PL INDEF DEF- trip   nice-F   very
      "We have spent a very nice trip."

(96) * j'ai vu   une   très grande fiuːta
      I   see-PAST INDEF-F very   big Fish
      "I have seen a very big fish."

1.2.2.2 The Government Constraint model (GC)

Another approach which makes of the notion of government a basis of its analysis has been proposed to constrain intra-sentential code-switching. "Government" refers to a relation that links a head and its complement. Put otherwise, the heads project their properties or features within the phrase. Furthermore, not only categorial features of heads are projected in the phrase, but also their language index, a specificity of the lexicon. Thus, a preposition is the head of a PP (prepositional phrase) and governs its complement, a noun, or a noun phrase. A verb is also the head of the VP (verb phrase) whereas the complementizer is the head of a clause, among other categories.

DiSciullo et al. (1986) propose a government constraint (GC) in terms of Government and Binding theory. The authors (ibid: 4) suggest that "when a government relation holds between elements, there can be no mixing, when that relation is absent, mixing is absent". In fact, their analysis relies upon what they have called "language carrier", the structurally highest element in a maximal projection.

In the government perspectives, the relation between a lexical element and its syntactic environment determines its occurrence at switch-points. This means that elements exhibiting a government relation must be drawn from the same lexicon, or must have the same language index, as put forth by DiSciulio et al. (1986: 5): "[Xp Yq] where X governs Y, and p and q are language indices".

The "Government Constraint Model" states then that switches are constrained by the government relationship[4] which holds between adjacent items. It is claimed that

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[4] The government principle states that: X governs Y if first node dominating X also dominates Y, where X is a major category N, V, A, P and no mixed boundary intervenes between X and Y.

switches between a lexical head (N, V, P, A) from a particular language and any item from another language are disallowed if a government relationship holds between them. Besides, case assignment and subcategorization may be among the prototypical cases of government. Furthermore, ungoverned categories like tags, exclamations, interjections, and most adverbs can be fairly easily switched. Nonetheless, the following cases of switches are prohibited:

- A head verb and its object
- A head preposition and its NP complement
- Verb and its clausal complement
- Noun and its modifying adjective

The Government Constraint was easily refuted in a large number of databases. Complements of verbs and appositions are amongst the frequent code-switches. Nevertheless, the authors of this constraint claim that the GC predictions are saved in many instances of Code-Switching data set because of the assumption of the language carrier. In other words, when a language q (Lq) governor like a transitive verb, governs a language p (Lp) complement (noun) and the latter is accompanied by an Lq marker, DiSciulio et al. considered the constraint to be saved. It seems that any functional element (determiner, case marker, and plural marker) can function as an Lq marker (Muysken, 1991: 269). Thus, (97) is possible under the GC while constructions which contain a governed constituent of a single content word or entirely in the Lq are problematic, as in (98):

(97) Ha   recivuto   il **diplôme**
have-PRES-3SG receive-PART DEF-M diploma
"She has received the diploma."
(Italian/French, DiSciullo, Muysken and Singh 1986: 13)

(98) wara-l-u   **le**   **bulletin**
Show-PERF-to-3M   DEF-M school report
"He showed him the school report."
(Algerian Arabic/French, Keddad 1986: 242)

Muysken (1995: 186) points out that the definition of "government" is broad and hence inappropriate for the government-based constraint. The author owes this inappropriateness to two main reasons. First, the class of governors identified is large since it does not comprise solely lexical elements like verbs and prepositions but also functional categories like inflections and complementizers. A Government Constraint based on such a definition would govern code-switches which are frequently attested,

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such as switches between INFL and the subject, or between a complementizer and its complement clause. Second, the government domain includes the maximal projection and therefore cases of switches between verbs and adverbs, determiners or quantifiers and the nouns they modify are mainly covered by this constraint. Here are examples illustrating some attested switches under the government theory:

(99)   No, parce que hanno **donné des cours**
       "No, because they gave lectures."

(100) basta che **marche**
       "(It) suffices that (it) works."
       (Italian/French, DiSciullo et al, ibid: 15)

(101) portava due **micros**
       "(She) brought two micros."
       (Italian/French, DiSciullo et al. 1986: 14)

The above examples are allowed under the GC. Example (99) is well-formed since the INFL node dominates modals and auxiliaries in Italian and the latter do not hold a government relationship with verbs. In (100), mixing occurs between COM and S since COM is the Lq carrier and shares the language index of the governing verb. In (101), mixing occurs between the quantifier (Q) and the noun (N) since Q and Lq carrier agrees in language index with the governing verb.

It has been noted that the GC model gains empirical support among American Finnish/English bilingual speakers in Halmari's (1997) CS data. Yet, Halmari observes the effective role played by case assignment and agreement relations in shaping American Finnish/English CS occurrences and hence extends the notion of government to include determiner-like elements altogether with Finnish morphology as the Lq-carriers in the governed elements. Evidence of the applicability of this restatement of the GC comes from Halmari's data:

(102) Otan sen **bookmark**in sieltä pois.
       "I'll take the bookmark away from there."

(103) me on **driver's training** + i + ä enemmän nyt o-otettu.
       "We have now taken more driver's training."
       (American Finnish/English, Halmari 1997: 134)

Halmari also claims that the GC can account for the well-formedness of the following example if only Finnish case-morphology is considered as the Lq-carrier attached to the English noun:

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(104) tehokas siivousryhmä clean + as + i **building** + in
effective cleaning crew +VM + past 3sg +ACC
"An effective cleaning crew cleaned the building."
(Finnish/English, Halmari 1997: 211)

Moreover, Halmari (1997: 114) argues for the grammatically of instances of code-switches including a Finnish verb, or an English verb stem with Finnish verb morphology which assigns the Finnish accusative case to its object. Otherwise, the syntactic constructions are ungrammatical because of a mismatch between the language of the assignor and case. Similarly, Lotfabadi (2002) acknowledges that the GC model explains most of his Persian/Swedish data, stipulating that his data are similar to those of Halmari when it comes to elements holding government relationships. Yet, he (2002: 46) rejects the idea of an Lq carrier to be useful to explain switches between elements in government relation:

> Nonetheless, a switch between a Persian governor and a Swedish governed element is allowed even in the absence of an Lq-carrier in the language of the governor. What this contrast suggests is that adopting a notion like Lq-carrier does not prove to be a necessary and definite condition to explain the code-switches occurring under the government relation.

Similarly, Myers-Scotton and Bolognai (1999) question the reason behind the use of a language carrier in Halmari's explanation of American Finnish/English CS data. They (ibid: 97) argue that:

> Halmari never considers two crucial questions: What is the motivation for positing a "language carrier" in government relations. And even if we accept as a "given" that there is a system of language indexing, what is the function of this language carrier? These questions seem even more challenging since Halmari is working within essentially a Chomskyan framework and Chomsky's Minimalist Program (1995) proposes that the entire notion of government is dispensable, because "principles of language [are] restricted to something closer to conceptual necessity" (1995, p.176), that is, to abstract features associated with lexical elements in the lexicon. According to this line of reasoning, cross-linguistic differences in abstract features (and the morphosyntactic features they encode) of lexical items in Finnish versus English would explain the obligatory presence of Finnish case-and agreement morphology.

Although this constraint functions very well for Italian/English, Italian/French and Hindi/English data, it proves insufficient when tested cross-linguistically. The GC falls badly for a number of configurations and many counter-examples taken from Nortier's Dutch/Moroccan Arabic Code-Switching data (1990), and Stenson's Irish/English data

(1990) appear to refute it. Switching between subject and verb, permitted under this model, occurs less frequently in Nortier's data than switching between object and verb. DiSciullo et al. do not consider INFL as a governor, and henceforth predicts that switching between subject and verb would be possible because no government relation holds between the subject phrase and a VP.

To account for the numerous counter-examples to the Government Constraint, DiSciullo et al. (1986) modify slightly the definition of government. The GC is reformulated as follows: "X governs Y if the first node dominating X also dominates Y, where X is a major category N, V, A, P, and no maximal boundary intervenes between X and Y".

Yet, Muysken (1990) points out that the GC proves to be inadequate because of its ignorance of functional categories. The author (ibid: 124) suggests a reformulation of the constraint to explain the attested cases of CS involving functional heads. The revised form of the constraint is as follows: "[Xp Yq] where X L-marks Y, and p and q are language indices".

By appealing to the notion of L-marking, Muysken proposes a more restricted definition of government since language indices are derived from the lexicon. The author assumes that INFL does not L-mark, that determiners (Det) and quantifiers (Q) are heads but not L-markers, and that V does not L-mark time adverbs, and therefore the problematic cases attested under the GC can be accounted for.

Even in this revised view, the GC generates many counter-examples in different corpora. Code-Switching instances involving Dutch/Moroccan Arabic in Nortier' data (1990) appear to be in contradiction with the basic assumptions of this revised version. Many configuration patterns of CS seem to be attested in her corpus, such as instances of switching inside the verb phrase. Here are some examples involving switching between an indirect object and a direct object (VIO/DO), a verb and its direct object (V/IO), and a copula-type verb and its predicate (COP/PRD):

(105) Žib li-ya een **glas water of so**   (**VDO/IO**)
      "Get for me a glass"

(106) anaka-ndir **intercultural werk**   (**V/DO**)
      "I am doing intercultural work."

(107) wellit **huisman**   (**COP/PRD**)
      "I became houseman"
      (Moroccan Arabic/Dutch, Nortier 1990: 131)

Other instances of CS invalidate the predictions of this revised version of the GC, as they comprise switches between subject and verb, a preposition and its complement. Consider the following examples drawn from Nortier's data:

(108) Humaya **vergelijken de mentaliteit met de Islam**
"They compare the mentality with the Islam."
(Moroccan Arabic/Dutch, Nortier ibid: 135)

(109) u dewwezna f **zelfde tiid**
"And we-spent in same time."
(Moroccan Arabic/Dutch, Nortier ibid: 139)

Because of the abundant counter-examples that put the validity of the GC into question, Van-Dulm (2004) proclaims that the GC fails empirical findings and theoretical conceptions. The author (ibid: 174) states that:

> It appears that the application of the grammatical theory to code-switching research in the case of the Government Constraint has not to a theoretically and empirically adequate account of intra-sentential code-switching. However, the idea that it is possible to account for structural aspects of intra-sentential code-switching in terms of the same theory that accounts for structural aspects of monolingual utterances remains an attractive option.

The amount of counter-examples led also Muysken (1995: 188) to admit that the GC can be maintained even in its revised view. He (2000: 24) acknowledges that: "As it turns out, however, even this restricted versions runs into grave difficulties, due to abundant more recent counter-evidence [...] given all these counter examples, the government constraint, even in the revised form of Muysken (1989b) is clearly inadequate".

Muysken (ibid.) suggests integrating the notion of equivalence in a more refined version of the GC in order to account for the attested CS data. The revised constraint is as follows:

> [Xp Yq] where X L-marks Y, p and q are language indices, and there is no equivalence between the category Y in one language and the category Y in the other language involved.

In other words, elements governed by lexical heads can be switched only if they show equivalence with their corresponding elements in the other language. This means that this type of switching requires similar typologies for the languages participating in CS utterances. Some empirical support is demonstrated in Treffers-Daller (1994: 240)

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when examining French/Dutch CS in Brussels. Nevertheless, the notion of government remains problematic in most of the data discussed in the literature.

Government-based approaches rather contend that there can be no switch between elements which hold government relations. MacSwan (2000: 39) considers that the GC "moves us closer to a system in which Code-Switching may be explained in terms of the same principles as account for grammaticality judgment in monolingual speech, a much more parsimonious approach than either Poplack's and Joshi's'".

Testing the predictions of the GC on our data shows that they appear to be non-functional for the following instances:

Switching between subject-verb

(110) haːdʊ **les filles** taːʕ ɗaɾwuk ɾaːhʊm　　　jeṭṭɑlbʊ
those DEF-PL girls of now PRESENTATIVE-3PL IMPERF-ask for-3PL
l mʊ̃ħaːl　　　maʕlabaːlhaːʃ bəlli **lbonheur**　majetbaːʕ
DEF impossible NEG-Know-3FS-NE that DEF-happiness NEG-buy- PART
majetteʃra
NEG-sell-PART
"These girls of nowadays ask for what is unrealizable. She doesn't know that happiness can neither be bought nor sold."

(111) ʔana nəbɣi　　　　　　**Sciences du langage**
I　　IMPERF-like-1S　　Sciences of language
"I like language sciences."

(112) **l'examen** saːhəl beṣṣaħ ӡaːj　　**trop long**
DEF-exam easy　　but　　　　come-PART too long
"The exam (is) easy but it is too long."

(113) ʕṭɑːw　　　　liːbja zaʕma　**une chance**　　**vers**
PERF-give-3PL Libya　　EPISTEMIC INDEF-F chance　towards
l'ouverture
DEF-openness
"They supposedly offered Libya a chance for openness."

(114) ki　jkʊːn　ʕandək fə **lbrouillon** ddiːrih　wməmbaʕd
when IMPERF-be at-2S　in DEF-draft　PERF-do-2F-3M and then
ddiːrih　　　fə **lpropre** wməmbaʕd səggmiːh
IMPERF-do-2F-3M in DEF-propre and then　IMPER-organize-2F-3M
miʃi təkkətbi　fə **lbrouillon**　zaʕma　tsətfi
NEG-IMPERF-write-2F in DEF-draft supposedly IMPERF-organize-2F
les　　　**idées** ttaːwʕək

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DEF-PL ideas DEF-of-2S
"When you have it in the draft then you copy it properly and then you organise it. Don't write in the draft I mean you classify your ideas."

(115) hna gaːtlək   hijja **normalement** kaːjen fəl f **le titre**
here PERF-say-3F-to-2S she   normally   EXIST in DEF in DEF-M title
"Here, she told you normally it exists in the title."

In example (110), the switch occurs between a subject as a French NP "les filles" (the girls) and the verb "jeṭṭɑlbʊ" (ask for) in Arabic. Similarly, the preposition in Arabic fə "in" is followed respectively by the complements in French "brouillon" and "propre" in example (114). These cases are clear violations to the predictions of the GC. Besides, (111) indicates a switch between the Arabic verb "nəbɤi" (I like) and the direct object in French as an NP "sciences du langage" (language sciences), and in (113) a switch occurs between the direct object in Arabic "liːbja" (Libya) and the indirect object "une chance" (a chance). The instance (112) also shows that the GC does not hold true since the NP and the verb in the verbless construction do not stem from the same language whereas the French adverb is embedded freely in the Arabic-framed sentence in (115).

Although the government constraint models permit CS between language pairs with different word order, it fails to account for many common switches when tested on our data, like those between verbs and adverbs, subjects NP and main verbs, verbs and direct objects in the VP maximal projection, and copula-type verbs and their predicates.

The empirical problems posed by this model have led MacSwan (2000: 40) to question how grammar operates in different languages; he argues that "although the Government Constraint is articulated in terms of government, we are left wondering why government, in particular, should be related to code-switching, since the relation is presumed to be an operation of universal grammar (UG) that is invariant cross-linguistically". Gardner-Chloros and Cheshire (2000) also point out that neither the relatively ad hoc approaches of surface adjacency, nor those based on deeper theoretical motivated concept of government, can predict the type of switches that take place or at which specific points they occur.

This GC model has also been criticized on the basis of several grounds. Belazi et al. (1994) consider this model as too restrictive and predict incorrect restrictions but

agreed upon the idea of hierarchy aspects of CS. Muysken (2000) points out the inadequacy of this constraint because of its ignorance of functional categories and suggests that many structural problems would be resolved if functional elements are incorporated in the model as governors. This constraint is still considered as equally similar to the predictions developed in the GB theory established to deal with monolingual syntactic structures. Belazi et al. (1994) incorporate the functional elements as governors in their study and propose the "Functional Head Constraint".

1.2.2.3 The Functional Head Constraint (FHC)

In the same vein as the Government Constraint, Belazi et al. (1994) propose a constraint to Code-Switching data set which explores the notion of government and dependency. Working within a generative framework, the authors rely upon Abney's suggestions (1987) and Chomsky's assumptions (1995) to suggest f-selection as a constraint on CS. They propose a class of checking features[5] that includes language feature to be checked in mixed codes. The Functional Head Constraint (FHC) predicts the role of functional categories in Code-Switching. Here is the FHC:

> 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.

Rubin and Toribio (1995: 177) explain the premise of the FHC as follows:

> This principle constrains switching between a functional head and its complement by invoking the strong relation thought to obtain between the two. This relation, referred to as 'f-selection' in Abney (1987) is a part of Universal Grammar. The Functional Head Constraint sought to deformalize f-selection as a feature matching process which makes reference to a set of features which includes language. Under this view, code-switching constrained by universal syntactic considerations and thus, in this respect, like any other language [....], where universal constraints on code-switching are also proposed.

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[5]Haegeman (1998) proposes that X-bar relations can account for the process of feature checking of the constituents that build up different sentences: to check a feature is to verify if a head contains the same features associated to its specifier and its complement. When lexical items are put together within the same string of speech, feature checking appears to be a prerequisite since lexical or functional heads are loaded with features or simply morphosyntactic information (number, gender, case and agreement). Hence, a head whatever its nature comprises the necessary features that belong to its specifier and its complement: as put by DiSciullo et al. (1986), the head projects its features within the phrase.

So, the authors propose another feature which is the "language feature" that disallows a switch if it is ungrammatical. As it is predicted under the FHC, a switch between a functional head and its complement is not permitted.

On the basis of data from Tunisian Arabic/French and Spanish/English CS, Belazi et al. (1986) recognize that switches do not occur between functional heads and their complements. They suggest that the functional head carries a language feature which specifies its language. Five functional heads have been identified and the FHC is supposed to rule out switches between complementizer (COM) and IP, Inflection (INF) and NP, determiner (D) and NP, quantifier (Q) and NP, negation (NEG) and VP, among other positions.

The authors give the following examples to illustrate the different restrictions ruling out CS utterances in accordance to the FHC:

(116) a.* Id-daw i   lli   **il m'a donné**   **n'est pas**   **bon**
         the medicine that   he gave me   [Neg]is [Neg] good
         "The medicine the he gave is not good."

      b. id-dwa   **qu'il m'a donné n'est pas bon**
          the-medicine that he me has given NEG is NEG good
          "The medicine that he gave me is not good."
          (Tunisian Arabic/French, Belazi et al, 1994: 225)

(117)   *Šuf-t   da:r-s
          saw-I   house-PL
          "I saw the houses."
          (Tunisian Arabic/French, Belazi et al, ibid: 231)

(118) a. Ktib   **dix livres**
         wrote-he   ten books
         "He wrote ten books."

      b. *Ktib   ʕašra **livres**
         wrote-he   ten books
         "He wrote ten books."

(119) a.*Je ne   hib-ha pas
          I NEG like-it   NEG
          "I don't like it."

      b. *ana   ma   l'aime-š
          I   NEG   it like-NEG
          "I don't like it."
          (Tunisian Arabic/French, ibid: 229)

The following examples constitute counter-evidence to the FHC, (120), (121), (122) illustrate switches between COM and IP in some language pairs discussed in the literature:

(120) lorque j'ai vu que mabqaš

"When I have seen that there was nothing left"
(Moroccan Arabic/French, Bentahila and Davies, 1983: 310)

(121) matkunš zjada **parce que** kulši qal zjada
"There would be no increase because everybody said
(there would be) an increase."
(Moroccan Arabic/French, ibid: 311)

(122) **il croyait** biʔanna **je faisais ça exprès**
"He thought that I was doing that on purpose."
(Moroccan Arabic/French, ibid: 310)

Belazi et al. (1994) propose an example of Fr/TA Code-Switching which comprises a repetition of the complementizer, as shown in (123). The authors interpret this behaviour as an evidence of the strength of the FHC. In this example, the French complementizer "que" is blocked to appear in this syntactic environment and therefore it has been replaced by its Arabic counterpart "lli":

(123) c'est le fer qui donne…. **lli ya-ħa:rib** l'anémie
It's iron that gives   that it fights the anemia
"It's the iron that fights the anemia."
(French/Tunisian Arabic, Belazi et al., 1994:226)

On the other hand, non-permitted sequences of the type (qui **ya-ħa:rib**) in Tunisian Arabic appear to occur naturally in Moroccan Arabic/French CS, as illustrated in (124):

(124) Il y a des gens qui **tajhdru bzzaf**
"There are people who talk a lot."
(Moroccan Arabic/French, Bentahila and Davies ibid: 311)

Conversely, Mahootian and Santorini (1996: 466) consider the repetition of the complementizer in (123) not as a supporting example to the predictions of the FHC but represents simply a speaker's choice who uses anticipatory retracing as a repair strategy instead of instant repairing. According to these authors, the speaker substitutes only the problem element (the verb of the relative clause in this case) when it comes to instant repairing whereas he backs up to the problem element when recurring to anticipatory retracing.

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Lotfabbadi (2002) arrives at the conclusion that in Persian/Swedish CS the complementizers introducing Swedish clauses should be in Persian. The following example illustrates an instance of the structure COMP+ clause:

(125) doxtar-e xub kasi-e **ke bra personlighet umgås med folk, trevlig** hast
girl-Ez nice one-is that good personality socializes with people nice is
"The nice girl is one that has a nice personality, socializes with people, is nice."
(Persian/Swedish, Lotfabbadi 2002: 183)

In the example above the Swedish clause headed by the Persian relative pronoun "ke" (bra personlighet umgås med folk) behaves structurally like a Persian clause since the Swedish verb *har* "has" which would follow the relative pronoun in a Swedish environment does not occur. The relative pronoun in Persian does not select a verb to its right in the mixed utterance above, a fact which explains why the Swedish verb *har* is left out.

Belazi et al. (1994) also establish restrictions on switches involving bound morphemes and INFL. Considering bound inflectional morphemes as independent functional heads, the authors suggested an extension into the FHC to incorporate the FMC, which constrains switches between "a bound morpheme and a lexical form unless the latter has been phonologically integrated to the language of the bound morpheme" (Sankoff and Poplack 1981: 5). However, this extended view has received a large body of counterexamples (Clyne 1987, Nartey 1982, Bentahila and Davies 1983, Nishimura 1985, Bokamba 1989, Eliasson 1989, Stenson 1990, Mahootian 1993, Myers-Scotton 1993b).

Examples of free morphemes in INF and VP indicate as well that the FHC is problematic. Consider the following example:

(126) a. **No,** parce que **hanoo** donné des cours
No because have given of the lectures
"No, because they gave lectures."
(Italian/French, DiSciullo et al. 1986:15)

b. Oui, alors j'ai dit que **si potev** aller comme ça
Yes, so I have said that REFL could walk like this
"Yes, so I said that I could go like this."
(French/Italian, DiSciullo et al. ibid: 15)

Restrictions on determiners also receive many counterexamples for the possibility of occurrence of switches between determiners (quantifiers, numbers) and nominal projections, as indicated in the following example:

(127) in **kitchen** xayeli kaesif-e
         this   very   dirty   is
         "The kitchen is very dirty."
         (Farsi/English, Karimi, 1990: 12)

Another interesting case of possible switches between determiners and their complements comes from Moroccan Arabic/French switched utterances. In the following examples taken from Moroccan Arabic/French CS, determiners take a full noun phrase complements:

(128) dak **la chemise**
         that the shirt
         "That shirt."
(129) waħed **le liquide**
         one   the liquid
         "Some liquid."
         (Moroccan Arabic/French, Bentahila and Davies 1983: 317)

Yet, certain scholars acknowledge that the FHC has brought out an interesting question as to the grammatical relations established between functional elements and their complements cross-linguistically. Illustrative examples come from Bentahila and Davies (1983) with regard to the relation of government linked to the Arabic complementizer /baš/ (for). In the following example, the complementizer /baš/ takes a French finite clause and therefore violates the FHC conditions, as shown in (130):

(130) Je peux le dire hæːd le truc hæːda **baš** je commence à apprendre
         I can say it this thing here in order that I start to learn."
         (French/ Moroccan Arabic, Bentahila and Davies ibid: 323)

Abbassi (1977) claims that the Arabic complementizer introducing purpose clauses /baš/ and the corresponding French "pour" (to) must be in the same language as the complement clause. Yet, example (120) which introduces a finite clause in French is in contrast with the first claim of Abbassi. Even the hypothetical example provided by Abbassi (ibid.), illustrated in (131), appear to be rejected by Bentahila and Davies' informants and mine.

(131) *On est allé au café** baš **boire un pot**
         "We went to the cafe in order to have a drink."
         (Moroccan Arabic/French, Abbassi 1977: 158)

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Both examples (132) and (133) suggested for grammaticality judgments among Moroccan/French bilingual speakers, have been rejected by our informants. Furthermore, it seems that Moroccan Arabic/French CS data is characterized by specific constructions, such as (baš **nréussir l'examen**), and (**jconfronter ces idées**). Anyway, instances like (130) are in contradiction with what the FHC states.

(132) *nqra šwija baš **réussir l'examen**
"We work a bit in order to succeed in the examination."

(133) * nqra šwija baš **nréussir l'examen**
we work a bit in order that we imperfect-succeed in the examination
"We work a bit in order that we may succeed in the examination."
(Moroccan Arabic/French, Bentahila and Davies op.cit: 323)

Despite the support it gained in some data, the FHC is empirically inadequate and therefore does not hold as a universal constraint on CS. Potential counter-examples come from various language pairs. Halmari (1997) provides counter-examples to the FHC from Finnish/English data, but she does not consider them as enough evidence to refute entirely this constraint. She assigns the well-formedness of the utterances she presents to the richness of the Finnish case morphology and the government relationship that holds between verbs and their complements, as illustrated in (134):

(134) luen yhde + n **magazine** + n
"I read one magazine."
(Finnish/English, Halmari 1997: 85)

Belazi et al. (1994) introduce another constraint for Code-Switching the "*Word Grammar Integrity Corollary*" *(WGIC)*[6] which indicates that a lexical item should obey the grammar rules of the language from which it is drawn. They show that switches between adjectives and nouns are possible since they satisfy the grammar of the languages from which they are taken.

According to Belazi et al. (ibid.), (135a) is possible because adjectives are postnominal in Tunisian Arabic and **"mizjaena"** is placed correctly but the utterance (135 b) is ill-formed because the grammar of French is not respected with the placement of the adjective *"belle"* postnominally.

(135) a. j'ai une voiture **mizjaena**
"I have a beautiful car."

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[6] 'The word grammar integrity corollary' principle has been introduced by Belazi et al. as a corollary to the assumption that words are loaded with morphological and syntactic features. It states that 'a word of language X, with grammar Gx, must obey grammar Gx' (1994:232).

b. * ʕand-i karhba **belle**

at-I   car nice

"I have a beautiful car."

(French/Tunisian Arabic, Belazi et al. op.cit: 232)

According to these authors, (136a) is ungrammatical because English grammar requires the adjective "proud" to be prenominal despite the fact that the Spanish noun satisfies the requirements of Spanish grammar which entails an adjective to the right of the Spanish noun. (136b) is grammatically correct since English adjectival phrase AP could occur postnominally in a code-switched utterance with a Spanish noun that looks at an adjective to the right. Similarly, (136 a1) is grammatically incorrect because the Spanish adjective "orgullosa" must appear postnominally while the English noun must be modified to its left by a simple adjective. In (136 b2), however, the English noun "women" could be modified by a Spanish AP which is not head-final and thereby the mixed utterance is grammatically correct.

(136) a1.*la mujer **proud**

The woman proud

"The proud woman."

b. la mujer **proud of her position**

the woman proud of her position

"The woman proud of her position."

a 2. *the woman **orgullosa**

the woman proud

"The proud woman."

b2. The woman orgullosa **de su puesto**

the woman proud of her position

"The woman proud of her position."

(Spanish/English, Belazi et al, ibid: 232-233)

This constraint seems to be similar to the EC (Bentahila and Davies) and the "Phrase Structure Congruence" model (Woolford), as Santorini and Mahootian (1995) argued. The authors also reject the WGIC on the grounds that it reduces in effect to the EC. Furthermore, Mahootian and Santorini (1996: 470) argue in a recent publication that:

> Since the Word Grammar Integrity Corollary requires the placement of each single word of a language to be consistent with the languages grammar, it reduces in effect to the well-known Equivalence Constraint. As a result, the

Word Grammar Corollary, like the Equivalence Constraint is incompatible with the large body of evidence that has been accumulated against the latter.

In their part, Belazi et al. relate patterns of Code-Switching to the bilinguals' degrees of competence. The writers point out that balanced and unbalanced bilinguals show different social behaviours and thence different patterns of CS. They claim that the predictions of constraints based on the assumptions of the UG and mainly the feature f-selection gain support from the behaviour of balanced bilingual speakers. This idea was subject to criticism from the part of Mahootian (1993) who considers the interlocutors' variability with regard to the competency level as an index to differentiation in the quality of Code-Switching.

Toribio (2001) explores further CS patterns in accordance to bilinguals' linguistic competence. She investigates the way learners acquire the abstract principles that allow well-formed strings and disallow ungrammatical sequences for intra-sentential code-switching. She matches in this way the main guiding assumption of grammatical theories which attribute the regularities underlying CS utterances to the unconscious linguistic knowledge of functional categories. The author (ibid: 206) states that:

> Bilinguals are not taught how to code-switch; and yet, just as monolingual native speakers of Spanish and English have an intuitive sense of linguistic well-formedness in their language. Spanish-English bilinguals are able to rely on unconscious principles in distinguishing between permissible and unacceptable code-switches.

Belazi et al.'s view considering that competency level may influence the patterns of CS seems to be interesting but we don't think that the bilinguals' competence may affect the quality of switching. Rather, other factors like speech situations and the degree of conscious/unconscious to code-switch are among the determining factors. The analysis of our data shows that the same bilingual speakers change their behaviour and even the pattern of CS utterances in accordance with the competency level of their interlocutors.

Eppler (2006) criticizes the models and approaches which rely on functional elements like those proposed by Joshi (1985), Myers-Scotton (1993b), and Belazi et al. (1994) because of the blurred definition allotted to "functional categories". The writer (2006: 121) states that:

> Models, approaches, constraints based on functional categories fall short for accounting for the data available and are unsatisfactory because none of the definitions of functional categories that have been offered (in terms of

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function words, closed class items, system morphemes or non-thematicity) work. They either define fuzzy categories where sharp distinction would be needed, or they conflict with the data. Complementizers and determiners, the two most commonly quoted examples of functional categories, provide most of the counter-examples.

The main finding to be accounted for in the FHC is that switches cannot take place between a functional head and its complement but it is permissible between lexical heads and their complements. The FHC has been criticized in regard with the conceptual and empirical problems it poses. At the conceptual level, the checking-feature has been put into question. For instance, MacSwan (2000) considers that positing a label for a particular language as a prerequisite in syntactic theory triggers ordering paradox. Rubin and Toribio (1995) also argue that the FHC becomes a Code-Switching-specific constraint barring language mixture in functional head-complement configuration. At the empirical level, the literature has provided several counter-examples to this constraint.

Testing the predictions of the FHC on our data reveals some inconsistencies. Most of the postulates of this model do not hold true because of the frequent occurrences of many of the disallowed cases under this constraint. Instances of switches between a complementizer and its phrase complement or clause (IP) are abundant in our corpus. Furthermore, switches between quantifiers and their complements are frequently attested. Yet, other restrictions are operative in the data where switches between a negative marker and its complement verb, and modals followed by their lexical verbs are prohibited. Consider the following examples from our corpus:

(137) **parce que** jebɤuː   jruːɦʊ   gaːʕ fi raɦba
      because   IMPERF-like-3PL IMPERF-go-3PL all   in   place-F
      "Because they prefer to go together."

(138) **si je me donne à fond** beʂʂaɦ **il faut que je me repose**
      If I REFL give my all but   there should that I REFL take a rest
      "If I give my all! But I have to take a rest."

(139) **on dirait pas**   bəlli **enseignant f l'université**
      we say-COND-NEG that   teacher in DEF-university
      "One wouldn't say that he is a university teacher."

(140) gaːllha   makaːjenʃ **un remède** ʕlaχaːʈɑr **c'est viral**
      PERF-say-to-3F NEG-EXIST-NEG INDEF-remedy because it is viral
      "He told her there is no remedy because it is viral."

(141) sauf l'oral   lli la copie makka:nʃ
except the oral that the sheet NEG-PERF-EXIST-NEG
"Except oral (expression) for which there is no exam sheet."

(142) ga:ʕ **les   filles ensemble**
all   DEF-PL   girls together
"All girls together."

(143) χrəʒʒalha   waħid **l'herpès** kbi:r
PERF-appear-3M-to-3SF one   DEF-herpes big
"A big herpes appeared on her (face)."

Example (137) comprises a switch between the French complementizer (COMP) "parce que" (because) and the IP in Arabic. This is in contrast to what the FHC dictates. Similarly, the Arabic complementizers are respectively followed by French clauses in (138), (139) and (140). Whereas, (141) includes a relative pronoun as a head and its complement phrase in French. Besides, (141) and (142) illustrate switches between a quantifier/determiner and their complements (NP). Hence, in (142) the quantifier is in Arabic "ga:ʕ" (all) while the NP is in French "les filles" (the girls) whereas in (143) the Arabic indefinite article "waħid" (a) is followed by a French noun "l'herpès" (herpes). Thus, all these cases provide evidence against the validity of the empirical findings of the FHC.

In spite of the counter-examples provided by many scholars from different language pairs, Toribio (2001) advocates the conceptual and the empirical validity of the FHC. The author stipulates that functional heads (DET, MOD/AUX, NEG, and COMP) and their f-selected complements must be drawn from the same language. She argues that most of the criticisms against the FHC, especially MacSwan's minimalist approach (1999), are due to differences in methodologies. Nonetheless, she follows the main stream of the minimalists since she (2001: 215) claims that "a functional head shares the language index of the projection with which it merges".

Cantone (2007: 67) does not seem to accept Toribio's arguments where she argues that:

> What is difficult to accept in this explanation is that, although Toribio uses Minimalism to sustain this constraint, she does not account for the lack of any motivation to reject these kinds of mixes, which the FHC predicts to be ungrammatical, given the strong lexical approach underlying Minimalism. Recalling the last quote, I would like to point out that it basically makes a correct prediction: A functional element should share the same language of

the projection. The striking point here is that the functional head itself merges the projection, so that it will necessarily be of the same language. Hence, the ungrammaticality of a switch between the functional head and its complement cannot hold anymore.

On the basis of the different criticisms against the universality of the FHC, new perspectives have been proposed to approach intra-sentential Code-Switching. It is a question of the insertional models (Boumans 1998, Myers-Scotton 2002a), and the minimalist approaches (Mahootian 1993/1996, MacSwan 1999).

1.2.2.4 Mahootian's Null Theory of Code-Switching

Contrary to other scholars, Mahootian (1993) argues that CS is governed by no special mechanisms apart from those grammatical constraints of the participating languages. She claims that CS obeys the same general derivational principles which generate monolingual utterances. In this sense, there is no difference between switched constituents, be they bound morphemes, single words or large phrases and sentences from one language to another since they follow the same derivational restrictions operating in monolingual sequences. She calls her hypothesis a "Null Theory", focusing mainly upon the role of heads and ignoring completely word order equivalence. She has acknowledged that heads govern the syntactic relations and restrict phrase structure configuration of complements.

According to the assumptions of the Null Theory, word order in Code-Switching is accounted for by specific constraints. Despite the fact that Mahootian's perception of word order is rather different from other frameworks, it seems that there is an agreement that the language of the head determines the order of the complement (Mahootian 1993, Mahootian and Santorini 1996, MacSwan 1999, Nishimura 1997, Santorini and Mahootian 1995).

Chan (2008) claims that Code-Switching is restricted by the same constraints which constitute the language faculty or universal grammar. The author (ibid: 778) acknowledges that:

> [...], people do not code-switch, not because they were born without "a code-switching grammar"; rather, this is due to the absence of input of more than one language (in the case of monolinguals). Those in favour of constraints specific to code-switching may still assume that there is code-switching grammar being dormant in monolinguals, but then the language faculty would be unnecessarily complicated. All in all, under the Null Theory, code-switching and "pure" languages are subjects to the same

linguistics constraints or principles; accordingly, code-switching is no longer a hybrid peripheral in linguistics but a potential source of data which reveals the architecture of the language faculty.

Under the predictions of Mahootian's model, switches are allowed between complementizers (COMP) and IP, between free and bound morphemes, and even within VP, DP, QP and PP (verb phrase, determiner phrase, quantifier phrase and prepositional phrase, respectively). To explain cases of CS, the author uses tree adjoining grammar (TAG) as a formal device in her representations. Under TAG, branching directions are encoded to the right or left of the head depending on the nature of the languages involved in mixed constituents. Mahootian (1993) posits "auxiliary trees" and partial structures representing heads' complements. However, classic generative studies have rejected the idea of encoding branching directionality (Chomsky1981) while recent works proposed a universal base in which all complements branch to the right (Kayne 1994). Thus, a new elaboration of the Null Theory was needed far from TAG formalism.

Mahootian (1993) has used a corpus of Farsi/English Code-Switching in naturally-occurring conversations. She has remarked that the language of the verb determines the placement of the object in code-switched utterances. In Farsi, word ordering requires that objects must occur before the verb, contrasting with English. She illustrates this claim with the following example:

(144)   You'll buy   **xune-ye   jaedid**
        you will buy house-POSS   new
        "You will buy a new house."
        (Farsi/English, Santorini and Mahootian 1993: 153)

Many scholars consider Mahootian's model as a surface structure-based theory of Code-Switching. For instance, Gardner-Chloros (2009: 99) claims that:

> Mahootian's proposal was concerned essentially with the content of lexical constituents, as determined by language-specific rules for those constituents. Her proposal which is essentially concerned with "surface" word order differences between languages is however called into question by counter-examples.

Here is an example drawn from Eppler (1999) in which the writer has noticed that word-order constraints as formulated in Mahootian's proposal do not hold true for German/English CS data. Eppler considers that example (145) is not allowed under the

predictions of the Null Theory since ordering of constituents ruled out by a specific node does not permit a switch between the complement "the father of her child" following the verb " ist". Nonetheless, the phrase structure rule for German requires that this complement must precede the verb.

(145) Jemand hat gesagt dass er ist **the father of her child**
"Somebody has said that he is the father of her child."
(German/English, Eppler 1999: 287)

Focusing on the syntactic properties[7] of heads, Mahootian (1996) claims that all heads must determine the position of complements in code-switched utterances. The author (ibid: 387) states that: "Heads determine the syntactic properties of their complements in Code-Switching and monolingual context alike".

This principle requires that a head (a verb, for instance) determines the phrase structure position and the content feature of its complement (the complement's sub-categorization features). Consider the following examples:

(146) Nisei no jidai ni wa we **never knew** anna koto nanka
nisei poss days p top we never knew such thing sarcasm
"In the days of Nisei, we never knew such a thing as sarcasm."
(Japanese/English, Nishimura 1985: 76)

(147) ki Syria uske sath **diplomatic relations** kayam kare
that Syria it with diplomatic relations establish do
"…that Syria establishes diplomatic relations with it."
(Hindi/English, Bhatt 1997: 228)

Mahootian and Santorini (1996) discuss a number of counter-examples to Mahootian's model (1993), rejecting them as specious because they do not come from naturalistic corpora. Hence, they proposed a new principle to account for complement relations. They acknowledge that: "The language of a head determines the phrase structure position of its complements in CS just as in monolingual contexts".

Many scholars have criticized the "Null hypothesis" and related its shortcomings to its reliance on TAG formalism which comprises some contradictions with the government and binding theory. As mentioned above, branching directionality is represented by auxiliary trees in which complements are encoded to the right or left of the head in Mahootian's model. This formal encoding is different from "branching directionality representation" in GB. Another conceptual problem with Mahootian and

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[7] By syntactic properties, Mahootian and Santorini (1996) mean a bundle of grammatical features such as, syntactic categories and finiteness.

Santorini's approach has been related to the central role assigned to heads-complements relations in explaining syntactic restrictions on Code-Switching. In such a theory, the operations required by the sub-categorization rules constitute the real constraints as opposed to adjunction operations which do not restrict CS occurrences. MacSwan (1999: 47) contends that "all syntactic operations and principles will be relevant in defining the class of well-formed Code-Switching constructions".

Pandit (1990) proposes a similar structural constraint to account for Hindi-English CS. According to Pandit (ibid: 43), "Code-Switching must not violate the syntax of the head of the maximal projection within which it takes place". The author claims that noun phrases are headed by nouns and therefore the nouns project their syntactic properties to all constituents of the mixed utterance. Nouns also impose their syntactic requirements on adnominal adjectives and hence determine their placement within the noun phrase. As noticed by Pandit, adnominal adjectives generally precede the nouns they modify in Hindi but can follow them in some particular cases. Consider the examples illustrated in Pandit's analysis of Hindi/English data:

(148) Meraa sapanaa **beautiful** tool gayaa
        my dream beautiful destroyed was
        "My beautiful dream was destroyed."

(149) *Raam ne likhaa ki usa kaa **dream** sundar was destroyed
        raam (subject) wrote that this dream beautiful was destroyed
        "Ram wrote that his beautiful dream was destroyed."
        (Hindi/English, Pandit, 1990: 43)

It has been noted that Mahootian's and Pandit's principles share the same linguistic insights since they insist on the roles of heads and the projections of lexical items. By contrast, Chan (1999) argues that certain patterns of Code-Switching can be explained by reference to the types of phrase that "functional categories" (T, D and COMPs, among others) select as their complements in different languages. He explains the example below taken from Bentahila and Davies' (1983) data:

(150) je peux le dire **had** le truc **hada baš** je commence à apprendre
        I can it say this the thing this that I begin to learn
        "I can say this in order that I begin to learn."
        (French/Moroccan Arabic, Bentahila and Davies 1983:323)

In the above example, the Moroccan Arabic complementizer /baš/ must be followed by a finite clause in Moroccan Arabic. The explanation provided by Chan to explain the pattern of CS in (150) is that certain cases of Code-Switching are restricted

by the FHC. Although the complement clause is in French, the syntactic requirements of Arabic stipulating that the subordinate clause must be finite hold. According to Chan's explanation, a switch of the type (150) in which a functional head is in one language and the rest of the clause in another language can take place provided that the complement adheres to the same requirements of the first language.

Gardner-Chloros (2009), however, criticizes Chan's interpretation on structural grounds, stipulating that it relies only on functional categories. The author (ibid: 100) states:

> Chan's analysis leaves several questions open. Firstly, Chan's constraint related only to a particular set of categories. These categories (the functional categories), as formulated in Chan's theoretical framework, are, as with government, abstract categories, whose properties are not fully understood, and which do not constitute a homogeneous class. It is not clear, for example, why functional categories should impose constraints on CS".

She (ibid.) further reinforces her claim by reinterpreting Bentahila and Davies' instance of Fr/MA Code-Switching in what follows:

> An alternative explanation of the example from Bentahila and Davies cited above, for example, might be that verbs such as say (or its French equivalent dire) require finite complements in most languages. Second, data from a range of sources suggest that some "functional categories" such as agreement may be affected in CS (witness the common phenomenon of the use of "bare" verb forms in CS). It is by no means certain that the specific grammatical properties of these categories are the same across languages. Nor is it clear that such categories would consistently impose "constraints" on the form of switched utterances.

Counter-evidence to the predictions of the "Null Theory" from our corpus consists of instances of code-switches between a complementizer and its complement clause, a preposition and its object complement, a verb and its object, and some other bare forms. Here are some illustrative examples:

(151) jli:qe-l-kʊm au moins une année baːʃ vous pouvez choisir
IMPERF-need-3M-to-2PL at least INDEF-F year that you can choose
une spécialité
INDEF-F special field
"You need at least a year in order that you can choose a special filed."

(152) f les deux années rʊːħi χχadmi
in DEF-PL two years IMPER-go-2F IMERF-work-2F
"During the two years, go to work."

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(153) di:ri　　　**une**　　**petite formation** lli testħaqqi:ha
　　　IMPER-do-2F INDEF-F　little　training　that　IMPERF-need-2M-3F
　　　"You prepare a little training that you will need."

(154) ʃaʕandək **problème**
　　　what have-2S problem
　　　"What problem have you got?"

(155) ga:ra　　**bus** ta:ʕ Hamoud wʊlla:w　　　jgessmʊ
　　　PERF-stop-3M bus of Hamoud PERF-become-3PL IMPERF-allot-3PL
　　　limonade
　　　lemonade
　　　"A bus of Hamoud stopped and they started to allot lemonade."

The instances (154) and (155) are clear violations of the Null Theory assumptions because they include bare forms. The French nouns "problème", "bus" and "limonade" lack determiners. These counter-examples are in accordance with the claims of Gardner-Chloros and Edwards (2004) which state that empirical evidence against Mahootian's constraint comes from code-switched utterances involving mixed forms, bare forms and avoidance strategies. Furthermore, these cases contrast the idea considering government relations as constraints of CS occurrences. The authors (ibid: 116) argue that:

> The existence of mixed forms, bare forms, and avoidance strategies suggests, on the contrary, that there is more going on in code switching than can be accounted for by models which assume a base language. At an intuitive level, many bilinguals find the idea that one language is always dominant in code switching speech does not correspond with their experience.

Despite the criticisms directed towards the Null Theory, MacSwan (2000) has adopted minimalism as a basis for a new approach to analyse CS instances. But, MacSwan's Minimalist framework specifies that CS may be best described in terms of the minimal theoretical apparatus with relevance to the principles and parameters of monolingual grammars.

1.2.2.5 The Minimalist Approach

The basic assumption of the minimalist approaches is that CS is the simple consequence of mixing items from multiple lexicons in the course of derivation since all syntactic variation is associated with the lexicon in the minimalist program. This entails that the various variations observed in surface word order of languages can be attributed

to the movements of lexical items triggered by lexically encoded morphological features in Mac Swan's terminology.

MacSwan (1999/2000) has proposed a theory of intra-sentential Code-Switching which stipulates that items may be drawn from the lexicon of multiple languages in order to introduce certain features into the lexical array. These features must be checked for convergence in the same way as monolingual features must be checked. MacSwan has attempted to explain then code-switched utterances in terms of conflicts in the lexical requirements of words. To accomplish such a task, he tries to define the boundaries of CS within sentences through the identification of language-specific conflicts in the feature specifications of functional categories.

A further important aspect of the minimalist approach is the phonological component, responsible for the mapping of syntactic properties to phonetic forms. The main assumption of this model is formulated as a "PF disjunction theorem":

    i. The PF component consists of rules/constraints which must be (partially) ordered/ranked with respect to each other, and these orders/rankings vary cross-linguistically.
    ii. Code-switching entails the union of at least two (lexically encoded) grammars.
    iii. Ordering relations are not preserved under union.
    iv. Therefore, code-switching within a PF component is not possible.

Working within a minimalist framework, MacSwan (1999) assumes that there is no switching below $X^{\circ 8}$, i.e., within a phonetic form. The basic conception of MacSwan's claim underlines a theory of code-switching and not a constraint. This theory accounts for the various restrictions on stems and morphologically bound inflectional material. It includes phonological rules which build a system of lexicalized parameters on the basis of specific morphological features with their phonetic content.

MacSwan has revisited some cases of CS discussed under Poplack's FMC. On the one hand, Poplack (1980) states that there is no switch between the English stem "eat-" and the Spanish bound morpheme {-endo}, as in (*eat-endo). On the other hand, MacSwan assumes that such a switch is allowed if the stem is incorporated into Spanish phonology and morphology, as in the following example:

    (156) Juan està **parqueando** su coche
        "Juan is parking his car."
        (Nahualt/Spanish, MacSwan 2000: 46)

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[8] X° signifies a word level category, be it nominal or verbal. It may be a simple noun (ball), a complex noun (basket-ball), a simple verb (order) or complex like (ordered) or re-ordering.

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In a more recent publication, MacSwan (2006) tries to capture the implications of the PF disjunction theorem on Code-Switching data. The starting point is to reinterpret the FMC by providing solutions to the conceptual and empirical problems it generates. The author gives the following illustrative examples:

(157)   Juan parqueó su coche
        Juan park-past/3Ss his car
        "Juan parked his car."

(158)   Juan parqueará su coche
        Juan be/1Ss park-fut/3Ss
        "Juan will park his car."
        (Nahualt/Spanish, MacSwan 2006:301)

The assumption is that complex morphological elements such as "parqueando, parqueó and parqueará" in (156), (157) and (158) are formed by principles of word formation internal to the lexicon and not by syntactic operations. From a minimalist perspective, cases of borrowing like the instances cited above are considered as an operation through which a new stem enters the lexicon of a particular language where morphologically complex words are formed before entering the enumeration, in which feature checking begins. According to MacSwan, the counter-examples provided by many scholars ignore the interface between the phonological, the morphological and the lexical features of the languages participating to CS. Muysken (2000) also stresses on the point of language typology differences and its influence on shaping CS patterns and internal word constituents. The writer (ibid: 54) states that:

> Exploiting typological differences can lead to new more directed research strategies in code mixing research. We need to look at the lexical and morphological typology. Morphological typology plays a role in code mixing in so far as we consider the type of word internal mixing involved in morphologically integrated borrowing to be a type of code mixing.

MacSwan (op.cit) also claims that the PF disjunction theorem can explain other cases in which CS is not allowed in the context of head movement where the phonological component is involved. The author (2000) has already advocated that his theory can capture some inconsistencies in Belazi et al.'s (1994) data under the FHC restrictions. Consider the following examples repeated here:

(159)   *The students had visto la película italiana
        The students had seen the Italian movie
        (Italian/English, Belazi et al 1994: 225)

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(160) **No,** parce que **hanoo** donné des cours
No because   have given of the lectures
"No, because they gave lectures."
(Italian/French, DiSciullo et al. 1986:15)

MacSwan suggests that the apparent contradiction between (159) and (160), involving a switch between an aspectual and a verb, can be captured neither by PS configurations nor government relations holding between heads and complements. However, the PF disjunction theorem predicts that head movement results in the formation of complex elements and therefore language-particular differences are encoded lexically.

Boeschoten and Hyubregts (1999) have adopted a minimalist framework as well and reduced differences between the languages involved in CS to differences in the lexicon. They state that the grammar of mixed-codes reduces largely to the requirements of monolingual derivations. They postulate that asymmetries in unified grammar reduce to asymmetries of certain functional categories "asymmetries in CS grammar reduce to asymmetries in functional and inflectional morphology (interpretability, feature strength) of the individual CS languages".

Jake et al. (2002) suggest a "modified Minimalist Approach" in which the notion of the Matrix Language plays a primordial role, in response to MacSwan's proposals (1999, 2000). They suggest that ML provides the grammatical frame in bilingual constituents and that only the identification of this language can explain asymmetries between participating languages. They propose also the "bilingual NP hypothesis" which states that all system morphemes in a NP come from the Matrix Language. Moreover, Jake et al. (2002: 71) criticize the minimalist approaches for missing a generalization and claim that:

> MacSwan avoids feature mismatches that would arise when singly occurring forms appear in mixed constituents by classifying all such forms as borrowings. In addition, under this PF disjunction theorem, morphemes from one language inflected with morphemes from another language are blocked because ordering in the PF component varies cross-linguistically and ordering relations are not preserved under union.

MacSwan has responded to the criticisms against the PF disjunction theorem, stipulating that his theory is based on the assumption stating that lexical items are stored in a similar way in both monolingual and bilingual modes. This argument, however, triggers off a controversy among scholars and the debate is still lasting. We will discuss

this question when presenting the most influential psycholinguistic approaches to code-switching.

Furthermore, MacSwan (2006: 302) considers in a footnote that the reaction of Jake et al. is a misinterpretation of his own theory, arguing that:

> Jake, Myers-Scotton and Gross (2002) misinterpret the PF Disjunction Theorem as prohibiting code switching in the context of singly occurring items, an "apparent position" they ascribe to MacSwan (1999, 2000). I am at a complete loss as to how this misconception came about; however, nothing about the PF Disjunction Theorem makes this implication, and MacSwan (1999, 2000) discusses numerous examples of singly occurring code switches, never once suggesting that such cases are uniformly "banned" or are examples of some other kind of language contact phenomenon.

The analysis of our data in accordance with MacSwan's Minimalist Approach reveals an important aspect as to the distinction between borrowing and Code-Switching. We consider the French nouns to which is attached the definite article l- as real switches. We consider as well French verb stems to which are affixed morphemes from OrA system as CS instances. Yet, cases like the plural noun "difonsa:ra:t" and the passive verbal construction which received negation markers "mriza:rvj-i:n" are considered as loans since they have been integrated phonologically into OrA system. Observe the following examples from our corpus:

(161) ʃətti   **lcouvert** jʒi   mʊra **lcouvert**
PERF-see-2F DEF-cover IMPERF-come-3M behind DEF-cover
"You've seen the cover. It appears behind the cover."

(162) ki   nʒi   ngʊ:llah   **lbadge** tta:ʕah
when IMPERF-come-1S IMPERF-tell-1S-to-3SM DEF-badge of-3M
"When I ask him for his badge."

(163) hada:k laχʊr **s-supérieur** ta:ʕi
that   other   DEF- boss   of- 1F
"The other one, my boss."

(164) ʔana **nsupporti**   **l'Italie**
I   IMPERF-support-1M DEF-Italy
"I support Italy."

(165) majat**influença:**ʃ   mʕa d**difonsa:**r-a:t
NEG-IMPERF-PART-influence-3M-NEG with DEF-defender-PL
"He is not influenced with the defenders."

(166) ɤi lli   ɾaːhʊm   təmmaːk mrizeːrvjiːn
      only that PRESENTATIVE-3PL   there   PART-book-PL
      jeddʊχlʊ
      IMPERF-enter-3PL
      "Only those who are booking there may enter."

To account for the inadequacies of theory-based approaches, a new trend has been proposed. The proponents of the insertional models suggest explanations of CS data in relation to asymmetry principles. We will discuss briefly the main ideas pointed out by Matrix Language approaches.

1.2.3 Matrix Language Approaches to Code-Switching
1.2.3.1 Asymmetry Principle and "Closed Class Items Constraint"

On the basis of English/Marathi Code-Switching, Joshi (1985) has noted that switches between both languages take place from the Matrix to the Embedded Language. He recognizes CS unidirectionality and posits asymmetric properties as restrictions to CS occurrences. Joshi's distinction between the Matrix and Embedded languages relies upon speakers' judgments. The author (ibid: 190) states that:

> Despite extensive intrasentential switching, speakers and hearers generally agree on which language the mixed sentence is coming from. We can call this language the Matrix Language and the other language the embedded language.

Yet, the reliability of such a criterion regarding which language provides the most functional elements in CS utterances has been put into question. The Matrix Language is said to be the language into which elements from the other language (EL) are slotted. In support of the asymmetry constraint, Joshi posits that major categories can be switched rather than the closed class items. He (ibid: 195) acknowledges that: "Closed class items (e.g. determiners, quantifiers, prepositions, possessives, aux, tense helping verbs, etc.) cannot be switched".

Observe the following example from Marathi/English CS in which Marathi is the ML and English is the EL:

(167) a. kâhi khurcyâwar
          Some chairs-on
       b. kâhi chair-war
          "Some chairs-on."

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c.* some chairs-war
　　　"On some chairs."
　　　(Marathi/English, Joshi 1985: 148)

Joshi attributes the ill-formedness of the last example to postpositions in Marathi since the rule predicts that Marathi postpositions cannot follow English nouns. Yet, Mahootian (1993) points out that case is problematic in Marathi and considers Joshi's explanation as due to case and not in relation to the Closed Class Items Constraint. Belazi et al. (1994) suggest that English NP looks to the left for case and Marathi case assigner assigns case to the left and it is placed to the right in (* some chairs-*war*) and consequently does not satisfy English NP predictions.

Lotfabadi (2002:188) seems in disagreement with Joshi's claim that the asymmetric direction of Code-Switching constitutes a restriction on CS occurrences. In this respect, the author argues that "the asymmetric direction of Code-Switching where immigrant speakers are involved is determined by the psycholinguistic and sociolinguistic factors of the speech situation rather than by structural constraints".

However, Joshi's claim that closed-class items must come from the ML holds true for a great number of instances in our data. Evidence in support of this prediction is related to the category of prepositions. All the prepositions followed by French nouns or noun phrases were from OrA. Here are three illustrative examples, one drawn from Lahlou (1991) and the two others from our data:

(168) Je devais faire pilote f l'armée de l'air
　　　I would 　do 　pilot in DEF-Air force
　　　"I was going to become a pilot in the Air force."
　　　(Moroccan Arabic/French, Lahlou 1991: 254)

(169) w décalage ta:ʕ deux ans

　　　and gap 　of 　　two years
　　　"And a gap of two years."

(170) elle a réduit son mémoire f trente pages

　　　she 　PAST-reduce her memoire in thirty pages
　　　"She reduced her memoire into thirty pages."

Joshi's model is based on the asymmetry of CS, characterized by a "control structure" that permits switches from the ML to the EL in a uni-direction. Furthermore, switches between closed-class items and open-class items are inhibited. Nevertheless, the following examples taken from our data violate Joshi's constraint. In (171), the

French COMP "parce que", a closed-class item, vehicles the switch into EL which is OrA. Similarly, (172) is introduced by the French COMP "par contre" while the Arabic COMP "beṣṣaħ" links the two French clauses in (173).

(171) **parce que** f reʒliːha **elle ne peut pas se déplacer**
  because   in legs-3F   she NEG can NEG REFL-move
  "Because (when fractured) in her legs, she couldn't move."

(172) **par contre** kuːn teqri   ttarʒama   kaːjen
  on the opposite if IMPERF-read-2F DEF-translation EXIST
  ʃi tarʒamaːt ɣi miʃiː bnafs ttansiːq taːʕ **le**
  INDEF-translation-F-PL only NEG with same DEF-coherence of DEF-
  texte d'origine
  text DEF-origin
  "On the other hand, if you read translation, there are some translations which are not as cohesive as the original text."

(173) **si je me donne à fond** beṣṣaħ **il faut que je me repose**
  if I REFL give my all but there must that I REFL take a rest
  "If I give my all but I have to take a rest."

Joshi's insights have been used in part by Myers-Scotton's Matrix Language Frame model (1993b) to account for the differential roles of the participating languages in Code-Switching from processing and psycholinguistic perspectives.

1.2.3.2 The Matrix Language Frame model (MLF)

A substantial theoretical model which claims to predict the forms of CS utterances is the MLF model proposed by Myers-Scotton (1993b) on the basis of her analysis of Swahili/English CS in Nairobi.

Myers-Scotton (ibid.) has taken her insights from Joshi's asymmetry principle (1985) and other psycholinguistic models of language production, the most significant are the "Differential Activation" of the base and guest languages (Grosjean: 1988), the different retrieval process of "Closed and Open Classes" in Garret's Speech Error model (1975) and Lemmas in the Mental Lexicon in Levelt's language production model (1989). In this model, Myers-Scotton suggests that the ML establishes the structural frame and thus is responsible for the construction of morphosyntactic order of morphemes in contrast to the EL which is less active with a restricted role in CS utterances.

In fact, the MLF model is based on two major hierarchies: he "t Matrix Language/ Embedded Language Hierarchy" and the "System/Content Morphemes Hierarchy". The first hierarchy assumes that the two participating languages do not have the same status: every sentence has a matrix language which dictates word order and the syntactic relations into which single morphemes may be inserted from the embedded language.

The second hierarchy assumes a distinction between content and system morphemes on the basis of syntactic behaviour of both categories. Content morphemes (nouns, verbs, adjectives and some prepositions) express semantic and pragmatic aspects and assign or receive thematic roles while system morphemes (functions words and inflexions) express syntactic relations between content words but do not receive nor assign thematic roles. This major role distinction between function and content words is crucial in identifying the ML: in bilingual CPs, system morphemes, essential to construct the frame, come from the ML and content morphemes essential to convey messages, are generally taken from both ML and EL.

Myers-Scotton and Jake (1995) have slightly revisited the MLF model and made use of the supportive 4-M model to saliently distinguish various morpheme types and the levels of activation and lexical access. They recognize three stages, namely the lexical-conceptual level, the lemma and the formulator. They suggest that it is at the conceptual level that intentions are 'bundled' into semantic and pragmatic features associated with lexemes and that the morphosyntactic directions encoding the predicate-argument structure are activated at the functional level.

The MLF has been criticized on a number of grounds, mainly the redundancy of the criteria established to distinguish content from system morphemes. Muysken (2000: 161) considers this distinction as problematic since "it is not easy to see how the classification into system and content morphemes carries across languages". There are various examples of CS which provide function words as inserted elements, a fact which makes the System Morpheme Principle more questionable.

Yet, Myers-Scotton (1998c: 354) assumes that "there is variation across languages in the assignment of particular lexical concepts to content or system morphemes". The MLF model has received many modifications and thereby the ML has been revisited each time the model is extended. Despite these amendments, criticisms have questioned the validity of the non-grammatical criteria developed in Myers-Scotton's models to define the base language.

It is claimed that the way activation is translated in grammatical terms is not specified in these models: there is no empirical evidence which can explain how the language activated at the conceptual level provides the morphosyntactic frame of CS utterances. In other words, activation seems to be clear in psycholinguistic terms (intentions at the conceptual level) but the question remains as to what to be activated at the mental lexicon and how this activation is translated in grammatical terms.

Another problematic issue in the ML is related to its qualification as a social construct. It is stated that the ML is the "unmarked choice" for the current interaction, but there is no link between the unmarked code in a given community and the process of language production when the individual is engaged in CS. Put otherwise, the ML is not all the time the unmarked code. Not all communities are conventionalized contexts like Nairobi.

Like Klavans (1985) and Joshi (1985), Myers-Scotton (1993b) has posited a frame into which elements of the other language are slotted. But, she opposes word-based distinctions of morphemes (Joshi's closed-and open-class items) and distinctions primarily linked to lexical categories, Abney's (1987) thematic/functional categories, to explain the process of bilingual language production. She assumes that language processing involves the building of a frame under the directives of either language.

The MLF model is presented as a psychological model since it tackles the process of activation at the conceptual level. Yet, no explanation of how activation is relevant to structural frames is presented in Myers-Scotton's works. In addition, the notion of the Base language itself is problematic: Myers-Scotton suggests that the BL or the ML is the unmarked choice, but still the link between the unmarked choice as determined by the RO set[9] of a particular community and the mixed-code produced individually at a particular moment remains unexplored.

Many researchers have tested the empirical validity of Myers-Scotton's Matrix-based models; they recognize potential problems related to system/content morphemes distinctions and word order ambiguities. The first problem concerns utterances in which system morphemes come from both varieties within a single CP, a violation of the SMP. The second problematic issue has to do with utterances in which system morphemes are from one variety while sub-categorization and word order restrictions are from the other variety. By contrast, Muysken (2000) concludes that the many constraints fully

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[9] The RO set designate a set of rights and obligations under Myers-Scotton's Markedness model (1993a). For further details about marked/unmarked codes, see chapter two in its dealing with definitional issues.

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discussed in the literature fall under four definable primitives. On the basis of these primitives, he identifies asymmetries at the level of alternations, insertions and congruent-lexicalizations.

Alfonzetti (1998) considers that code-alternation is essentially related to the way individuals structure their discourse and that there is no place for social norms in determining either of the two codes to be used in a particular social situation. As noted above, the main problem concerns the applicability of Myers-Scotton's criteria for demarcation between different morpheme types cross-linguistically. These questions will be taken up again in chapter four which gives detailed presentations, applications and limitations of the MLF model and its sub-models, the 4-M and the abstract-level models.

1.3. Psycholinguistic theories of Code-Switching

Psycholinguistic approaches of bilingualism and Code-Switching have attempted to explain the different mental processes involved in language production mainly in bilingual speech. Among the major issues discussed within psycholinguistic perspectives are those insisting on language production in bilingual speech.

Weinreich (1953/1968) identifies three types of bilingualism depending on the way in which bilinguals store concepts in their minds. The three types are: coordinate bilingualism (the individual acquires two languages in two separate contexts and hence the words of these languages are stored separately with each word having its own specific meaning), compound bilingualism (the individual acquires the two languages used concurrently in the same context and therefore develops a merged representation of concepts, i.e., a single concept has two different labels from each language), subordinate bilingualism (the individual acquires a language first then the second but he interprets the weaker language through the stronger language, i.e., the dominant language is used as a filter to interpret words from the weaker one).

Ervin and Osgood (1954) pursue their research in the same vein, but claim the subordinate type of bilingualism being subsumed under the coordinate type. They focus on the context and the lexicon since the question of mixing languages constitutes the centre of their inquiries. The way proposed for acquiring the two languages in separate contexts has failed to be proved empirically.

Diller (1970) concludes that the distinction between compound and coordinate bilingualism is a mere conceptual artefact and provides no experimental evidence.

Perecman (1984) suggests instead that the distinction between compound and coordinate bilingualism refers only to different strategies adopted by bilingual speakers engaged in communicative interactions and does not offer any explanation for the structural differences nor the way multiple linguistic choices are constructed in the speakers' minds.

Grosjean (1982) considers bilinguality as a norm in developing his own methodology which offers real insights into studying the psycholinguistic avenues of bilingualism. His contribution lies in considering the role of language "modes" in shaping different CS patterns, in relation with bilingual processing. The idea which vehicles his thinking is that bilinguals can functions in a monolingual mode or in a bilingual mode. These modes are on a continuum, and consideration of the speaker's mode is determined by the state of activation of each language. Furthermore, activation is a matter of external factors such as context, interlocutors, topic, among others.

The basis assumption of this proposal is that only one language is the "Base Language" and in this way it rules out processing. Myers-Scotton (1993b) has made of this hypothesis one of the basic principles of the MLF model. She argues mainly in favour of the dominance of one language over the other (s) in bilingual processing, and the different behaviour of morphemes. The BL is therefore a theoretical construct which has been designed to explain some findings with regard to code-switched data from psycholinguistic point of views. Among these findings, we cite here the delay expressed by French bilingual speakers towards English items when dealing with French/English data set. In this concern, Myers-Scotton (ibid: 47) states that "of interest is the 'base language effect' (i.e., the first reaction of subjects is to think that the language of the word is the context (base) language, or what is called the ML here".

Grosjean and Soares (1986) have centred their study on language processing in mixed language mode in French/English and Portuguese/English CS. They assert that bilinguals have the choice to activate both modes and thereby produce code-mixing or deactivate only one mode and hence monolingual speech is realized. They have tried to explain how linguistic elements are inserted into the BL at word, phrase, clause, and even sentence levels but their ideas about the functioning of the interactional procedure of these elements under a linguistic processing theory are still hazy. They have proposed a general language monitoring device which is usually active especially when the speaker is engaged in bilingual speech mode and constantly receive directives from the higher level processors.

In contrast, Green's model (1986) is concerned with the ways bilinguals' codes are organized. Green has been interested in the performance of bilinguals and normal/ brain damaged monolinguals. He argues that bilinguals use activation and selection processes to keep their languages separate which means that a language switch allows them to switch off the language not in use as Costa et al. (2000: 411) put it.

> Some earlier proposals argued for the existence of a switching device that turns the flow of activation from the semantic system on and off, preventing the activation of lexical nodes that do not belong to the language-in-use. In other words, the bilingual speaker would have only one lexicon activated at a time.

The models of lexical access predict then that the semantic system is shared by the two languages of bilingual speakers. Inspired by Levelt's "Speech Production Model" (1989), DeBot (1992) suggests that the conceptualizer, the first component in language production, is partly language specific and partly independent. In contrast, the formulator appears to be language specific and therefore different languages possess different formulators. He has also been influenced by Paradis' (1987) "Subset Hypothesis" and implies that there exists only one mental lexicon in which lexical items are stored. The formulator sends its directives to the last component which is the articulator, a non-language specific device according to DeBot.

These theories of lexical access constitute an underlying basis for the 4-M model. Myers-Scotton and Jake (2000) claim that the model offers a better understanding of the way the mental lexicon is organized in bilingual speech and provides the mechanisms mostly productive in language processing; they (ibid :1054) acknowledge:

> In addition to being linked to models of mental lexicon, it offers indirect evidence for how language production works and how competence and performance are linked. Specifically, it offers an explanation of how content morphemes differ in their access from functional elements. While Levelt et al. present one of the most extensive theories of language production to date, they do not claim completeness and have more to say about content words than other types of morphemes.

In fact, Myers-Scotton and Jake's (2000, 2001) studies represent an attempt to bestride grammatical and psycholinguistic perspectives. The 4-M model and the Abstract model are elaborated to concern the role of the mental lexicon in connecting grammatical assumptions with language processing and production. In explaining the premises and the basic principles of the 4-M model, and in considering the CP as a unit of analysis, the authors (2001: 87) argue that the conceptual level is not syntactically-

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based but rather made up of "intentions which activate language-specific semantic/ pragmatic feature bundles, which in turn interface with language-specific lemmas".

What characterizes this model is that it is concerned mainly with the way morphemes are organized to fall into four psycholinguistically distinct types (content morphemes, and three types of system morphemes) which play distinct roles in language production. Indeed, these differences in terms of language processing explain the different asymmetries captured in the various data sets examined and interpreted in the light of Matrix-based models. For example, they attempt to explain the absence of full English noun phrases in Spanish-framed utterances, and the rarity of embedded English verbs in Arabic-framed Code-Switching data.

Clyne (2003) has also developed a plurilingual approach of bilingual processing which relies on convergence and transversion as key concepts. In fact, the author has explored the previous psycholinguistic models (Green, DeBot, and Myers-Scotton and Jake) to build the theoretical apparatus undermining his own model. Convergence at all levels reveals that access of the two or more languages of plurilingual speakers cannot be separate while transversion and convergence demonstrate the importance of the phonetic level in processing.

What distinguishes this model from others is that it relates language choice to context, identity and attitudinal issues. In a monolingual mode, the speaker decides to use the unmarked code for interaction in which the activation of one system does not totally inhibit the other. Furthermore, plurilinguals activate and deactivate their languages in accordance to the contextual variables and hence move from one language to another within the same interaction with respect to mode continuum. Concerning grammatical encoding, the lemmas are tagged for a particular language or more languages. In the case of subordinate bilinguals, the languages are not processed independently.

Yet, the challenge of theorists of bilingual language processing is still working to explain how communication in mixed language takes place so rapidly and so efficiently despite the most effective operations and strategies they find out. This is due to the link between language and cognition which remains incomplete. Our intention here is not to give a detailed discussion of the main approaches explaining bilingual processing but rather to explain the psycholinguistic basis of the Matrix-based models.

1.4. Conclusion

The variability characterizing code-switched utterances across different language pairs and its fusional nature makes it difficult to explain all CS occurrences in the light of solely one approach. This variation in terms of patterns reveals prototypical instances of inserted elements and others of alternational categories.

A number of constraints have been proposed to restrict CS occurrences. These models which attempt to explain CS patterns by appealing to the notion of surface-equivalence appear to be inadequate for many languages. Furthermore, the examination of our data according to the predictions of these approaches shows many inconsistencies and irregularities.

The government approaches have also proven to be unpractical on OrA/Fr data. The notion of government to which Government models appeal seems to be problematic to our data. The shortcomings of the restrictions imposed by these models are mainly related to the inadequacy of the head as a governor. Similarly, the minimalist approaches appear to be non-functional in explaining instances of OrA/Fr and Fr/OrA code-switching.

In Myers-Scotton and her associates' Matrix-based approaches, code-switched utterances are perceived as governed by a single grammar, that of the Matrix Language. In this sense, the grammar of ML rule out mixed constituents while EL grammar governs the distribution and the occurrences of EL morphemes. We attempt to investigate the notion of asymmetry and its functioning or dis-functioning on our data. Indeed, the observation of CS instances characterizing our data shows many asymmetries. However, our intention is to explain the different patterns of OrA/Fr and Fr/OrA code-switches by appealing to the notions of asymmetry, convergence and triggering.

The rationale behind referring to some psycholinguistic approaches is that they offer a better understanding of language production and processing in bilingual speech. Besides, the explanations we will provide when analyzing the data under the predictions of the 4-M model require a presentation of language production models developed in the literature.

On the basis of the theoretical approaches discussed in this chapter and the empirical findings from our data, we opt for Myers-Scotton's insertional models (the MLF model and its sub-models). These models constitute our theoretical framework and through the applications of their basic assumptions we will attempt to demonstrate

that CS is used as a practice which is in constant changes in the same interaction within the same context. We shall focus predominantly upon the socio-pragmatic mechanisms underlying bilingual speech in an Algerian context. Most of our informants share at least three varieties in common, namely Modern Standard Arabic, Oran Arabic and French. In this research work, we call for the model of bilingual access (the Abstract-level model) and endeavour to explain the structural dimensions of the co-occurrent elements in mixed-codes in light of the MLF model and the 4-M model.

We shall argue that the claim for absolute universality of grammatical constraints cannot hold, not because the proposed constraints themselves have not proven to be valid but because the participating languages to CS differ in their internal syntactic structure. The difference in the internal make-up of code-switched utterances may probably lead to differing patterns of CS. Besides, syntactic constraints are often prevailed by other factors outside formal frameworks. For these reasons, we favour the pluridisciplinary perception of language contact phenomena by integrating socio-psycholinguistic insights into the syntax-based explanations.

RESEARCH METHODOLOGY AND CONCEPTUAL ISSUES

2. Research methodology and conceptual issues

2.1 Introduction

The present chapter aims at presenting the methodological design adopted for this research work. At first, it seems necessary to provide the methods of data collection adopted to construct the corpus for analysis. Then, we will describe the subjects participating to this research and the way they have been recorded in different speech situations since the major context was university in most recorded data. Other information will be given about the subjects who have been described in an anonymous way to preserve their privacy. The mains traits retained are the informants' profiles, their linguistic backgrounds and their preferences and attitudes towards the languages investigated.

Second, we shall address some problematic issues encountered by most researchers investigating CS and mainly those attempting to formulate universal syntactic constraints. These are methodological questions which are important to any study relevant to the inquiry of language contact and Code-Switching like the distinction between CS and CM, CS and B and other contact phenomena like differences between intra-sentential, inter-sentential and extra-sentential CS.

Other definitional issues are basic to our research work, namely the distinctions between bilingualism/bilinguality, the types of Code-Switching and their manifestations in the data, among other key concepts. Indeed, some concepts are pre-requisite to the understanding of the phenomena discussed in this work, others are necessary to the understanding of the major theories on CS advocated in the first chapter. Lastly, conclusions will be drawn from methodological issues and even definitional conceptions for the purpose of this study.

It is crucial to elucidate the definitions which will be adopted in this work because of the diversity of conceptual understandings and the divergent frameworks largely based on three major perspectives, namely those structurally-oriented, socially-designed, and those founded on discourse-analysis directions.

2.2 Methods of data collection

Before presenting the methods of data collection used in this research, it seems adequate to make explicit some techniques commonly used in CS research. In fact, most

of the researches pointing out the identification of the formal constraints regulating code-switched utterances have appealed to spontaneous naturally-occurring data and interviews as their main methodologies (Halmari 1997, Myers-Scotton 1993b, Nortier 1995, Treffers-Daller 1994, among many others). However, in early studies only elicited grammaticality judgments were used quite extensively. The two methods have been subject to criticism. These methodological approaches have been proven to be insufficient for the study of the bilingual speakers' competence. Subsequently, both grammaticality judgements and spontaneous data were used together.

In the use of the latter, informants are generally unaware that they are being recorded since the objective behind data collection is to get natural/unconscious speech. However, the problem with such a method lies in its inability to produce all the configurations of CS patterns, and sometimes it fails to determine some specific constructions since the target of this type of research lies in the application of syntactic theories and approaches developed in the field of contact linguistics on a specific population within a specific context. Furthermore, the naturalistic data raises some issues related to bilingual speakers' competence and performance.

For the purpose of inquiry into structural constraints of CS, some limitations and/or shortcomings of naturally-occurring speech are pointed out by Bentahila and Davies (1983) and Toribio (2001). Remarks made by these authors insist on the fact that naturalistic data may consist of speakers' performances marked by hesitations, grammatical irregularities, intonational patterns, and even structural disjointedness while the objective behind the identification of syntactic constraints on CS is to determine the abstract structure underlying bilingual speech, and therefore bilingual speakers' performance does not inevitably reflect their competence.

The same remarks have been noted by McClure (1981: 72) who considers that speakers' judgments about the grammaticality/ungrammaticality of an utterance in a string of speech determine their linguistic competence and therefore should be integrated into the methods of data gathering provided that utterances influenced by performance factors should not be taken into consideration.

Again, Bentahila and Davies (1983: 308) relate structural disjointedness to performance features and ignore CS instances reflecting this type of irregularities:

> The structural disjointedness of some utterances involving switching, for instance, could be attributed to the changes of structure which characterise spontaneous speech rather than taken to imply that the syntactic rules for code-switching allow such fusions of structure. Fortunately, other features

of the utterance, such as intonation and hesitations, usually help to identify such performance features.

Toribio (2001) too criticizes naturalistic data and interviews when she argues in favour of the FHC. She considers both methods of data gathering as restrictive and lacking reliability and adds that apparent counter-evidence, as she names it, stems out of differences in methodological frames. In particular, she claims for grammaticality judgements as a basic source of data collection in addition to naturalistic data. The author (2005: 406) sticks to her criticism about the inefficiency of naturalistic data. She (ibid.) considers interviews and self-reports as unreliable paradigms of experimentation on CS, and states that:

> Interviews and self-reports about bilingual speech are unreliable. Bilinguals often find it difficult to remember which language was used in any particular speech exchange. Moreover, the problem of self-reporting is exacerbated in situations of social stigma, as a speaker may refrain from switching when being observed or recorded, owing to subjective factors such as the appropriateness of code-switching to the interview situation and the esteem in which the practice is held.

In fact, Toribio (ibid.) appropriately notes another problem relating to intra-/inter-speakers variability and even variability among communities. So, what is considered as a well-formed construction by certain speakers within particular communities may be regarded as ill-formed by other speakers in other communities. What illustrate this point are the differences that could be easily portrayed in code-switched utterances in Moroccan Arabic/French and Algerian Arabic/French. A number of CS instances recorded in Bentahila and Davies (1983) have been rejected by Bouamrane (1988) for ill-formedness according to the judgments of his informants. Similar reactions have been noticed among our informants[10]. Examples like those illustrated below are fairly inacceptable in OrA context:

(174) tababqa j**confronter ces idées**
   he keeps imperfect-oppose these ideas
   "He keeps opposing these ideas."

(175) mbqaš   **jfonctionner**
   it stopped   imperfect-work
   "It stopped working."
   (Moroccan Arabic/French, Bentahila and Davies, 1983: 315)

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[10] We come across only one example used by one of the female students which is not frequently attested among my informants: un taʒiːn bniːn

(176) des mraja:t
"Some mirrors."

(177) un ʕaskri
"One soldier."
(Moroccan Arabic/French, Bentahila and Davies ibid: 316)

Following this line of thought, examples like (178) taken from our corpus are excluded when analyzing the syntactic constraints of OrA/Fr, OrA/MSA, and OrA/ Fr/ Eng Code-Switching. These instances of CS are characterized mainly by a certain disjointedness and incoherence in the speakers' performances compared to other stretches of bilingual speech realized by the same individuals.

(178) c'est pas parce que mani:ʃ ʕaːraf **l'environnement**
it is because NEG-PRESENTATIVE -NEG aware DEF-environment
que ((…))
that
"It's not because I don't know the environment that…."

Among the studies inquiring the structural constraints of code-switched utterances which have adopted judgments of well-formedness as an experimental paradigm are the works conducted by Gumperz (1976) and Kachru (1977). The two authors have used elicitation experiments in which speakers are requested to judge the grammaticality/ acceptability of bilingual utterances. Besides, the same grammaticality judgments are submitted to speakers to judge the syntactic well-formedness of monolingual structures (Schütze, 1996).

Cornip and Poletto (2005) consider the elicitation of well-formedness judgments as an adequate method which helps identifying the bilingual's competence. The authors (ibid: 941) point out that "questions about the (un) grammaticality of syntactic features may provide insights to a speaker's competence far more readily than spontaneous speech". Indeed, the bilingual speakers' judgments on the grammaticality/acceptability of code-switched utterances allow the identification of the types of utterances that do not exist in a corpus of naturally-occurring data.

However, Cantone (2007:67) argues that grammaticality judgments are marked mainly by subjectivity and should be considered with careful attention, as he states:

> However, judgments themselves call for careful treatment, too, since they are affected by subjective opinions, behavior and performance. Toribio herself uses created examples in order to underpin the ungrammaticality of certain kind of mixes, and to argue in favor of the validity of the FHC. For

her analysis, Toribio has made acceptability tests among speakers, who have previously been classified with respect to proficiency.

With regard to well-formedness judgments, two types of judgements have been discussed in most works treating methodological conceptions (Schütze 1996, Sorace 1996, MacSwan 1999). They discuss absolute and relative judgements on the well-formedness of utterances. For example, Schütze (1996) states that the well-formedness judgments allow researchers to get instances of sentences that infrequently occur in spontaneous speech, and therefore they can gather counter-examples to invalidate some assumptions and constraints. Meanwhile, he does not seem in favour of this type of data gathering in the absence of a standard experimental control over the techniques used since the conclusions drawn from such experiments raise certain problems for analysis.

When it comes to Sorace (1996), he examines the various types of responses obtained among informants when using well-formedness judgements. In absolute judgements, informants are required to choose one of the proposed constructions as "acceptable" or "unacceptable". Conversely, Van-Dum (2005: 3) notes the inadequacy of absolute judgements in well-formedness techniques and argues for the use of relative judgements as an alternative.

After this brief overview of some methods of data collection used in the previous studies on Code-Switching in different language pairs, we argue that differences in methodologies are largely influenced by the research questions raised within a particular research inquiry, and mostly determined by the corpus itself and the patterns displayed along with the recordings. Accordingly, we refer for the purpose of this study to a corpus of naturally-occurring data to obtain instances of code-switched utterances in addition to relative well-formedness judgements. In fact, our informants are required to assign the grammaticality/acceptability of some constructions that do not exist in our corpus. These constructions are gathered among other informants who do not participate in our study, sometimes recorded and other times transcribed directly.

The objective behind the use of these examples is to get CS instances required to examine the different patterns discussed under syntactic constraints. Moreover, some hypothetical examples were constructed for the same purpose but with caution because hypothetical examples may be misleading under certain circumstances. For this reason, our informants were asked to produce hypothetical instances which would be submitted for judgments among the rest of the respondents. Here are the constructions made-up of

mixed constituents realized among some students (participants/non participants) to get some specific constructions which are not frequently attested or appear to be rare in our corpus. Yet, these constructions will not be used when analysing and interpreting the corpus from a quantitative perspective:

(179) ӡabunna wafid **les enseignants** mə fransa
PERF-bring-3PL-1PL INDEF DEF-PL teachers from France-F
darunna wafid **les cours** lli maʕandhʊm
PERF-do-3PL-1PL INDEF DEF-PL lectures that NEG-have-3PL
aucune relation mʕa **la méthodologie de la recherche**
any relation with DEF-F methodology of DEF-F research
"They brought us certain teachers from France who gave us some lectures which do not have any relation with research methodology."

(180) ʕandha wafid **les idées bizarres** lli jtouchʊ
have-3F INDEF DEF-PL ideas weird that IMPERF-touch-3PL
la religion ttaːʕna
DEF-SF religion DEF-of-1PL
"She has some weird ideas which touch our religion."

(181) jqarruːna fə **t-troisième année** wafid **les courants**
IMPERF-teach-3PL-1PL in DEF-third year INDEF DEF-PL movements
philosophiques kima Sartre lli jahdar ʕla **l'athéisme**
philosophical like Sartre that IMPERF-speak-3S on DEF-atheism
"They taught us in the third year certain philosophical movements like Sartre who speaks about atheism."

(182) ʕandha wafid **le regard special**
IMPERF-have-3SF INDEF DEF-M look special
"She has a special look."

(183) ħkaːtənna ʕliːh wafid **les histoires on dirait pas**
PERF-tell-3SF-1PL on-3M INDEF DEF-PL stories we say-COND NEG
bəlli **enseignant** f **l'université**
that teacher in DEF-university
"She told us certain stories about him. We would not imagine that he is a teacher at university."

(184) gaːllha **lmédecin** ʕandək wafid **la maladie rare** qliːl
PERF-tell-to-3F DEF-doctor have-2S INDEF DEF-F disease rare few
lli ħaːkmaːtah fə lʕaːləm kaːməl
that PART-catch-3F-3M in DEF-world complete
"The doctor told her: you have a rare disease. Few are caught with this disease in the whole world."

Other experimental techniques beside judgments of well-formedness are discussed in the literature, namely matched-guise tests, elicited information (Nortier: 2008), reading and verbal recounting tasks (Toribio: 2001). On the one hand, in reading tasks Toribio's (2001) informants are required to read aloud two fairy-tales: one including "grammatically unacceptable code-switched sentences" and the other containing "well-formed code-switched sentences". Then, participants are submitted to questions of "readability, comprehension, enjoyability, and grammatical form" of the passages (ibid: 408). On the other hand, in verbal recounting tasks participants are requested to retell the ending of one of the stories and writing after another story depicted by a series of pictures through mixing Spanish and English in their narrations.

While reading tasks are found to be an alternative to other methodologies in Toribio's work, Dussias and Courtney (1994:12) refer to the lexical decision task in order to generate a bank of lexical item-pairs which yields comparable access times for the participants performing the matching task.

Even though Toribio (op.cit: 433) finds these techniques "valid and informative" to study the linguistic competence underlying code switching, we do not resort to this type of tasks since our objective is not to measure the informants' competence in bilingual speech. Yet, our target is to explain the different CS occurrences among fluent university students in three or more languages, and depicting some of the different mechanisms undermining language processing when two or more linguistic codes are involved within the same utterance. Furthermore, our main objective is to seek a correlation between degrees of proficiency/competency, intentionality, attitudes and different configuration patterns of CS occurrences.

Accordingly, recordings of spontaneous speech complemented by the elicitation of participants' judgements about some code-mixed utterances are adopted in this work. Rather, we agree with Nortier (2008: 35) who claims that "In general, there is not one single best way of collecting data. A combination of two or more data collection methods will give the finest results. The pros and cons of each method have to be weighed carefully".

2.3 The Data corpus: Oran Arabic/Standard Arabic/French

This research work on OrA/Fr Code-Switching is a continuation to another work[11] which was initiated during (2006) and (2007) on AA/Fr intra-sentential Code-Switching. The data consisted of audio recordings among university students who shared common features with diverse background and varying degrees of competence/ proficiency in MSA, AA and Fr in different speech situations. Furthermore, CS data were collected from tape-recordings of spontaneous conversations involving varied topics such as marriage, studies and students' problems.

For the purpose of this study, only the first conversation is kept from the first project: a discussion between two female students from the French department at Oran University in an informal setting (home). They talked about various topics like marriage, thesis submission and other problems in the I.L.E institute. The analysis and interpretation of data will be limited to 27 participants (17 female and 10 male respondents) distributed over eight bilingual conversations during approximately 15 hours and 20 minutes, and the selection of informants is made on the basis of proficiency in the participating languages involved in CS as a main criterion.

In order to get varied data, the speech situation changes from one group to another but in most situations the context is the same (university). It is admitted that the Matrix Language characterizing different bilingual settings is largely determined by the speech situations under which the conversations are realized. Moreover, each ML turnover is related to a change in the speech situation (changes in topics, participants, setting, etc...). In our data, this type of Code-Switching distinguishes some conversations triggering different bilingual behaviours among students. For instance, the presence of Fr-OrA dominant participants during conversation (5) triggers certain CS patterns which are mostly between turns and sometimes characterized by alternational types of switching. Yet, switches of the inter-sentential type are outside the scope of the present study. The ML also changes within the same discourse sample in another setting. Likewise, a change in addressee produces different types of CS.

The following examples taken from conversations (5), (1), (3) and (6) illustrate these points:

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[11] OUAHMICHE, G. (2008), Socio-pragmatic mechanisms in bilingual speech: evidence from Algerian Arabic/French intra-sentential code-switching, Unpublished Magister Thesis, University of Mostaganem.

(185) Speech situation (5)

C: **Lorsqu'il y a trop de monde passer toute la journée qui crève ((…))**
"When it has too many people, spending al the day which bursts…"

A: **Quand il y' a beaucoup de monde c'est bien**
« When there are many people it's good."

B: ki jkuːn bəzzaːf **c'est le charme**

When there is crowd, it is charming.

A: **C'était ça le charme** tafifia

"It was that its appeal."

B: **Voilà**

That's it.

C: **Je préfère rester chez moi le calme ((…))**
"I prefer staying at home, the calm…"

D: gguʕdi fi daːrkum darwuk ʃkuːn ʕardak ʔana guttulhum lʕaːm

ʒʒaːj **nparticip**i

"Stay at home. Who invited you now? I told them t I'll participate next year."

A: **Pourquoi t'es pas venue**
What didn't you come?

D: **Et bien je suis pas venue parce qu'il y' avait personne pour m'accompagner**
"Well, I didn't come because there was none to accompany me."

(186) Speech situation (1)

A: **maximum** ʕaʃra **lgroupe** lli mdaːri jəχruʒ baːjniːn finaːja ʕaʃra
baːjniːn ʔana **elles m'aiment** ɣi haːkka wnaɣlaṭ haːkkak wlamuːni
galuːli ʕlaːʃ maguttinnaːʃ guttulhum ʔana **j'ai pas lancé une invitation**
désolée guttulhum ʔana ʒajjiːn jfiamduːli galuːli **les collègues parce**
que jebɣu jruːfiu gaːʕ firafiba

"Maximum ten persons the group who makes visits is known. We are ten known. Me, they like me just I'm mistaken. With all that they blamed me they told me why you didn't inform us I told them I didn't extend an invitation. I'm sorry, I told them. The colleagues were coming to see me the colleagues told me because they want to come together…"

(187) Speech situation (3)

A: **l'introduction** ddiːri zaʕma muqaddima ʕaːmma təʃʃarfii fiːha ʃa
baddiːri fiːha **la présentation** gaːʕ taːʕ bafitek tnəʒʒmi tʕarrfi
ṭṭifl ʃwijja wtədduχli f **les détails** beṣṣafi mataʕṭihaːʃ lmadmuːn
raːki faːhmaˏ wfə (d) **développement** kuʃʃi jʒi gæːʕ lli ntijja fiuṭiːh
fə (d) **développement** beṣṣafi ʕʕarfi ki ssətfi ntijja **ça dépend** ntijja
ʃa ʕandək wfə **lconclusion** diriːlha χulaːṣa təstaχχalṣiːha wulla

diːriːlha **je vois** bəlli nnaːs ɾaːhi tʕaːməl **l'enfant** kima haːkka w nəqt̪aːɾæfi haːkka **suggestions** ʒdəd

"The introduction you make a sort of a general preamble in which you explain what you are going to do it consist of a presentation of your expose as a whole you can define the child succinctly and you develop the details but don't give her the content, you see what I mean. And in the development, everything stand, all what you have you put it in the development but you should know how to organise. It depends on what you have, and in the conclusion you make a synthesis in which you conclude or you show her I realise that people treat the child this way and I suggest treating him that way: new suggestions."

B: des solutions ↗

"Solutions."

A: waːh **des solutions** təkkətbiːhuməlha wʊ tsətfiːhuməlha haːda məkkaːn lluwla χʊs̙s̙ok ddiːri χʊt̪t̪ɑt lʕamal

"Yes, solutions that you write and you classify them, that's all. First, you should prepare a worktop."

(188) Speech situation (6)

A: ʃles deux années rʊːɦi χχadmi diːri ɦaːʒa wʊɦdʊχra diːri **une petite formation** lli təstɦaqqiːha maniːʃ ʕaːrfa diːri **informatique marketing parce que** haːdʊ raːhʊm jestɦaqqʊ kiɦallʊ ddʊχli **maintenant perfectioni (n) niveau** ttaːʕek wʊddʊχli **ça veut dire ne reprenez pas de zéro** haːdʊ kaːməl lli qritiːhʊm məmbaʕd ki təlqi **la spécialité** lli ɾaːki baːɣjatha ɦallʊːha ddʊχli fiːha **normal**

"During the two years, you go to work, you do something else, a little training that you need. I don't know you do computing, marketing because they are needed. When they open up (a Magister), you pass. Now, you reinforce your level then you enter. This means you don't start again. All what you studied, later when you see that special field that you like is opened, you pass it in a normal way."

B: hijja s̙aːji **comfirm**aw bəlli **il y' aura pas spécialité** lʕaːm ʒʒaːj

They already confirmed that there will be no special field next year.

The data which constitute the corpus of this research are recorded in naturally occurring speech situations (university, at home) in which we participate as an observer in some settings while there was no need to our presence to gather data in other settings. One of our ultimate objectives is to realize some sound-reliability on the data gathered. In this sense, we seek the naturalness of data even when we were present. We have chosen the university space as a major context to consolidate our view as context is not the only trigger of Code-Switching since different patterns of CS are obtained and sometimes long monolingual discourse samples are obtained within the same physical setting (university). Most of the time, the students were aware of their being recorded

without influencing the quality of the recordings because of the naturalness of the data obtained. These participants were not informed about the details of the research work and mainly Code-Switching. Rather, certain respondents received some instructions as a means of orientation towards practical matters related to methodology which might be helpful for them in further research. Hence, the target was two-fold for the students: they practice the basic notions and underlying theoretical assumptions they received during their methodology lectures meanwhile they express themselves and talk about their problems to the interviewer as naturally as possible. In fact, most of the participants ignored completely the presence of the tape-recorder after a first contact with the interviewer.

The choice of university as a major context may reinforce our assumptions relating what can be termed elaborated bilingual speech correlates[12] and competency-based knowledge in the different varieties involved in bilingual/plurilingual speech. Here is the description of the different speech situations from which the data are gathered:

- **Speech situation (1)** comprises a conversation between two female students who prepared a Magister in French language and literature during the year of 2007 at Oran University. The discussion took place in an apartment (at home) and lasted about two hours and five minutes. One of the students took in charge the recording of the conversation and since there was no social distance between the two students, the recording occurred in a very spontaneous way. Both students changed from one topic to another by using certain discursive procedures. Among the subjects discussed there were the problems they encountered during their studies at the ILE Institute, marriage and other daily activities. Indeed, what characterizes this speech situation is the spontaneity of speech though the students' level in OrA and Fr is almost equal. This may be explained by the nature of the topics discussed and the type of relation them.

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[12]What we mean by elaborated bilingual speech is the speech which comprises elaborated constructions from Oran Arabic, Modern Standard Arabic and French in an adequate manner compared to other bilingual speeches which characterize other communities with a lesser level of education in an Algerian context.

- **Speech situation (2)** includes a recording which was realized during the end of the year of 2005 for the purpose of a research work[13] conducted among Algerian University students. The conversation covered mixed dialogues between three male and two female students who prepared a BA in the French department at the ILE Institute. All of the participants were class-mates and hence no social distance or subordination-based relationship distinguished their interaction. They talked approximately two hours and twenty minutes about various subjects such as sport, contests, studies, mariage, and summer holidays.

- **Speech situation (3)** consists of a conversation between a student from the English department at the University of Oran and her sister who is in a secondary school. The discussion took place in a family apartment (at home) and it turned around a presentation to be delivered before a week. This conversation which lasted about one hour and a half was recognized by an insertional type of code-switching with a large amount of use of constructions from MSA such as, bafit instead of "exposé" (presentation). In terms of consciousness, only the

  older sister was aware of the recording since she realized it at home, a fact that generated a certain type of behaviour regarded as natural and spontaneous. However, only certain passages were transcribed for the purpose of this study. The other parts excluded either talked about very personal topics or most of the speech was monolingual while our interest is to get bilingual/plurilingual data even if they contain composite code-switching.

- **Speech situation (4)** embraces a conversation between a group of students (one female and four male students) preparing a BA in French who discussed various topics in a class (CRM) at the ILE Institute. The conversation took over two hours during the year of 2007 and it was characterized by casual speech due to the degree of familiarity between these students. All the participants were aware of their being recorded without any problem noticed; they talked freely about their daily problems, studies and trips, among other subjects. Although the female student made the recording, I was present in the class but the participants were not informed that I was an observer.

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[13] The research work was realized by Ouahmiche Ghania (2007), and it was affiliated to studies in language sciences under the title: "Perspectives Sociolinguistiques sur les Marques Transcodiques dans un Parler Bilingue Algérien: evidence de l'alternance codique".

- **Speech situation (5)** covers a conversation between five female students from the French department at the ILE Institute. The participants were part of training in phonetics. We conducted that training which targeted the assessment of the students' abilities in the perception, discrimination and production of French vowels and after numerous sessions we developed a certain familiarity with the students. They were recorded for two hours during the year of 2010 where they expressed their need to talk about their problems in their studies. Afterwards, one of the students carried on the recording which comprised diversified topics. What is interesting in this group is the students' high level of proficiency in French and the amount of its use in their daily life. Moreover, mainly all the participants displayed a preference for the French language. In terms of the frequency of occurrence of CS instances, it highlighted the alternational type.

- **Speech situation (6)** is about a conversation between three female students from the English department at Oran University. This recording wad held in 2011 at Es-Sénia University (FAC) and it took nearly two hours and fifteen minutes. It seems important to mention here that respondent (C) made the recording in this speech situation and that of the third one with her little sister at home. What distinguished this conversation from the rest of discussions is the metalinguistic nature of the participants' speech. Indeed, the recording was made in a research centre (CEMA) where the respondents were preparing for their exams. In this task of revision/explanation emerged a new behaviour where the students appealed to three or more codes (OrA, MSA, Fr and Eng) for metalinguistic purposes. Additionally, the choice of the physical setting was arbitrary, but it triggered all along with the conversation trilingual/plurilingual instances of CS.

- **Speech situation (7)** illustrates another type of behaviour. It is about a recoding which was taken in a class at Es-Sénia University between a teacher of English and two female students. The recoding was spontaneous for the teacher and I intended to give some instructions to those respondents related to data recording among other methodological matters. However, the students started talking about their problems at the English department and one of the students switched

on the recorder[14]. The recording took around two hours and ten minutes and it contained very rich patterns of CS. Unfortunately, we were compelled to transcribe only the passages of the entire conversation which do not contain criticisms of teachers, the department and other subjects which were not of a scientific interest. Thus, some fragments were transcribed and would be used in the interpretation of the data. The teacher was not aware of being recorded and I was present as an observer. For this reason, I requested the teacher to analyse the parts of the conversation which might be useful for substantial CS inquiries. To protect the anonymity of the participant, details will not be given here about the teacher.

- **Speech situation (8)** consists of a conversation between four male respondents in an apartment (at home) in 2010. They discussed many topics like Libya's war, historical events and religious subjects. This recording which took almost two hours and thirty minutes was realized by one of the students (Islamic Sciences Institute) with his friends who were aware of their being recorded but no instructions were given. The students were requested to talk freely about any topic they chose. Some parts of the conversation which comprised advisory opinions were held only in monolingual constructions and therefore they were discarded.

These speech situations in which the data were collected are listed in the following table, including the setting, the duration and the year of the recording.

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[14] The recorder is a numerical recorder of the type PHILIPS with a voice tracer which realizes recordings of high sonorous quality.

Context	Speech situation	Duration of recording	Year of recording
1	Home	2 H: 05 M	2006
2	ILE institute	2 H: 25 M	2006
3	Home	1 H: 30 M	2011
4	ILE institute	2 H: 00 M	2007
5	ILE institute	2 H: 00 M	2010
6	University FAC	2 H: 15 M	2011
7	University FAC	2 H: 10 M	2011
8	University FAC	2 H: 35 M	2010

Table 2.1. Speech situations of the recordings

2.2.2 The respondents

The sociolinguistic information on the respondents participating in this study, were provided during the recorded conversations. The students were requested to give some information related to the languages spoken in formal and informal settings, their degree of proficiency in the languages involved in CS utterances, their historical backgrounds and their socio-cultural situation (the parents' level of education, age and context of learning of the languages at the respondents' disposal). Information were obtained by the interviewers (one of the students) or by myself when I took part in the recordings.

Recall that our informants were chosen on the basis of three main criteria: bilingual proficiency, the regularity/irregularity of language use, and the degree of familiarity. In fact, many respondents have a higher education level (university students) and studied foreign languages at university, ranging from 20 to 31 years of old, except for the female pupil at the secondary school who was 17 and the teacher whose age was about 54. The degree of the informants' proficiency in either language was achieved through personal observations and self-reports[15]. In fact, the respondents assessed their level of competency in the languages they have in their repertoire by intuition. Some considered themselves as balanced bilinguals because they use these languages frequently without disjointedness and hesitation while others judged themselves as relatively good in Fr and MSA and being native speakers of OrA. We

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[15] Nortier (1990) considers self-reporting by the informants as a reliable criterion of bilinguality measurement.

checked self-assessments by comparing the respondents' evaluations and their performances in the recorded data.

Generally pupils are oriented either to literary or scientific branches, depending on the Baccalaureate grades. More technical special fields like medicine, engineering, and architecture are only taught in French otherwise literary branches are held in Arabic except foreign languages (French, Spanish, English, Dutch, and Russian). Most of our informants, now in French and English departments followed their studies in Arabic during their schooling. Furthermore, they received foreign language instructions during eight years for the French language and five years for the English language.

The sociolinguistic profile of our informants was obtained through the responses to the questions posed by the interviewers about their age, sex, linguistic competencies and language preferences. Here are the details about the respondents who have been given pseudonyms to facilitate their identification when analyzing the data. Besides, the order of presentation follows the information summarized in table (2.2):

Informants	Sex	Contexts	Age at recording	Linguistic dominance	Language preference
1	F	1	30 YEARS	FRENCH	ORAN ARABIC
2	F	1	31 YEARS	FRENCH	FRENCH
3	M	2	24 YEARS	ORAN ARABIC	ORAN ARABIC
4	M	2	23 YEARS	ORAN ARABIC	ORAN ARABIC
5	F	2	22 YEARS	FRENCH	FRENCH
6	F	2	22 YEARS	ORAN ARABIC	ORAN ARABIC
7	F	3	21 YEARS	FRENCH	ORAN ARABIC
8	F	3	17 YEARS	ORAN ARABIC	ORAN ARABIC
9	M	4	29 YEARS	FRENHC	ORAN ARABIC
10	M	4	26 YEARS	ORAN ARABIC	ORAN ARABIC
11	F	4	25 YEARS	FRENCH	ORAN ARABIC
12	M	4	23 YEARS	ORAN ARABIC	ORAN ARABIC
13	M	4	28 YEARS	ORAN ARABIC	ORAN ARABIC
14	F	5	24 YEARS	FRENCH	FRENCH
15	F	5	20 YEARS	FRENCH	FRENCH/BERBER
16	F	5	21 YEARS	FRENCH	ORAN ARABIC
17	F	5	22 YEARS	FRENCH	FRENCH
18	F	6	20 YEARS	FRENCH	FRENCH
19	F	6	20 YEARS	FERNCH	FRENCH
20	F	6	21 YEARS	FRENCH	ORAN ARABIC
21	F	7	54 YEARS	FRENCH	ORAN ARABIC
22	F	7	20 YEARS	FRENCH	FRENCH
24	F	7	21 YEARS	FRENCH	ORAN ARABIC
25	M	8	29 YEARS	FRENCH	ORAN ARABIC
26	M	8	30 YEARS	FRENCH	ORAN ARABIC
27	M	8	27 YEARS	ORAN ARABIC	ORAN ARABIC
28	M	8	26 YEARS	ORAN ARABIC	ORAN ARABIC

Table 2.2. The respondents' profiles

2.2.3 Transcription of the data: conventions for data representation

In the present research work, we will adopt the main procedures established within contact linguistic frameworks. Thus, we analyse the data after a corpus being compiled. In most Code-Switching studies, researchers refer mainly to contrastive instances of CS where they compare the patterns of CS obtained in their corpus with other corpora characterizing other community types such as, Boumans (1998), Backus (1992), Muysken (2000), MacSwan (2005) and Ziamari (2008). Then, we will follow cross-linguistic comparisons, especially in some other bilingual contexts in which Arabic is one of the languages involved in CS (Moroccan Arabic/Dutch, Moroccan Arabic/French, and Algerian Arabic/French).

Backus (1992) argues that the transcription of the corpus should take into consideration contextual information and therefore the entirety of conversations should be transcribed for not mislaying the meaning of mixed utterances. He (1992: 42) states that:

> When the data are recorded, a corpus must be compiled, one way or another. Ideally, everything on the tape is transcribed. We can also be satisfied with just transcribing those passages where code-switching occurs, but then the researcher has to be very careful not to lose valuable contextual information. Moreover, transcribing partially means that we lose the possibility of searching the L1 for L2 influence on the various linguistic levels.

For the purpose of this study, the entirety of our informants' speech was transcribed unless other factors require eliminating some sequences and fragments, but only the sequences which involve instances of CS and B were analyzed. Our procedure of data analysis is based mainly on the principle of significance and not representativity following Blanchet's perception of a corpus (le Principe de <u>Significativité</u> et non du <u>Représentativité</u>, in Blanchet's terms). The author[16] (2007: 444) argues that:

> The role of a corpus is to illustrate the interpretive identification of the salient features shown to be significant of a particular sociolinguistic situation, of a helical dynamics where a field work illuminates the corpus which in turn helps in the readability of the situation. (My translation)

We aim through this research to examine the structural properties of mixed-codes and thus an intrinsic study would be preferred. Nonetheless, quantitative investigation

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[16] Here is the original quotation: "le rôle du corpus est d'exemplifier un repérage interprétatif des traits saillants proposés comme significatifs d'une situation sociolinguistique particulière, d'une dynamique en hélice où la fréquentation du terrain éclaire le « corpus » qui à son tour aide à rendre lisible la complexité du terrain".

will be needed to get more accurate results. The data used and analyzed are as follows. The first line is the datum; the second one is the morphological "parse" of the datum with a gloss morpheme by morpheme, followed in the third line by an approximate translation into English in double quotes. In the gloss line, bound morphemes are separated by a hyphen (-) and free morphemes by a space. The meanings of many functional/inflectional morphemes are glossed in capital letters, as is conventional in linguistics discussions. The instance in (189) exemplifies this type of coding:

(189) tχaːf   je-ʂɾɑ   kima   **d-demi-finale** taːʕ l
       IMPERF-fear-2M IMPERF-happen-3M like DEF-semi-final   of   DEF-
       barʃa miːn   χarraʒ   **carton rouge**
       Barcelona when   PERF-give-3M card red
       "I'm afraid that it would happen like Barcelona semi-final when he gave a red card."

Because OrA is mostly spoken and not written, we have used SIL Manuscript IPA to transcribe[17] the chunks of code-switched data from OrA and MSA while Fr and Eng constructions are retained in their written forms. The process of transcription illustrated with examples is as follows:

- OrA elements are transcribed in normal fonts when OrA is the ML.

(190) wiːnha lblaːd f **l'Europe** lli fiːha bəzzaːf **les juifs**
       where-3F DEF-country in DEF-Europe that in-3F many DEF-PL Jews
       "Which is the country in Europe which is full with Jews?"

- OrA elements are transcribed in bold fonts when OrA is the EL.

(191) on a fait   **ħaːʒa**
       we PAST-do something
       "We have made something."

- MSA elements are transcribed in underlined bold letters.

(192) zaʕma <u>**illa wajakuːn**</u>   ʕandək nuqs
       Supposedly but and IMPERF-exist-3M at-2S Shortcoming
       "You would supposedly have a shortcoming."

- French elements are spelled in normal letters when French is the ML.

(193) il a gardé   les *same points*
       He PAST-retain DEF-PL same points
       "He has retained the same points."

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[17] The transcription adopted in this work is a phonetic but not a phonological representation of the data. The sounds transcribed phonetically are represented between square brackets […] while in studies targeting the phonological representation data set are represented between two slashes //.

- French elements are spelled in bold letters when French is the EL.

(194) waɦid əl **manque** fə waɦida mən haduːk

      INDEF DEF-drawback in one-F from those

      "A drawback in one of those (laws)."

- English elements are spelled in italics.

(195) zaːdəl hʊm   haːdi ttaːlta   *r-reader response*

      PERF-add-3M-3PL this   DEF-three-F DEF-reader response

      "He added to them the third (point): the reader response."

- In integrated French insertions into OrA, only the stem is spelled in bold letters and the bound morphemes from OrA are transcribed in normal fonts while the whole construction is underlined.

(196) liːq hadaːk l**message**   ki tə**transmi**tiːh   jliːq

      must   that   DEF-message when IMPERF-tranmist-3M   must

      taʕʕafi   ləmmən   raːki   raːjɦa

      IMPERF-know-2F to whom PRESENTATIVE-3F   PART-go-2F

      tməddiːh

      IMPERF-give-2F-3M

      "That message when you transmit it, you should be aware to whom you are going to deliver."

Recall here that some instances of CS which necessitate elicitation grammatical judgements are indicated. Utterances proceeded by an asterisks (*) are those considered to be ill-formed by our respondents while utterances with no preceding asterisks are regarded as well-formed. Other ill-formed examples quoted from other CS studies are preceded by an asterisk as is standard in the literature.

For the CS instances drawn from other studies, they are transcribed in their original form with the same phonetic symbols used by their authors. The transcription of the data varies from one corpus to another. Generally, switches are signalled according to the following procedures:

- The code-switched elements may be transcribed in bold.
- The code-switched elements may be transcribed in italics.
- The code-switched elements may be transcribed underlined.

As mentioned above, we have transcribed our data using SIL Manuscript phonetic alphabet. Thus, the system adopted in our study for phonetic transcription of Arabic[18]

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[18] The term Arabic is used here as a cover term which comprises the different varieties of Arabic (MSA and OrA). Similarly, the term Algerian Arabic is used in certain studies as a blanket term which covers phonetic and morpho-syntactic features of only two or three varieties of Arabic.

sounds is displayed in table (3). For the instances of CS which were retained in their original forms the phonetic symbols used by their authors will be also given in another table. In fact, in table (2.3) we will give the sounds as they were transcribed in the other studies followed by their equivalents as adopted in our study.

PHONETIC TRANSCRIPTION	OTHER SOUNDS' EQUIVALENTS	Examples	GLOSS
[ɛ]	[ʕ]	[ɛešrin]	TWENTY
[ş]	[ş]	[şāfī]	NET
[ɾ]	[ɾ]	[ɾāṣ]	HEAD
[z]	[z]	[zalamet]	MATCHES
[y]	[ɟ]	[yum]	DAY
[h] [ħ]	[ħ]	[waḥed]/ [waḥed]	ONE
[ġ]	[ɣ]	[ġira]	JEALOUSY
[ż]	[ʒ]	[ḥwayeż]	THINGS
[š]	[ʃ]	[ši]	SOMETHING
[ḍ]	[ḍ]	[darba]	SMACK
[b]	[b]	[bāla]	SHOVEL
[k̠]	[k̠]	[kāyi]	BOOK
[ḷ]	[ḷ]	[loṭo]	AUTOMOBILE
[m]	[m]	[malet]	MALETTE
[ṇ]	[ṇ]	[nāɾ]	FIRE
[ʋ]	[v]	[ʋaliz]	SUITCASE
[ā]	:	[fāɾ]	MOUSE

Table 2.3. The system of phonetic transcription of certain sounds adopted from some other studies

Other transcription conventions are developed mainly from previous studies on conversational analysis approaches on Code-Switching and other contact phenomena like Gumperz (1982) and Alvarez-Cáccamo (1990). These conventions include:

Pausing: ((..)) short pause (less than 0.5 sec. approximatively), ((…)) long pause (more than 0.5 sec), ((Pause)) very long pause.
Voice overlapping [beginning and end of simultaneous talk]
Bold font: prominent phrase
Sound lengthening: : : :
XX: unintelligible word
Raising tone: ↗
Falling tone: ↘
Laughter: ((laughter))

2.3 The approach advocated in the Study

One of the main issues that should be discussed when dealing with Code-Switching is the quantitative/qualitative debate. The question raised is centred on the appropriate method to analyse and interpret databases.

Most of the researchers approaching language choice and Code-Switching from static quantitative perspectives look for correlates (social or psychological) to CS patterns. The quantification of linguistic data is regarded in the literature as objectively reliable but insufficient for CS interpretation. Researchers investigating language contact phenomena are limited by the statistical information obtained after investigations. Sommer (1997) argues in favour of integrated quantitative-qualitative methods to realize satisfying results and findings. The author (ibid: 65) states that:

> In addition, ethnographies of language shift also rely on qualitative research strategies rather than aiming on mere quantification of linguistic and sociolinguistic data (Appel and Muysken 1987, Romaine 1989). This preference seems to be determined by characteristics of the setting (usually situated in a rural community with close-knit social networks) and the fact that language shift is never triggered off by objectively measureable socio-economic facts and factors alone. On the contrary, it is the subjective, personal evaluation of individual bilingual speakers that has to be taken into account. This in turn is best achieved with the help of qualitative research strategies.

Poplack and her associates (Poplack 1980, 1981, 1984, Polack and Meechan, 1998, Poplack, Sankoff and Miller 1988, Owens 2005, among others) advocated that the quantification of CS data helps to arrive at better results in an objective way. For instance, Poplack (1980) hypothesizes that equivalence is essentially determined by the degree of bilingual ability and therefore the main violations of the EC are due to non-fluent bilingual speakers. To test this hypothesis, the speech of 20 Puerto Rican speakers exhibiting varying degrees of bilinguality has been analyzed. Quantitative analysis of CS instances reveals that fluent bilinguals are able to switch at various syntactic boundaries within the sentence. Poplack (ibid.) arrives at the conclusion relating bilingual ability measurement to variation in CS patterns.

In another work, Poplack (1984) attempts to illustrate the role of the speech community in understanding bilingual behaviour by comparing CS types in two communities which appear superficially as similar linguistically and socially but exhibit varying strategies for incorporating English in their speech. The findings of this research reveal that in the three Ottawa neighbourhoods CS to English tends to provide the appropriate constructions to designate the right thing or simply "le mot juste". These results are in conformity with the perception of the Ottawa speakers when they describe their reasons behind CS. The answers consist of using items for which French equivalents have already been displaced. Switches to English in Quebec are mostly

limited to metalinguistic commentary. This tendency shows a correlation between CS and the fullness of the speakers' awareness when switching to English.

Similarly, Poplack et al. (1988) conduct another study among 120 speakers to analyze English loanwords in five francophone neighbours in Canada. Two basic patterns of borrowing, namely nonce- and established borrowings are compared. The authors also trace the effect of contextual factors like the majority/minority status of French in the neighbours, and the degree of bilingual proficiency and other factors as age, sex and occupational class, on the rate and the patterns of borrowing. The authors conclude that lexical borrowing is acquired, and not merely motivated by lexical needs.

CS research following the variationist paradigm (Poplack and her associates) relies significantly on the quantification of corpus data[19]. Such quantification is achieved through the use of statistical methods in order to measure the frequency of specific categories and constructions, such as CLAN software.

One of the most important corpora for language researchers is the Child Language Data and Exchange System (CHILDES) corpus[20]. Indeed, CHILDES has been developed mainly to help researchers working on language acquisition, and consists of transcripts of conversational interactions in certain languages. These conversational interactions include L2 learners' sequences (children and adults), be they monolinguals, bilinguals, or showing language disorders. What is particularly useful in CHILDS is that it allows CLAN[21] to use the transcripts coded in CHILDS to search for particular syntactic structures and words. In fact, CLAN has many commands which help exporting some statics including the total number and the length of utterances.

Conversely, scholars approaching CS and other language contact phenomena following the qualitative approach rely on the individual speaker and small-scale micro sociolinguistic contexts as loci for study. Many researchers like Boumans (1998), MacSwan (1999) and Ziamari (2008), and Lamidi (2009) have appealed to the qualitative research perspective which proves to be quite useful. Conversely, others like Muysken (2000), Myers-Scotton (2002b), Clyne (2003), Yagmur and Akinci (2003), Nortier and Dorleijn (2008), have used an integrative type of research methodology

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[19] Natasha Tokowicz and Tessa Warren (2008) give a detailed description the different tools and procedures used for the quantification of corpus data in Code-Switching studies.
[20] CHILDS is directed by Brian MacWhinney (MacWhinney, 2000) and is available on line at http://childes.psy.cmu.edu/.
[21] CLAN is a program and it signifies the Computerized Language Analysis.

which focuses principally on integrating both methods quantitative and qualitative, respectively.

As far as the present research is concerned, we will refer to an integrative approach. The structural analysis of our corpus data requires a qualitative type of research while we interpret data set in the light of Myers-Scotton's models and other insertional models. In fact it is a question of an intrinsic approach which will search for the syntactic constraints regulating OrA-Fr-MSA CS patterns. Yet, a quantitative method will also be needed for we intend to correlate our informants' competence/ performance with other variables such as, degrees of bilingual proficiency, intentions, attitudes, and awareness, just to cite few.

Therefore, in this work we shall conduct a micro-sociolinguistic study which relies basically on qualitative and quantitative methods. Our prime objective justifies such a choice for quantitative methods would bring other supportive findings which might strengthen our arguments when interpreting the recurrence, the frequency of occurrence of certain CS patterns compared to others, either within word or sentence boundaries.

2.4 Conceptual and definitional issues on some language contact phenomena

Beside the methodological issues discussed above, the issues of terminology also require some clarifications. In fact, the terminological issues related to language contact and Code-Switching phenomena are as important as the theoretical models themselves in the sense that no consensus is reached among scholars on the operating terminology to be handled.

In the literature on CS patterns, many terms have been used in more than one sense. Not all scholars agree on the very definition of terms such as Code-Switching, Code-Mixing, and borrowing, a discrepancy which may influence the analysis of CS data. Furthermore, there are seemingly other terms to cover the varying aspects of language contact which trigger various debates among researchers. But before treating more closely these aspects, we shall consider some concepts used throughout this study, like bilingual/plurilingual speech, the degree of bilinguality and other terms to guide the reader via working definitions in order to get a sort of cohesive texture. We shall also comment on some definitions put forward by scholars to arrive at the end at choosing the more appropriate ones which correspond more or less adequately to our hypotheses and the theoretical frameworks adopted in our research.

As mentioned earlier, we have many reasons for discussing some terminological issues. Firstly, we invoke the disparity between bilingual/plurilingual speech to justify the title that may induce that we will be concerned only with bilingual speech ignoring by that trilingual and even quadrilingual speech. Then, we shall refer to some terms like the mental lexicon, the Matrix or the Base Language mainly to explain some concepts closely related to Myers-Scotton's Matrix Language Frame model and its sub-models which help the reader to get a clear idea about bilingual processing when two or more languages are involved. Finally, we will propose our own perception of the operating key concepts.

2.4.1 Bilingual/Plurilingual speech

Until recently, many studies on bilingualism or bilingual speech did not give many details about trilingualism[22] or even plurilingualism. Rather, only few researchers consider them as worth studying. Moreover, little attention is given to comparative perspectives when dealing with bilingualism and trilingualism where findings would be made into contrast when three or more languages are involved within the same string of speech. However, some interest in this field is noticed and a growing awareness about the necessity of describing plurilingual contact situations has evolved. In fact, this new tendency is due to Grosjean (1997) who introduces the concept of "monolingual-bilingual modes"[23], illustrated in figure (2.1) which links in with many findings about bilingual processing. The basic idea is that bilinguals are able to function either in one of two monolingual "modes" or more if they are trilinguals, otherwise in a bilingual mode. These modes vary on a continuum, and the individual speaker will be situated on this continuum depending on the state of activation of each language. This activation is determined essentially by external factors such as context, interlocutors and topics, among others. Nonetheless, admitting that his model cannot deal with trilingual speech processing, Grosjean (2001) has developed his model to include other components.

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[22] The evolution of studies on trilingualism goes beyond the scope of research. For further details see Hoffman and Stavans (2007), and Edwards and Dewaele (2007).

[23] Grosjean (1998: 136) defines language mode as: "A mode is a state of activation of the bilinguals' languages and language processing mechanisms. This state is controlled by such variables as who the bilingual is speaking or listening to, the situation, the topic, the purpose of the interaction, and so on. At one end of the continuum, bilinguals are in a totally monolingual language mode in that they are interacting only with (or listening to) monolinguals of one-or the other- of the languages they know. One language is active and the other is deactivated. At the other end of the continuum, bilinguals find themselves in a bilingual language mode in that they are communicating with (or listening to) bilinguals who share their two (or more) languages and where language mixing may take place (i.e., Code-Switching and borrowing)".

LANGUAGE A
(base language)

MONOLINGUAL
LANGUAGE
MODE

1   2   3

BILINGUAL
LANGUAGE
MODE
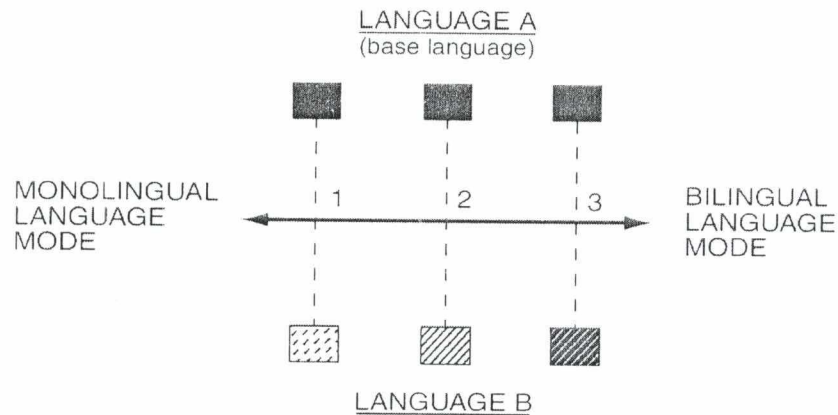
LANGUAGE B

**Figure 2.1 Visual representation of the language mode continuum
(Gardner-Chloros 2009: 137)**

Against the assumption considering that bilingualism is different from pluri-lingualism[24], some researchers have elaborated numerous corpora to quest for unique characteristic features. Others attempt to show that bilingualism is not merely a case of trilingualism or multilingualism, which appears normal and logical for non-specialists. Instead, they consider that bilingualism includes cases of multilingualism, as stated by Sachdev and Bourhis (2001:407) who state that: "The term "bilinguals" is often used to subsume "plurilinguals". Following this line of thought, the term "bilingual speech" is used in this study as a cover term which subsumes other cases of trilingualism and even quadrilingualism.

2.4.2 Bilingualism vs. Bilinguality

Many concepts related to language contact and bilingualism appear at first sight to be non-problematic. Yet, the issues of the various manifestations of bilingualism remain open to discussion and even the definition of the term "bilingualism" has been subject to controversies. Many linguists have defined the concept of bilingualism, each highlighting a specific aspect of this diverse and complex phenomenon. Bloomfield (1935: 56) defines bilingualism, focusing on the native-like control of the individual speaker over the languages being used habitually and constantly, as *"the native-like control of the two languages".* Contrariwise, Macnamara (1967) rejects the idea of an ideal bilingual speaker and argues in favour of a speaker's minimal proficiency in one of the four skills (listening, speaking, reading and writing) in the second language, as an

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[24] Other researchers talk rather about bilingualism as opposed to multilingualism (Hoffmann: 2001, Gardner-Chloros: 2009).

indicator of bilingualism. Accordingly, Macnamara claims that the bilingual can acquire this double/dual competence in two languages after a learning process while Bloomfield considers bilingualism as the result of the acquisition of two languages in a natural context of acquisition and not that of learning. The precision and operationalism of these two definitions are questioned by Hamers and Blanc (2004). The authors consider that these two definitions form the extremes of a continuum on which other definitional proposals can be calibrated.

It seems that the individual dimensions of bilingualism are not taken into consideration in these definitions, except the level of proficiency in the two languages. Yet, it is a fact which was already undertaken by Hamers (1981) who distinguished between bilingualism and bilinguality. Hamers and Blanc (ibid: 6) define bilingualism as:

> The state of a linguistic community in which two languages are in contact with the result that two codes can be used in the same interaction and that a number of individuals are bilingual (societal bilingualism); but it also includes the concept of bilinguality (or individual bilingualism). (2004: 6)

However, they (ibid.) refer to bilinguality as:

> The psychological state of an individual who has access to more than one linguistic code as a means of social communication; the degree of access will vary along a number of dimensions which are psychological, cognitive, psycholinguistic, social psychological, social, sociological, sociolinguistic, sociocultural and linguistic.

This distinction seems essential in any research on bilingual speech because it makes it possible to distinguish different situations, and allows the researcher to refer to different levels of language contact. Accordingly, the distinction between the state of the individual (individual bilingualism) and the state of the community (societal bilingualism) can be discussed from various points of view. In our case, we shall focus on the individual dimensions, otherwise bilinguality and hence the cultural dimensions of identity characterizing mainly societal bilingualism will not be addressed.

Furthermore, we think that the focus of the first two definitions being the level of proficiency of the individual speaker is important but insufficient as a unique criterion. Other scholars (Lambert: 1955) insist as well on this criterion and established a distinction between "balanced bilingualism" and "dominant bilingualism". This distinction induces that balanced bilinguals have equivalent competence in both

languages whereas dominant bilinguals are more competent in one of the languages used, namely the native language.

Yet, Hamers and Blanc (op.cit: 27) find this distinction problematic since "Dominance or balance is not equally distributed for all domains and functions of language; each individual has his own dominance configuration". They follow the same reasoning as Ervin and Osgood (1954) who talk about compound as opposed to coordinate bilinguality. Hamers and Blanc (ibid.) state that:

> In a compound system two sets of linguistic signs come to be associated with the same set of meanings whereas, in a coordinate system, translation equivalents in the two languages correspond to two different sets of representations.

As far as this research is concerned, we will use the terms balanced/coordinate bilinguality, and compound/coordinate bilinguality according to the context of situation. That is, we refer to each concept separately if the interpretation of the data requires it.

Our intention is not to give a listing of the various proposed definitions for bilingualism, but to insist only on those relevant to our research because they are operationally suitable to our perception of bilingual speech and therefore form an underlying theoretical construct for the study. In fact, most of the participants in this study are balanced bilinguals for they can use both Arabic (OrA) and French (Fr) codes simultaneously without difficulty.

2.4.3 Code-Switching: integrated definitions

Many researchers pointed out the confusions and misperceptions which escorted the definitional aspect of language contact phenomena, mainly borrowing and code-switching. For instance, Milroy and Muysken (1995: 12) claim in their introduction to "One Speaker, Two Languages", that:

> The field of CS research is replete with a confusing range of terms descriptive of various aspects of the phenomenon. Sometimes the referential scope of a set of these terms overlaps and sometimes particular terms are used in different ways by different writers.

In an attempt to define particularly the term "Code-Switching" which covers the alternate use of different codes within the same discourse, the question of the terminological and definitional considerations of the notion of *"code"* has been raised by many scholars who put off the main controversies by considering codes simply as

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languages or varieties of languages. In this vein, OrA is a code, MSA is a separate code and Fr as well. Boztep (2002: 4), for instance, mentions that the term "code" "is a relatively neutral conceptualization of a linguistic variety, be it a language or a dialect". Besides, Romaine (1995: 121) says: "I will use the term 'code' here in a general sense to refer not only to different languages, but also to varieties of the same language as well as styles within a language".

Following this reasoning, we will use the term "code" in this research as a neutral conception which includes languages, dialects, styles and registers, etc., and relatively takes over the place of the term variety to include the different levels of language.

Influenced by Jacobson (1971) who has claimed that languages do not comprise codes but rather have codes, Alvarez-Càccamo (1998/1990) develops the notion of *"communicative codes"* according to which speakers use linguistic and paralinguistic features to communicate with their interlocutors while addressees make use of their own codes to interpret and infer what is intended in their co-participants' speech. The alternate use of codes may be used as a cue to contextualize communication, i.e., to signal a shift in topic, or to index a negotiation of social roles and other communicative effects. The author[25] (1990:11) expresses this idea as follows:

> From this approach, the act of code-switching is not necessarily the act of alternating between speech varieties, but the act of shifting gears in communicative behavior, the act of micro-chronologically recontextualizing talk and reality. This is often accomplished by switching languages, dialects, styles, or register-and all the literature points in this direction. (The author's emphasis)

In the way Alvarez-Càccamo (1990) understands Code-Switching, it seems that he shares Romaine's (1995) extended meaning of CS to cover the alternation of dialects, styles and registers. Auer[26] goes even further and considers CS as *"sets of contextualization cues"* (1999: 313) following Gumperz's (1992) steps. He claims that speakers may consider apparently distinct codes as non-distinct and apparently similar codes as distinct. Hence, he provides an *"interpretive approach"* to Code-Switching and other processes relating contact language phenomena through which he contends that the alternation of two codes is not meaningful unless it indexes an interactional contrast in bilinguals' conversational episodes, as he (1999: 310) puts it:

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[25] The underlined structures in this quotation represent the author's emphasis.
[26] P. Auer (1999: 310) distinguishes between participant-related switching and discourse-related switching and considers the latter as a contextualization strategy used by bilinguals to convey meaning.

> In CS [code-switching], the contrast between one code and the other (for instance, one language and another) is meaningful, and can be interpreted by the participants, as indexing (contextualizing) either some aspects of the situation (discourse-related-switching) or some features of code-switching speaker (participant-related switching).

Gardner-Chloros (2009) considers that the term "Switching" appears transparent enough, in that it refers to alternation between the different varieties spoken by individual speakers. In fact, the author (1983: 21) has already discussed the vexed question of terminology in an article directed to principles and approaches on Code-Switching.

> Those for whom the notion of Code-Switching is already familiar will notice immediately that in using this term in an article in French, I feel "guilty" of the action it means. I leave it to the francophone readers to decide whether a French term exists which covers all the meanings of "switching" in English, once they read the article- one of the problems I attempt to discuss is precisely the ambiguity of the term. As "code", either in English or French, its use in this expression in unfortunate since it implies relating defined symbols with specific meanings, rather than a linguistic system itself. However, I will use the term "Code-Switching" since the term is accepted now in the sense of change/alternation of a language or a linguistic variety within speech or conversation. (My translation)

Grosjean (1982: 145) defines code-switching as "the alternate use of two or more languages in the same utterance or conversation", and considers that different categories to be switched: single words, phrases, and even sentences can be alternated. Another useful definition of Code-Switching point out that code-alternations are significant since they show a shift in forms of communication that index a context in which linguistic choices must be understood and inferential mechanisms should be interpreted by the participants. For instance, Gumperz (1982: 59) stresses that conversational Code-Switching is "the juxtaposition within the same speech exchange of passages of speech belonging to two different grammatical systems or sub-systems". Besides, he argues that the meaning assigned to alternated-codes is not fulfilled *a priori* but rather constructed within a particular context in interaction. He (1992:40) describes the analysts' task as follows:

> If instead of attempting to discover direct and stable linguistic reflections of social categories in clause level phonology, morphology or syntax, we begin by looking more closely at the clustering of co-occurring variables in situated everyday discourse, in terms of linguistic signs are involved and how they are distributed, we soon discover regularities that are demonstrably socially conditioned.

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However, Bokamba (1988) alludes in his definition to CS into two processes, namely embedding and mixing which can be misleading since other researchers have already made a distinction between Code-Switching and Code-Mixing. He (ibid: 24) states that Code-Switching is "the embedding or mixing of words, phrases, and sentences from two codes within the same speech event and across sentence boundaries".

Myers-Scotton (1993a: 3) defines Code-Switching on the basis of the principles she expounds in her insertional model (the MLF model) as "The selection by bilinguals or multilinguals of forms from an embedded variety (or varieties) in utterances of a matrix variety during the same conversation". Furthermore, Myers-Scotton (1998b) insists in her definition of the term "Code-Switching" on proficiency. The author focuses on the interlocutors' degree of proficiency as a prerequisite in the production of bilingual speech. She highlights more this aspect of bilingualism on the basis of the delineation between Code-Switching, lexical borrowing and inter-language in second language acquisition. She (1998b: 91) states that:

> When the speakers are sufficiently bilingual to produce monolingual utterances in either of the languages, although they may well speak one language better than the other, the product is called code-switching.

It appears that Myers-Scotton adopts in her definition to CS an insertional reasoning as opposed to the variationist approach assumed by Poplack and her associates. For instance, Poplack and Meechan (1995: 200) define Code-Switching as "the juxtaposition of sentences or sentence fragments, each of which is internally consistent with the morphological and syntactic (and optionally phonological) rules of its lexifier language". In fact, these authors (ibid.) acknowledge that CS involves inter-sentential and intra-sentential CS even though their focus has been intended to intra-sentential CS, which "may occur freely at "equivalence sites", i.e.; points around which constituent order in the two languages is homologous".

Code-Switching understood in the sense of two codes used alternatedly has been shared by other scholars such as, Milroy and Muysken (1995). They (1995: 7) argue that CS is: "The alternative use by bilinguals of two or more languages in the same conversation". Rather, this view is different from that suggest by Meeuwis and Blommaert (1998). The authors (1998:76) propose conversely a monolectal definition of Code-Switching in which the co-occurrent variables constitute a self-contained code,

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considering that: "The overall code-switched variant used by speakers is not seen as a product of blending between two or more languages...but as one code on its own right".

Although the above definitions which illustrate various conceptions and approaches to code-switching agreed on the fact that two codes are used alternatedly, they differed in terms of its points of occurrence. The variationist school (Poplack and her associates) consider that CS is possible within the conversation, at the constituent and sentential levels while other researchers limited CS occurrence to the same discourse of conversation.

Some researchers in their definition to CS focus principally on the juxtaposition of two or more codes alternatedly within the same speech exchange. For instance, Gumperz (1982: 59) specifies CS as "the juxtaposition within the same speech exchange of passages of speech belonging to two different grammatical systems or subsystems". Yet, the act of CS is a complex process and not only a mere juxtaposition of two or more codes within the same conversation. Other mechanisms could explain the functioning of this alternate use in bilingual speech. What about the mental processing that hinders intertwined varieties?

It seems to me that the salience of the linguistic forms used alternatedly resides specifically in the underlying structures combined, selected and articulated in mixed-codes and not in the surface configurations of structural elements picked up from grammatical systems or sub-systems and embedded in other systems at different slots. The choice made at this level is not simply a quest for a definition which varies between alternation and insertion, but rather shows the adherence to a particular approach or a model which fits appropriately the nature of database from OrA-Fr, MSA-OrA-Fr and sometimes OrA-Fr-Eng.

We take Code-Switching in our research as a cover term for the alternate use of two or more languages, including the insertion of single words and larger constituents (linguistic material) from the embedded language within a syntactic frame constructed by the Matrix Language. Indeed, the definition adopted here breaks with the linear model which fails to capture the different configurations of OrA/Fr and goes along with Myers-Scotton's perception of CS. Nonetheless, one of the enduring theoretical objectives of the main studies in contact linguistics has been directed to elaborate different typologies of Code-Switching. In the next section, we will consider the main types of CS established by the most influential approaches and illustrate them with exemplified comments drawn from our data.

2.4.4 Types of Code-Switching

Many researchers suggest different typologies of Code-Switching: the first group try to describe CS as a sociolinguistic phenomenon determined largely by external factors and the second group attempt to analyse the structural manifestations of bilingual speech from an intrinsic perspective. For instance, Blom and Gumperz (1972) suggest functional perspectives to CS studies in an extended study undertaken on Bokmål and Ranamål in Hemnesberget. Despite the substantial similarities that both dialects share, they show clearly orderly linguistic separatedness in terms of their use. The most reasonable assumption for these co-occurrent variables within the same social context according to Blom and Gumperz (ibid: 417) is that "the linguistic separatedness between dialect and standard is conditioned by social factors".

Recognizing a correlation between speech events and the selection of linguistic variables, the authors (ibid.) propose the notions of situational and conversational Code-Switching to identify Bokmål and Ranamål as two different *"codes in a repertoire"*. In *Situational Code-Switching*, language varieties are used in two different social settings with distinct participants and the switches corroborate predominantly with a shift in the situation.

The following example illustrates a situational CS, it is drawn from a conversation between students discussing various topics at I.L.E. Here, the switch to French is triggered by a change of interlocutors with OrA and Fr/OrA being the codes used between male speakers as opposed to Fr and Fr/OrA codes when addressing female speakers.

(197) Speech situation (2)

A: **Les défenseurs**   *The defenders*
B: ʂɑfifia **les défenseurs**   *OK, the defenders.*
C: ʔajja wʊ **lMagister**   *The Magister, then?*
D: kaːjən **trois options**   *There are three options.*
B: **ET toi**   *What about you?*
D: **Je passerai en littérature** *I'll sit the literature exam.*
C: **C'est un petit peu délicat** *It's a little bit delicate.*
B: ʃa ʁaːdi <u>triviːzi</u>   *What are you going to revise?*

C: beʂʂafi **le programme des trois années ou les quatre années qu'on a** (…)
But the program of the three or four years that we (…)
B: **ça dépend les modules que tu veux faire** kima nguːlʊ **la la (..) l'option que tu veux faire**
It depends on the units that you will sit. What I can tell you…the the option that you want to sit.

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In contrast, in *Conversational Code-Switching* multiple code-alternations take place within a single conversation without any change in setting or participants' constellation. The motives behind the use of this type of CS lie tremendously on shifts in footing[27], relative status or even evoke certain emotional changes of mood. When describing the clerk-resident interaction, Bloom and Gumperz have noticed that the use of certain linguistic forms from the local dialect (R) within a standard conversation (B) refers to another particular social event in which the participants rather express a connotative meaning like discretion to the current exchange, without a shift in topic or in their intent. The authors (ibid: 425) argue that:

> In either of these cases is there any significant change in definition of participants' mutual rights and obligations. The posture of speakers and channel cues of their speech remain the same... The choice of either (R) or (B) generates meanings which are quite similar to those conveyed by the alternation between ty and vy in the examples from Russian literature cited by Fredrich.

Conversational CS is illustrated in (198) by a switch between Fr and OrA which the alternation to OrA conveys exactly the same meaning of the Fr construction. Nonetheless, the speaker resorts to the verb "ntaqam" (take revenge) and the substantive "ljahuːd" (the Jews) that express connotative meanings (the hatred proven by Zionists).

(198)   gaːlʊ   **on a vengé**   **nos anciens juifs**
       PERF-say-3PL   we PAST take revenge our   ancient Jews
       ntaqamna   liljahuːd   taʕraf   ljahuːd
       PERF-take revenge   to-DEF-Jews   IMPERF-know-2S DEF-Jews
       wiːnta ntaqəməlhʊm⟋
       when   PERF-take revenge-3S-to-3PL
       "They said we've taken revenge for our ancestors; we've taken revenge for Jews. Do you know who are the Jews for whom he took revenge?"

From a structural perspective, many typologies of Code-Switching have been proposed regarding the switch-points at which CS occurs and the way the different

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[27] Goffman (1981) introduces the term "footing" which is similar to the concept of "interactive frame". The author suggests in his *"Forms of Talk"* (1981: 128) that a change of footing is another way of talking about a change in our frame for events. He suggested that: "A change in footing implies a change in the alignment we take up to ourselves and the others present as expressed in the way we manage the production or reception of an utterance. A change in our footing is another way of talking about our frame of events [...]. Change in footing is very commonly language-linked; if not that, then at least one can claim that the paralinguistic markers of language will figure". Similarly, Bange (1992) uses the term "casquette" as an equivalent to "change in footing" to mean the alignment operations triggered by shifts in footing.

codes are articulated within a sentence as well as the length of the slotted stretches. But, generally three main types of Code-Switching have been recognized by most scholars: intersentential CS, intra-sentential CS, and last extra-sentential CS.

Hamers and Blanc (2004: 259) suggest that intra-sentential CS happens when switches of different types occur within the clause boundary, including within the word boundary (a loan blend as in *check-er* which consists of the English verb *check-* and the French infinitive morpheme {-er} whereas inter-sentential CS comes about when a switch occurs at clause/sentence boundary, one clause being in one language, the other clause in the other. However, extra-sentential CS[28] signifies the insertion of a tag like "you know", "I mean", from one language into an utterance which is entirely in another language.

We will not give several definitions of the types of Code-Switching but rather insist on Myers-Scotton's definitions since the theoretical framework adopted in this research is the insertional one. In fact, the definitions provided by Myers-Scotton and her associates depend mainly on structural grounds for they consider the CP the relevant unit of analysis for intersentential as well as intrasentential CS. In fact, intersentential CS as defined by Myers-Scotton et al. (1996: 11) is switching between monolingual CPs while intra-sentential code-switching occurs within CPs. Furthermore, in either type of CS the CP clause "may be completely specified or it may consist mostly of null elements, depending on the discourse conditions".

In this sense, the major difference between inter-sentential CS and intra-sentential CS resides in the fact that the distinction between the ML and EL is relevant only for intrasentential CS because it is only in this distribution that the participating languages are involved within the same CP. The following instances exemplify the two types of CS:

(199) baːʕhummulhum   b   **les**   **actes notariés**
       PERF-sell-3PL-to-3PL with DEF-PL deeds notarial
       "He sold them (the lands) with notarial deeds.

(200) **c'est**   **le premier** lli daːr   **système laïc**   f **le**
       It be-PRESENT DEF-M first that PERF-do-3M system laïc in DEF
       monde

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[28] Poplack (1980) talks about tag-like switches which include interjections and idiomatic expressions, where the bilingual speaker uses a tag from one language and the whole string from another language. According to Poplack, this type of CS does not need proficiency, only a limited knowledge in the language of the tag allows the speaker to produce such a switch and therefore it acquires a lower frequency index in Poplack's scale.

world

"He was the first who launched the laïc system in the world."

(201) mana   fa:hmi:n   wa:lʊ
        NEG-PRESENTATIVE-1PL PART-understand-1PL nothing
        la   méthodologie quand même c'est important
        DEF-F methodology   nonetheless   this be-PPRESENT important
        "We don't understand anything, methodology is nonetheless important."

In the bilingual CP "ba:ʕhʊmmʊlhʊm b *les actes notariés*", OrA is the ML because it sets the frame by providing the system morphemes, and Fr is the EL because the island "les actes notariés" is slotted within an OrA-framed CP. Since the switching occurs within the CP, it is a question here of an intra-sentential Code-Switching. Similarly, the constituent "système laïque" and the NP "le monde" are embedded within a CP framed by OrA since the latter provides the INFL in verb "da:r" and therefore example (200) also illustrates an intra-sentential CS.

However, in example (201) the switching occurs between two CPs: the first monolingual CP is in OrA " mana fa:hmi:n wa:lʊ" and the second CP is in Fr "la méthodologie quand même c'est important".

According to Myers-Scotton, intra-sentential Code-Switching is divided into two distinct types: classic CS and composite CS. Classic Code-Switching is characterized as bilingual speech within a CP, with only one of the participating languages to set the morphosyntactic frame. Moreover, in classic CS "the speakers will have full proficiency in the language used as the ML, and can have any degree of proficiency in the EL" (Myers-Scotton, 2002a: 25).

Nevertheless, composite CS is characterized by the participation of two languages in the frame-building and therefore the system morphemes come from the two languages within a bilingual CP. Furthermore, in composite CS speakers do not have full access to the morphosyntactic frame of the participating language that is expected to be the ML.

We do not give many examples to illustrate the two types of intra-sentential CS because they will be treated in chapter (4) when applying the predictions of the MLF models and its two sub-models on our data. We want to stress at this level that Myers-Scotton (1998a) assigns composite structures in Arabic/English CS to a disparity between Arabic and French verbs in terms of their organisation at the mental lexicon

and the way they have been accessed. The hypothesis advocated by Myers-Scotton (1999b: 116) is that "speakers are not fully proficient in the preferred ML and then more than one language may participate in providing the components of lexical structure of the ML".

Other researchers propose other typologies[29], but we confine ourselves only to Muysken's (2000) typology. In fact, Muysken assumes that different types of CS are related to different degrees of linguistic closeness between languages and sociolinguistic circumstances under which code-choices are made. The author (2000: 1) prefers the term Code-Mixing (CM) rather than Code-Switching and defines it as: "all cases where lexical items and grammatical features appear from two codes within a sentence", and proposes three main processes.

The first type, *alternation* is particularly frequent in stable bilingual communities characterized by a tradition of language separatedness. It occurs when there is compatibility between the two grammars or at least equivalence between the languages involved at the switch-point. Alternation is illustrated in several cases which vary considerably in accordance to the patterns exhibited. Conjunctions and apposition, for example, are incorporated through adjunction rather than insertion. Below is an example taken from Treffers-Daller[30] (1994) in which the main clause is in French and the subordinate clause is in Dutch whereas the two clauses are separated by an interjection:

(202) **Je téléphone à Chantal** he, meestal voor commieskes te doen e été
   I call to Chantal int, mostly for shoppin to do and food
   "I call Chantal to go shopping and get food."
   (French/Dutch, Treffers-Daller 1994: 213)

The second type, *insertion* is akin to the process of borrowing with a difference of length where elements larger than single words may be inserted (nouns/noun phrases). It is defined as the insertion of material such as lexical items or entire constituents from a particular language into the structure of another. Muysken considers the MLF model as based primarily on insertional material and that the notion of ML is relevant to this type of mixing. He claims that in insertional type of switching, one language is on *(activated)* and tends to provide the main verb and the most functional elements.

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[29] Many typologies have been proposed in the literature such as, Lüdi and Py's (2002) typology, who claims for switching between turn taking, sentences, propositions and constituents, and Dabène and Billez's (1988) typology, who insist on discourse level in their categorization of CS. Since we are not interested in the local meaning of CS co-occurrences in our corpus, these two typologies are discarded.
[30] For other illustrative examples of three processes of CS from different language pairs, see Treffers-Daller (2009).

When approaching Moroccan Arabic/Dutch data, Muysken (1997) finds that insertional mixing is unidirectional when Moroccan Arabic is the ML and Dutch is EL in contrast to alternational mixing which appears bi-dircetional. Here is a sample drawn from MA/Fr CS to elucidate the process of insertion:

(203) hadu *les cousins* djali žajjin men *la France w* fandhum *la voiture…*mʕa *la voiture* djal xali . . . merra *la plage,* merra žžebel, merra *la forêt* kul merra w fin ʕandna fih *des photos,* derna *les photos* bezzaf.

"These cousins of mine (these the cousins of mine) were coming from France and they had a car . . . with the car of my uncle . . . one day the beach, one day the mountains, one day the forest, every time somewhere different. We have photos taken there, we took a lot of photos (photos a lot)." (Moroccan Arabic/French, Bentahila and Davies 1995: 83)

It is clear that MA is the ML of most of the clauses in this discourse sample since it sets the grammatical frame. Singly-occurring items from French are slotted within this grammatical frame, particularly nouns and occasionally discourse particles and adverbs like "enfin" and "même".

The third process, *congruent lexicalization* is akin to the processes of language variation and style-shifting. In this case, switching is grammatically unconstrained and can be characterized by alternative lexical insertions and thence some cases of word-internal mixing can be viewed as congruent lexicalization. Muysken therefore does not reject totally the notion of constraints but asserts that there is a link between the different processes of CM which range on a continuum. The following example illustrates this type of switching:

(204) wan heri **gedeelte** de ondro **beheer** fu gewapende **machten**
one wholepart COP under control of armed forces
"One whole part was under control of armed forces."
(Sranan/Dutch, Bolle 1994: 75, in Muysken 2000: 139)

Muysken (2000) argues that no single set of grammatical rules can currently account for all instances of CM and suggests that these types are associated with linguistic and psycholinguistic factors. Alternation occurs in stable bilingual communities with a tradition of language separation, insertion is frequent in colonial and recent migrant communities where there is a considerable asymmetry in the speakers' proficiency in the languages at their disposal, and congruent lexicalization is likely to occur between closely related languages with roughly equal prestige and no

tradition of overt language separation (the second generation migrant groups, dialect/ standard and post-Creole continua).

Besides, the author (ibid.) argues that alternations are considered as true switches in which both grammar and lexicon are respected, there is no embedding of one language within the frame of another but only the juxtaposition of the two codes. In alternations, the surface linear equivalence at switch-points is equivalent to Poplack's EC. Consider the following example from our corpus:

> **(205) les   notes,   les enseignants,   les complots,   les bobards**
> DEF-PL grades DEF-PL teachers DEF-PL conspiracies DEF-PL
> manguɭɭəkʃ
> NEG-IMPERF-tell-1S-to-2S-NEG
> "The grades, the teachers, the conspiracies, the gossips, I don't tell you."

In the above example which illustrates alternation between Fr and OrA, the two CPs are separate, the surface structure configurations are identical in the varieties, and the structural elements are not slotted within a ML, and both codes are equivalent.

With insertions, the mechanism is rather different, items are embedded in the framing language which provides functional elements and determines syntactic order. In insertions, the ML is then filled by items coming from the embedded language, as illustrated in this example from our data with OrA as ML and Fr as EL. Indeed, OrA provides system morphemes (INFL, DET) and Fr offers content morphemes, namely the nouns (Panzani, viande-hachée):

> **(206) wʊlla   jaɗrob   Panzani   bə l viande hachée**
> PERF-become-3S IMPERF-strike-3S Panzani with DEF meat chopped
> w **la   sauce**
> DEF-F   sauce
> "He started eating Panzani with chopped-meat and sauce."

In cases of congruent lexicalization, the languages involved in CS must "share a grammatical structure which can be filled lexically with elements from either language", as noted by Muysken (1997: 326). The following example may illustrate this type of CS in which MSA and OrA share the same word order constituents and the string contains items lexicalized from the two languages. Furthermore, both varieties are closely related with the former as a prestigious language and the latter as a language used predominantly in informal settings. This sample illustrates congruent lexicalization

at the structural level; it is significant at discourse-level because it functions as a contextualization cue signalling the speakers' ideology.

(207) wi:nta ntaqaməlhum↗   ʃku:n da:rha
       when   PERF-take revenge-3S-to-3PL who   PERF-do-3S-3F
       fimi:zək da:rha   Boukhar Nasr ha:da ka:n malik
       in opinion-2M PERF-do-3S-3F Boukhar Nasr this   was king
       ba:bili dʒal   fiḻiṣṭi:n w ʔasar ljahu:d
       Babylonian PERF-enter-3S Palestine and PERF-capture-3S DEF- Jews
       wi:nta ma qabla tta:ri:χ fimi:zək   nta:ja maza:l
       when   before   DEF-history in opinion-2M you   still
       ħa:gdi:n   ʕli:ha ga:llək   ʔintaqamna
       PART-envy-3PL on-3F   PERF-tell-3S-to-2S PERF-take revenge-1PL
       li-ʔaʒda:dina nna:s   jetməʃʃu   b ʕaqi:da
       to forefathers-1PL DEF-people IMPERF-walk-3PL with faith
       w jətməʃʃu   b ta:ri:χ ħna nətməʃʃu ɣi ha:kka
       and IMPERF-walk-3PL with history we IMPERF-walk-1PL only that
       la ʕaqi:da la ta:ri:χ la di:n   miʃi jaɣɣalbək
       NEG faith   NEG history NEG religion NEG   IMPERF-overcome-2S
       jaɣɣalbək   ħatta la ʒi:t   bə lʕaqi:da
       IMPERF-overcome-2S   even if PERF-come-2S with DEF-faith
       lʕaqi:da fa:zda
       DEF-faith   insane
       "Do you know the Jews for whom they took revenge? Who did it,
       according to you? Boukhar Nasr did it. This one was a Babylonian king;
       he entered Palestine and made the Jews captives. When? Before history.
       Do you believe that they are still envying it? They said we've taken
       revenge for our forefathers. They are people who are following a faith,
       they are following a history. We are wandering, no faith, no history, no
       religion. He doesn't only overcome you. Even you have faith, faith is not
       sane".

These typologies illustrate Muysken's eclectic approach of intra-sentential Code-Switching in which he advocates a different categorization of CS utterances from a purely structural point of view. He also fleshes out that grammatical approaches fall into two sets, those focusing on checking uni-directionality in terms of categorical equivalence as opposed to those which posit the bi-directionality checking features in terms of linear order. Nonetheless, we consider in the analysis of our data only the two main types of CS, namely intra-sentential and inter-sentential CS. Yet, the most treated instances of CS will be of the intra-sentential type.

2.4.5 Diglossic Code-Switching

Some researchers have talked about diglossic Code-Switching as a separate type, but before explaining this term it is noteworthy to give some clues on Ferguson's (1959) notion of "Diglossia".

The gist of Ferguson's widely influential work was to determine that the distinction between High (H) and Low (L) varieties suits best the description of the separate functions in terms of language use. Moreover, the use of the two varieties varies from formal to informal settings within certain speech communities. Undeniably, Ferguson's (ibid: 336) definition describes the complementary distribution of two varieties of a language within a particular speech community:

> Diglossia is a relatively stable language situation in which, in addition to the primary dialects of the language (which may include a standard or regional standards), there is a very divergent, highly codified (often grammatically more complex) superposed variety, the vehicle of a large and respected body of written literature, either of an earlier period or in another speech community, which is learned largely by formal education and is used for most written and formal spoken purposes but is not used by any section of the community for ordinary conversation.

Although Ferguson restricts the term "diglossia" only to the use of varieties of the same language, subsequent linguists attempt to attribute it to situations which exhibit unrelated varieties. For instance, Fishman (1972) proposes a macro-level approach to language choice focusing essentially upon activity types. He introduces the key concept of "domain" defined as "the cluster of social situations typically constrained by a common set of behavioral rules" to explain that the stable schemes of language use give sense to speakers' linguistic choices. He establishes a one-to-one correspondence between codes and activities: what gives to the switches a social meaning is not the act of alternating languages but the correlation between speech activities and the domains of such uses. He (1972: 437) resumes this idea as follows: "One of the theoretically co-available languages or varieties will be chosen by particular classes of interlocutors on particular kinds of occasions to discuss particular kinds of topics".

In addition to the term Code-Switching, Heath (1989) uses the term diglossic switching when referring to the switch that occurs between Moroccan Colloquial Arabic (MCA) and Classical Arabic (CA). Then, Boussofara-Omar (2003) uses the term "Arabic diglossic Code-Switching" when she investigates the syntactic constraints on the switching between Fuṣḥa (including CA/MSA) and Tunisian Arabic (TA) through a

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structural analysis of 17 public political speeches delivered by the former President of Tunisia, Habib Bourguiba, between the years 1956 and 1968. Those recordings lasted approximately 14 hours. In fact, the writer has revisited Arabic diglossic Switching in the light of Myers-Scotton' models (the MLF model and its sub-models: the 4-M and the Abstract Level models). Here is on example drawn from Boussofara-Omar's (2003) corpus[31] to illustrate diglossic Code-Switching which includes elements from both varieties (the negation marker ma-ʃ from TA, and tense markers from F):

(208) ma-ʔa-ðunnu-ʃ   kɛɛnu
NEG-1SG-IMP think-NEG   where
TA-F-F-TA   TA
(TA/F, Boussofara-Omar 2003:39)

Below is another example drawn from a corpus established by Sabir and Safi (2008) that illustrates this type of Code-Switching:

(209) ti-ʕrif-u keyf ʔa-ḥṣulu ʕala ʔal-maʕlumati?
know-you (Pl) how I- get on the-information
"Do you know how I get the information?"
(Modern Standard Arabic/ Hejazi dialect, 2008:100)

Many instances of Arabic diglossic CS occur in our corpus, particularly in context (8) where both varieties of Arabic (MSA and OrA) are used extensively. We retain the term "diglossic Code-Switching" to describe and analyse types of switching like instances in (208) and (209). Nonetheless, we shall discuss in chapter (3) the question of whether to consider these types of mixed occurrences as real instances of diglossic CS or just as illustrative cases of a process of borrowing or interference from al-luġa al-fuṣḥa (F) into Colloquial Arabic.

2.4.6 Code-Switching vs. Code-Mixing

The two terms "Code-Switching" and "Code-Mixing" triggers a controversy among scholars who attempt to define the two concepts, among them Bokamba (1989), Auer (1999), Muysken (2000), and Gafaranga (2007). Some of them have drawn a clear distinction between the two concepts, like Sridhar and Sridhar (1980: 408-409) defining them as instances of code-alternations "accompanied by a shift in the speech situation". Bokamba (1988: 24) too distinguishes between the two processes, and defines CM as

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[31] Boussofara-Omar considers that this example is problematic since functional elements come from both Fuṣḥa and TA, it is thus a violation of the System Morpheme Principle (SMP).

"the embedding or mixing of various linguistic units, i.e., affixes, words, phrases, and clauses from two distinct grammatical systems or sub-systems within the same sentence and the same speech situation". A close look at this definition shows that it is often referred to as intra-sentential CS.

Other researchers use both concepts interchangeably. For instance, Yin-Bing (1988: 23) considers CS and CM synonymously:

> For the purposes of this paper, the definition of 'code-mixing' is limited to the shift of code found within one and the same clause or sentence. Changes of code at the sentence level are not included in this study because it will focus only on the syntactic constraints within sentences where codes are mixed, i.e. intrasentential code-mixing will be analyzed and discussed. Because of this, the terms 'code-mixing' and 'code-switching' are, for the purposes of this study, used interchangeably.

However, Auer (1999: 71) suggests an interpretative approach to distinguish between CS and CM. The author has proposed a continuum[32] across which he puts contact phenomena. According to him, this continuum can trace the different developmental paths that lead to the elaboration of a mixed-code. Previously, he (1998: 319) argues that "both on the level of the individual and on that of the community, there is a tendency to move from CS [Code-Switching] to LM [Language Matrix], but not in the opposite direction". He uses the terms mixed code, Language Mixing and Code-Mixing interchangeably to refer to one single phenomenon. Yet, a slight difference might appear important in that CM is seen as a process and therefore continuously changing; and mixed code as a product and hence considered as a static result.

In this regard, CS fulfils local and global functions while CM displays global functions only. The meaning locally attributed to CS may mark closeness, emphasis or humour whereas global meaning denotes ethnic identity and therefore assigns a social meaning to the switch. Auer (ibid: 310) claims that:

> CS (Code-Switching) will be reserved for those cases in which the juxtaposition of two codes (languages) is perceived and interpreted as a locally meaningful event by participants. The term LM (language mixing), on the other hand, will be used for those cases of the juxtaposition of two languages in which the use of the two languages is meaningful (to participants) not in local but only in a more global sense, that is, when seen as a recurrent pattern.

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[32] In Auer's continuum, the terms proposed do not signify purely categorical phenomena but have rather been used as blanket terms to cover solely different prototypes of phenomena. Auer suggests a scale from code-alternation which encompasses Code-Switching and insertion, to mixed code.

Consider the following example taken from Gafaranga (2007) to understand the difference between CS and CM, as developed by Auer (1999):

(210) (Swahili/French, Gafaranga 2007: 25)

1. A: ubu rero ab (.) buretse (.) abazayuruwa bagiye gutangira ngo (.) *fukuza munyarwanda* (.) [( )
2. B: [avec *raison (.) [Puisque* turi imbwa
3. A: [( ) ((laughter)) ariko
4. C: *avec raison* (.) none se none wanzanira ibibazo iwanjye
1. A: now Zairians Zair (.) wait a minute (.) Zairians are going to start saying **kick out Rwandan** (.) [( )
2. B: [*rightly so (.) [as* we do not deserve any respect
3. A: [( ) ((laughter)) but
4. C: *rightly so* (.) if you bring problems to my door

In the above example, the Swahili construction "*fukuza munyarwanda*" is locally functional and it is perceived by participants as such. It is meant to document the Zairian identity, as put forward by Gafaranga (ibid.). However, the other constructions *"avec raison puisque"* and *"avec raison"* in the second and the fourth turns are not attached to local meanings. Thus, "*fukuza munyarwanda*" would be an instance of CS while the other elements would be instances of CM.

Furthermore, the author (ibid.) reduces the distinction between CS and CM to the speakers' perceptions of the codes involved and their use. He means that the speakers' intentions when juxtaposing different codes go beyond their current usages and therein participate in the process of meaning construction. This view induces that the meaning assigned to different switches relies principally on speakers' intentions that interact in interpretive situations through negotiation and subsequently they construct several senses collaboratively. Besides, Auer (op.cit) sketches the prototypes of LM and distinguishes insertional from alternational LM, as shown in figure (2.2).

alternational code-switching	alternational mixing	fused lects

- preference for one language at a time
- functional qua alternation
- involves renegotiation of language of interaction
- rhetorical/stylistic device (contextualization cue)
- usually at clause boundary

- group style
- not functional qua alternation
- grammatical constraints
- partly within clause but:
- not restricted to word level
- mixing is language of interaction
- no preference for one language at a time

- as in mixing but:
- additionally positive grammatical constraints
- obligatory ‚alternation‘
- adaptive changes towards new overall system

insertional code-switching	insertional mixing

- as above but:
- on single (usually small) constituents
- does not threaten language of interaction

- as above but:
- implies matrix language when clause-internal

pragmatics → **grammar**

Figure 2.2. A typology of bilingual speech: from Code-Switching via Language Mixing to fused lects (Auer 1999: 328)

Hamers and Blanc (2004: 207) have also realized the difficulty of differentiating CS and CM since both are based on the transfer of linguistic material from one language into the other, as in:

> Code-Mixing, as we have already explained, is a process characterized by the transfer of elements from a language L_y to the base language L_x; in the mixed utterance which results we can distinguish monolingual chunks of L_x alternating with chunks of L_y which refer to the rules of two codes. Unlike borrowing, which is generally limited to lexical units which may be better assimilated or less well assimilated, code-mixing transfers elements of all linguistic levels and units ranging from a lexical item to a sentence, so that it is not always easy to distinguish Code-Mixing from Code-Switching.

Some researchers acknowledge that there is no difference between CM and CS. For example, Muysken (2000: 1) assumes that:

> The question discussed here is: how can a bilingual speaker combine elements from two languages when processing mixed sentences? I am using the term code-mixing to refer to all cases where items and grammatical features from two languages appear in one sentence.

It seems that the distinction between CS and CS cannot influence the findings of our corpus analysis. Code-Mixing is sometimes used to refer to intrasentential Code-Switching, or more specifically to shifts of smaller units and larger constituents, among which collocations and or idiomatic expressions may occur. Thus, we prefer to use the terms intra- and inter-sentential CS to refer to the alternate use of codes within sentences or across sentence boundaries. Nonetheless, we think that the distinction between B and CS is of paramount important to the corpus analysis because the identification of such and such item as instance of borrowing or as a real switch influences the quality of analysis and interpretation. But, before drawing the lines of demarcation between "borrowing", "Code-Switching", and "nonce-borrowing", it seems important to define the term "borrowing" and the mechanisms of integration with some exemplifications from the data.

2.4.7 Borrowing

2.4.7.1 Operating definitions of borrowing

It is well-known that when there is contact between two communities whose members speak different languages, certain linguistic and other cultural materials are transferred from one language to another. These changes subsequent to this situation of contact result in conspicuous structural changes that will affect tremendously the system of the recipient language via borrowing and diffusion.

Recent inquiries in contact linguistics depend largely on Haugens' (1950) understanding of the term "borrowing". In fact, the author[33] considers borrowing as a blanket term which covers the different processes of adoption by which some linguistic features are taken from a language to another. In his classical study of borrowing, Haugen (ibid: 211) distinguishes between borrowing and the mixture of languages, stressing that:

> The introduction of elements from one language into the other means merely an alteration of the second language, not a mixture of the two. Mixture implies the creation of an entirely new entity and the disappearance of both constituents; it also suggests the jumbling of a more haphazard nature.

Haugen (ibid.) defines borrowing as a process involving reproduction not as a

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[33] P. Hermann (1920: 393) proposes a typology of borrowings. He draws a distinction between the borrowing of external forms (actual foreign borrowings) and the borrowing of the internal structure of foreign words. This classification is identical to importation vs. substitution.

state, insisting on the fact that bilingual speakers reproduce patterns[34] previously found in another language to form new forms. He (ibid: 212) states that:

> If he (the speaker) reproduces the new linguistic patterns, not in the context of the language in which he learned them, but in the context of another, he may be said to have 'borrowed' them from one language to another. The heart of our definition of borrowing is then the attempted reproduction in one language of patterns previously found in another.

It seems that Haugen's framework is taxonomic in nature. This is clear because of the classificatory features proposed to categorize types of borrowings. He emphasises mainly on loan words in their evolutionary processes and their results. He (ibid: 213) claims that: "Most of the terms used in discussing it are ordinarily descriptive of its results rather than of the process itself".

Another important work in the field of borrowing is that of Weinreich (1968) which may be more influential in depicting the effects of one language on another. He uses the term "interference" to describe contact-induced phenomena. The heart of his definition is the lexicon, the intermingling of one vocabulary with another. For him (ibid: 1), linguistic interference has been understood as: "Those instances of deviation from the norms of either language which occur in the speech of bilinguals as a result of their familiarity with more than one language, i.e., as a result of language contact".

Weinreich's basic distinction between borrowing and interference has been refined continuously by other scholars working on language contact situations like Thomason and Kauffman (1988), Croft (2000), Van Coestsem (2000), and Johansson (2002). They attempt to bring new insights to classic frameworks which fall short of distinguishing the major mechanisms of contact-induced changes. They relate the drawbacks of traditional models of borrowing and language change to the vagueness and the inconsistency of the classificatory features in handling linguistic contact phenomena. Van Coestsem (2000) considers the social factors to be the ultimate causes of change while Croft (2000) insists on "the intentional causal mechanisms of selection and innovation".

Johansson (2002) points out that the structural factors appear to play a primordial role in borrowing. This idea is deeply anchored in Thomason and Kauffman's (1988) reflections on "the scales of borrowability" and Weinreich's (1967) "constraint

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[34] By pattern, Haugen (ibid.) simply meant a model, "largely lexical elements from one language to be reproduced in another and not grammatical patterns" since the typology he provided relies mainly on single linguistic items.

problem". Thus, Johansson rejects contextual determinism on language change and assumed that while certain structures are more easily borrowed, some others resist changing far from any influence of social circumstances.

The question of asymmetries in terms of borrowability has largely been discussed in the literature. It has been noticed that the rate of borrowed nouns is higher than that of verbs. For instance, Meillet (1921) observes that French cannot borrow verbs from other languages because of their elaborate inflections. Despite this restriction, the assimilated verb "shooter" is taken from English, the verb "to shoot". Moreover, Field (2002:38) proposes the following scale: content item> functional word> agglutinative affix> fusional affix. In this vein, nouns are borrowed more easily than other word classes. One explanation comes from VanHout and Muysken (1994) who attribute this hierarchy to reference. The authors (1994: 42) state that "A very important factor involves one of the primary motivations for lexical borrowing, that is, to extend the referential potential of a language. Since reference is established primarily through nouns, they are the elements borrowed most easily".

Myers-Scotton (2002a: 240), however, has proposed another explanation for this phenomenon. According to her, nouns are more borrowed because "they receive, not assign thematic roles" and this is the reason why "their insertion in another language is less disruptive of predicate-argument structure".

In any contact situation in which the first language borrows a large number of linguistic items from a second language, some regular patterns will be established at different language components (phonemic and morphological). In their classificatory works on language change and more particularly on loanwords, Haugen (1950) and Weinreich (1953) have insisted on the identification of models (patterns) and the regularities observed within adaptation/adoption processes. The interpretations they have presented are made on purely structural grounds. They have considered borrowing as a diachronic process and therefore opted for historical methods to compare older linguistic forms with their later equivalents.

Haugen[35] (1956) uses the term "diaphones" to describe "interlingually identified variants of phonemes" and 'diamorphs' for "interlingually identified variants of morphemes or groups of morphemes". That is, both terms are used to describe regular

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[35] Haugen (1956: 67) uses the terms "diaphones" and "diamorphs" in relation to what he has named interlingual identification which "occurs when speakers equate items in one language with items in another language because of their similarities in shape, distribution or both".

relationships between elements from the source language and their adapted forms in the guest language. These regularities appear in different manifestations, they may show one-to-one correspondences, splits or mergers in accordance to the immediate structural context in which they occur. Both Haugen and Weinreich point out that the only way to predict dia-phonic or dia-morphomic rules for adapted words is to make an analogy between elements from the first language with other items from the second language. The bilingual speaker acquires the models of the guest language and introduces them in his language system; he perceives first these foreign elements and reshapes them phonologically and morphologically in a way to fit into the structural conditions of his language.

In fact, it is this prior knowledge which allows the individual speaker to establish the regular patterns for borrowing outputs. Haugen and Weinreich have also been interested in constraint problems; they have attempted to identify the linguistic categories which could not be borrowed. They have noted that functional elements or bound morphemes (inflections) could not be borrowed from one language to another, but the explanation they provided for the scored irregular patterns is but teleological. They argued that these aberrant patterns of loan words can be traced back to the restoration of pre-existing systems.

After these brief historical insights, we move to what is meant by adaptation routines and how they function in OrA system. By adaptation routines, Heath (1989) means the most productive processes by which individual speakers transfer linguistic materials from the other language into the guest language. This concept is used in the same way as Haugen's diaphonic rules with slight differences. The analysis of transfer in the OrA nominal and verbal morphology will proceed as follows: identifying first the different variants of a particular adapted word and then selecting the model or the pattern through which adaptation occurs, then linguistic routines will be established for French noun and verb borrowings.

The assimilatory process of French borrowings is even more complex: there are certain linguistic items which can receive a complete integration, some can only be partially incorporated and others resist to dia-systemic conversion rules. This inter-lingual variability reveals the problematic issues at work when the grammars of two typologically different languages are in contact, namely OrA and Fr. Accordingly, we try at this level to provide some generalizations with regard to the productive assimilatory processes at the phonological and morphological levels when French verbs

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and nouns penetrate OrA system.

2.4.7.2 Assimilatory processes in French borrowings
2.4.7.2.1 Phonological assimilation

Before dealing with the different vocalic and consonantal conversion rules of French borrowings operating in OrA system, it seems appropriate to give some general remarks about a language-specific feature that distinguishes OrA from Fr at the phonological level, namely emphasis. Indeed, emphasis receives a multitude of appellations which reveal controversial interpretations regarding its definition and its status. It is commonly known as "mufaχχama", "velarisation" or "pharyngelisation". It is not our intention here to give here historical background about this language property, we shall rather use emphasis and pharyngelisation interchangeably in this work.

OrA possesses a number of pharyngealised coronal consonants /t̪ ş d̪/ which are characterized with a secondary articulation added to a dental primary articulation. Furthermore, pharyngealization affects preceding and following vowels, and exerts then a co-articulatory effect on adjacent segments. That process is manifested in the lowering of the vowels /i u/ to /e o/ and the backing of the front vowel /a/ to surface /ɑ/. The latter is a surface realization of both vowels /a/ and /æ/ since OrA like other varieties of Algerian Arabic displays four vowels system as opposed to CA which is distinguished by a triangular vocalic system.

The French system lacks pharyngealized consonants and therefore a problem will be raised with regard to French borrowings comprising coronals. Likewise, the French phonemic system consists of vowel oppositions which may solve the problem linked to the absence of pharyngealised sounds in its consonantal system. Let us first look at few examples to see how conversion rules will operate at the vowel and consonant levels, following Heath's (1989) steps.

2.4.7.2.2 Vocalic conversions between oral vowels and nasalized vowels

The French vowels /i e ɛ / are generally realised as /i/ in French loan words penetrating OrA system. This surface realization does not appear in the context of pharyngealized sounds. Instances of this phonetic treatment are /ddifonsaraːt/ "defenders", /difonda/ "he defended", and /kaɾi/ "squarish" from the French

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adjective "carré". Yet, most of the time our informants retain the French pronunciation of such vowels and therefore they can add these elements to their phonetic inventory as allophones of the phoneme /i/. The French vowel /a/ is mostly realized as OrA [a]or[æ] but the realization in [a] is the most attested one our corpus. Another reflection is the emphaticized [ɑ] which occurs mainly in a pharyngealized environment. Few examples of these allophonic variations concern the verb[gaːra] "he parked", [npartisipʊ] "we participated" and the noun[tˤɑːbla] "table". In some other French loan words, the back vowel [o]occurs though no adjacent pharyngealized consonant appears as [organiza] "he organized".

French vowels /œ/ and /y/ do not have similar equivalents in OrA system. The participants tend to use the vowel [æ] and retain[y] in some cases or replace it by [i], as in [futaːj]for "fauteuil" (armchair), [bys] for "bus" (bus) and [biru] for "bureau" (office).

There is one possible case where the French vowel /œ/ is realized as[i]in our corpus, namely[firuːʒ]. The motivation behind this loan is to create humour since the context determines such an internal motive. The speaker can produce the French pronunciation [fœRuːʒ] "stoplight" and therefore this use has an aesthetic effect, as to function as a humour device.

The French vowel /y/ exhibits some irregularities. It is treated as [u] in certain contexts and [w]in a restricted number of adapted French items. Illustrative examples are[suːra] and[wziːn] from French "assurer" (to insure) and "usine" (factory) in which the initial vowels are syncopized.

As far as the schwa is concerned, the French vowel /ə/ [36] is generally reflected as an [u] in OrA system, as in [rupu] "repos" (a rest-time). In other cases, it is realized as [o]in a pharyngealized context[rotˤɑːɾ] "en retard" (late) or retained as in

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[36] The silent orthographic e in French (le e-muet) in final position is not taken here into consideration since normally it is silent and thus cannot have phonetic realisations when French words containing this (e) are borrowed into OrA system.

[tuʁnəvis] "tournevise" (screw-driver).

Another possible realization of the French /ə/ is the vowel [i] like the loan[sima:na] "a week", a variant of "semaine"[səmɜn]. The nasalized French vowels do not have equivalents in OrA, namely /ɛ̃/, /ɑ̃/, and /ɔ̃/.

When borrowing these types of vowels, the bilingual speakers use different strategies, they either retain the same pattern of the source language or convert the nasalized sound into a cluster of a vowel and a nasal consonant. The French /ɑ̃/ has different variants in OrA, it is either reflected as [on], [an] or [am] while /ɔ̃ / can have [un] as an allophone. For the French /œ/, the borrowed outcome is pronounced as[ɛ]. There are also other cases with -ment ending which undergo a denasalisation process by which the nasalized vowel /ɑ̃/ becomes a back vowel[a].

6.5.2.3 Other phonological processes in borrowing: truncation and simplification

After listing the various phonetic variations of French vowels when borrowing takes place, we will discuss some of the productive phonological processes operating when French loan words are simplified and reduced to fit into the requirement of OrA rules. These internal modifications are mostly motivated by the canonical-shape norms as noted by Heath (1989).

We have observed a tendency among our informants to use a set of phonological processes such as truncation, consonant-cluster simplification and disyllabification. Some examples appear to involve vowel centralization like in[sərtafi:ka] (certificate) for the French item "certificat", and [parɑsju:n] for the French item "opération" (surgical operation). Individual speakers use these linguistic items in particular contexts when discussing particular topics. This loss concerns truncation when a segment or a syllable is lopped off from the whole word. Illustrative examples may be [fərmli] for "infirmier" (male nurse), and [trisinti] for "éléctricité" (electricity).

In general, consonant clusters do not receive intensive variation because OrA syllable structure is different from that of MSA which is based principally on CV recurrent structure. Nonetheless, some reductions take place, mainly in stem-final position. For example, the French word "arbitre" (refree) involves a consonant loss and

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therefore realized as [?arbit] or [larbit]. In-depth analyses are needed to depict all the phonological processes relevant to borrowing such as, epenthesis and metathesis, but it is not our concern here to discuss these issues. Our objective is simply to have a look on some of the frequently attested processes when borrowing takes place in OrA system.

2.4.7.2.4 Morphological adaptation of French verbs

In attempt to identify the regular Fr to MA dia-systemic segmental conversions, Heath (1989) searches for the verbal paradigms that should be taken as the prototype for French verb borrowings. The observations of the morphological behaviour of the basic inflected forms of the conjugations –er, -ir and –re have led him to choose the participle as a prototype form. For instance, the French borrowings /diklara/, /rijja:ʒa/ and /kuvra/ produce varying morphological patterns and therefore raise classificatory problems.

Like MSA, OrA has a non-concatenative morphology structure and hence the formation of verbal and nominal constructions does not follow the linear French patterns. Put otherwise, OrA morphology is insertional in which vocalic patterns are inserted among radicals. Conversely, French morphology depends mainly on the addition of affixes to the stem and therefore different variants form the various categories in French. So, the selected forms diklar-, dikuvr- and swiv- receive phonological and morphological incorporations relevant to OrA structure and will be treated as part of the receipt language's lexis. Furthermore, the morpho-syntactic integration of these verb loans occur via the insertion of the cyclic affixes corresponding to different morphological markers, mainly gender, number, tense and aspect. Table (2.4) illustrates the integrations of French verbs (1ˢᵗ, 2ⁿᵈ and 3ʳᵈ groups) into OrA systems:

Verb groups	French verbs	Fr loan words in OrA		Significance
		perfective	imperfective	
1st group	Abonner	[ʔabon-a]	[jʔ-abon-i]	'he subscribe-s/d'
	Arranger	[ʔaonʒ-a]	[j-ʔaronʒ-i]	'he sort-s/ed out'
	Bricoler	[bloka]	[ja-blok-i]	'he block-s/ed'
	Déclarer	[diklar-a]	[j-diklar-i]	'he declare-s/ed'
	Déranger	[dironʒ-a]	[j-dironʒ-i]	'he annoys/ed'
	Foncer	[fons-a]	[j-fons-i]	'he charge-s/d at'
2nd group	Découvrir	[dikuvr-a]	[j-dikuvr-i]	'he discovers/ed'
	Fournir	[fuːrn-a]	[j-furːn-i]	'he provide-s/d'
	Servir	[sərb-a]	[j-sərb-i]	'he serve-s/ed'
3rd group	Peindre	[bəntar]	[j-bantər]	'he paint-s/ed'
	Reprendre	[rəprən-a]	[j-rəprən-i]	'he takes/took back'
	Recevoir	[rəsəv-a]	[j-rəsəv-i]	'he receive-s/d'
	Rendre	[rond-a]	[j-rond-i]	'he give-s in/gave in'
	Suivre	[swiːv-a]	[j-swiːv-i]	'he follow-s/ed'

Table 2.4. Morphological integration of borrowed French Verbs

2.4.7.2.5 Morphological adaptation of French nouns

Adapted French nouns are constructed via a combination of a nominal stem and affixes marking gender and number. In OrA nouns, gender depends largely on the presence or the absence of a final {-a} in nouns. The same pattern is applied on French borrowings: those items showing a final {-a} are feminine and those lacking this morphological marker are masculine. However, gender is not predictable all the time in French words. Some cases show several fluctuations and many irregularities, certain masculine words in French become feminine words in OrA. Thus, these linguistic items follow the OrA regular segmental conversion rules and subsequently a categorization ambiguity is generated. The example [tɑːbla] "table" for French (table) illustrates this regular conversion rule.

OrA expresses the relationship of possession on the basis of pronominal affixes attached to the noun like {ṣɑːfiba} "a friend" → {ṣɑfibətti} "my friend". French borrowed possessive constructions are produced following the same pattern in some cases, as in {loṭo-ti} "my car", {**famil**-ti} "my family" and {valiz-ti} "my suit-case". Nonetheless, French substantives inserted in synthetic constructions like {**binôm**-i} are very restricted.

Nominal French borrowings are produced in accordance with morphological regular patterns in OrA. Both regular and irregular plurals (suffixal and ablaut plural in Heath's terminology) are widely attested in OrA, they either receive the suffix {-aat} or OrA internal change. Illustrative cases are: {kamjʊ}→ {kamjonaat} (a lorry→lorries) from the Fr "camion" -PL- "camions", and {loṭo}→{lwɑṭɑ} (a car→cars) for "l'auto-pl-autos" in Fr (automobiles). The plural suffix {-aat} may be realized {-waat} and/or {-jaat} according to the final vowel of the noun. They generally occur in words which end in /-u/ and are morpho-phonemically motivated, as in[triku]→[trikuwwaːt] (sweater, sweaters) for French (tricot, tricots), and[kaːji]→[kajijjaːt] (copybook, copybooks) for French (cahier, cahiers).

Another less productive pattern is the suffix {-a}which occurs mainly in cases of the plural of agentive /CVCCaC/ and /CVCCi/, as in: [ṭɑllɑːb]→ [ṭɑllɑːba]b for the French items "mendiant → mendiants" to signify (beggar → beggars in English). Similarly, the same morphological scheme is followed in the formation of the plural of the word[bəznaːsi]→[bəznaːsa] for the English equivalents "businessman/ businessmen". Moreover, there are instances of nominal stems formed on the basis of a historical linguistic form[37]. The initial borrowing in these cases is the plural form of an item while the loan word is constructed by analogy. The masculine noun[zufri] "a worker" is formed on the basis of the French plural noun "les ouvriers". A similar case is that of [zɑlɑmeṭ] "match" which is based on the French plural "les alumettes".

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[37] There are loans which are constructed via a process of back formation. According to Heath a back formation is a historical process by which certain forms are morphologically derived from initial borrowing. That is, once back formation occurs, the original form functions as a marked form.

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The instances of French loan words listed in this section are not necessarily occurring in our corpus. Some instances are drawn from OrA speakers in order to exemplify some of the relevant phonological and morphological processes which occur when Fr loans enter the OrA lexicon. Besides, these mechanisms will help to clarify the distinction between CS, B and nonce-borrowing. Contrary to the distinction between CS and CM, the difference between these processes appears to be decisive in the analysis of our corpus. In fact, the analysis of mixed-codes depends fundamentally on the identification of the real switches in the mixed constructions.

2.4.8 Code-Switching, borrowing and nonce-borrowing

One of the central questions treated in the structural approaches to CS is whether lexical borrowing should be considered in code-alternation analysis. In fact, the problem of drawing clear-cut boundaries between B and CS can be traced back to Weinreich, Labov and Herzog's (1968) discussion of the *"transition problem"*. They have recognized that it is difficult to determine when a particular lexical item can acquire the status of a *"lone-other language item"* in the recipient language since language is continuously in a diachronic change. In fact, there are two opposing approaches in considering single-item insertions as loan words or instances of CS.

Poplack and her associates (Poplack et al: 1988, Sankoff and Poplack: 1981, Sankoff et al: 1990), argue that the insertions of lone-other language items are cases of borrowing and are hence basically distinct from longer switches of speech. In other words, the insertions of single items are fundamentally distinct from multiple word insertions. These researchers suggest that B and CS are distinct processes and propose morpho-syntactic and phonological integrations as criteria for differentiating loans from switches. In cases where lexical items exhibit phonological, morphological and syntactic integration into the Base Language[38], they are considered as instances of borrowing. On the other hand, the lexical forms that show only syntactic integration or only phonological or no integration at all constitute real switches, as indicated in figure (2.3) adopted from Poplack (1980).

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[38] The issue of the Basic Language as opposed to the Matrix Language will be discussed when we discuss the correlation between BL/ML with the unmarked code.

Type	Levels of Integration Into Base Language			CS?	Example
	phon	morph	syn		
1	✓	✓	✓	No	Es posible que te MOGUEEN. (They might mug you.) (002/1)
2	–	...	✓	Yes	Las palabras HEAVY-DUTY, bien grandes, se me han olvidado. (I've forgotten the real big, heavy-duty words.) (40/485)
3	✓	–	–	Yes	[da 'waɾi se] (58/100)
4	– '	–	...	Yes	No creo que son FIFTY-DOLLAR SUEDE ONES. (I don't think they're fifty-dollar suede ones.) (05/271)

**Figure 2.3 The criteria of distinguishing Code-Switching from borrowing
(Poplack 1980: 583)**

In the first example, the item *mogueen*, is phonologically, morphologically and syntactically integrated into the BL, despite the fact that this word is etymologically a loan word from English word "mug". It is considered by Poplack as an instance of monolingual Spanish discourse. On the other hand, the segments in (4) are entirely unintegrated into the patterns of the BL. According to the author, this type of code-switch is frequently attested in the speech of balanced bilinguals. Segments in (2), however, follow the phonological and morphological patterns of English but violate its syntactic patterns (the placement of adjective follows the Spanish patterns). This type of segment is also considered as a code-switch into English. Yet, the segment in (3) involves phonological integration into Spanish; it follows morphological, syntactical and lexical English patterns. Therefore, this type is considered as a code-switch into English, but realized with a "foreign accent". Furthermore, spontaneous switches of words, sentences and larger units at a turn boundary which do not involve any change in interlocutors, are also considered to be code-switches.

Poplack and her associates recognize later that phonological integration cannot be a reliable criterion in establishing B and CS differences, and identify the intermediary category as nonce-borrowing. Indeed, another controversial subject connected to the difference between B and CS heals the nonce borrowing hypothesis[39]. Poplack (2004) explains the meaning of nonce borrowing as follows:

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[39] Nonce borrowing has first been inaugurated by Haugen (1950) and taken up by Sankoff and Poplack later. They define it as "incorporation from another language uttered a single time by a single speaker in some reasonably representative corpus". Sankoff and Meechan (1998: 173) also state that "Nonce-borrowing differs from Code-Switching in all but its extralinguistic characteristics of recurrence and diffusion".

Like its established counterpart, the nonce borrowing tends to involve lone lexical items, generally major-class content words, and to assume the morphological, syntactic, and optionally, phonological identity of the recipient language. Like CS, on the other hand, particular nonce borrowings are neither recurrent nor widespread, and nonce borrowing necessarily requires a certain level of bilingual competence. Distinguishing a nonce borrowing from CS of a lone lexical item is conceptually easy but methodologically difficult, especially when this item surfaces bare (i.e., morphologically uninflected, or in a syntactic slot shared by both languages), giving no apparent indication of language membership.

Poplack et al. (1988) have noted that the structural form of the individual word cannot help to distinguish between linguistically integrated momentary or nonce borrowings like *coper* and *firer,* and well-established loanwords like *tougher* and *déplugger,* as in illustrated in the following examples drawn from Poplack et al. (1988: 52).

(211) a. Je serais capable de coper [ko' pé] avec
           "I couldn't cope with it."
       b. Il n'est pas capable de firer [faq ʁe] ses curés
           "He can't fire his priests."

(212) a. Ils *toughent* [tof] pas longtemps, on dirait, ils parlent.
           "They don't tough it out too long; it seems they leave."
       b. Puis les parents ont jamais voulu qu'ils la *dépluggent* [déplog], mais elle
           est morte quand même là.
           "And the parents never wanted them to unplug her, but she died anyway."

According to the nonce hypothesis, nonce borrowings are single lexical items or bound morphemes integrated morpho-syntactically into the system of the BL, but not necessarily phonologically. In contrast, established borrowings are fully integrated into the recipient language but do not meet the criterion of frequency. Accordingly, this approach places different single lexical items on a continuum which ranges from established to nonce borrowings neglecting completely code-switching. This view considers CS and B as two distinct mechanisms, as illustrated in figure (2.4). But, neither CS is placed on this continuum nor are nonce borrowings classified as CS instances, as noted by Boztep (2002:6). Yet, this approach may explain how single items taken from the borrowing language can be established as part of the borrowed language's lexis through conversion and adaptation routines. The partial and complete adaptations that these lexical items receive lead to their fusion via intensive frequency of occurrence and acceptability by the individual speakers of a certain community.

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    "TRUE"  INTRASENTENTIAL          FUNCTIONALLY  MARKED
              ↑ smooth                    flagged  ↑
              └──────────────────────────────────┘
                              ↑
                      CODE-SWITCHING
                              │
                  versus (no continuum)
                              ↓
                        BORROWING
              ┌──────────────┴──────────────┐
              ↓                              ↓
    ESTABLISHED BORROWING   continuum   NONCE  BORROWING
```

Morphologically integrated Syntactically integrated Phonologically integrated	Morphologically integrated Syntactically integrated (Phonologically integrated)
Recurrent (individual) Widespread (community) Accepted	
Restricted Lexicon	Entire lexicon (content words)

**Figure 2.4. The continuum for levels of borrowing in code-Switched utterances
(Poplack, Wheeler and Westwood 1989: 403)**

Sankoff et al. (1990: 71) make the distinction between B, Nonce-Borrowing and
CS as follows:

> Nonce borrowings in the speech of bilinguals differ from established
> loanwords in that they are not necessarily recurrent, widespread, or
> recognized by host language monolinguals. With established loanwords,
> however, they share the characteristics of morphological and syntactic
> integration into the host language and consist of single content words or
> compounds. Furthermore, both types of loanwords differ from intra-
> sentential code-switching-alternate sentence fragments in the two languages,
> each of which is grammatical by monolingual standards from the
> standpoints of appropriate function words, morphology, and syntax.

Other scholars (Myers-Scotton 1993, Treffers-Daller 1994) do not consider lexical
borrowing and CS as different processes. Myers-Scotton (1993), for instance, claims
that borrowed items begin originally as CS occurrences and places both concepts on a
single continuum. She further proposes *"frequency"* as a distinguishing element, and
suggests that borrowed forms show higher frequency as opposed to CS forms which are
considered as lower frequency occurrences. Myers-Scotton also rejects the idea that
loan words are used to fill gaps in the recipient language and therefore draws a line of

demarcation between cultural and core borrowings[40].

"Cultural borrowings" are items new to the recipient language culture as defined by Myers-Scotton (2002a: 21) "words for objects and concepts new to the culture of the Matrix Language". The most common motive for such transfer of linguistic material is merely a question of necessity: speakers may refer to objects or concepts for which there are no equivalents in their own languages. Instances of cultural borrowings in our data concern objects of technology, diseases, utensils and mainly administrative equipment, such as [imprimante multifonctionnelle (multifunctional print), portable (mobile), radio (X-ray), pic (high blood-pressure), allergie (allergy), asthme (asthma), relevé de compte (statement), compteur (meter), spatule (spatula), mixeur (mixer), pétrin (fix), photocopie (photocopy)].These terms are generally used in particular contexts maintaining their original form and significance within the cultural frame of the donor language. We consider that the motivations behind these linguistic copying go beyond a mere fact of non-equivalence or necessity, they are rather used by the informants as communicative strategies to accomplish different social and discourse functions and sometimes they are loaded with a symbolic value like "la lois des indigènes"[41] (autochthonous' law).

However, "Core borrowings" are lexical items which have been taken into the language though the ML has viable equivalent elements to express the relevant concepts as defined by Myers-Scotton (ibid: 41) "words that more or less duplicate already existing words in L1". It is only this type of borrowing which counts as CS in Myers-Scotton's continuum since cultural borrowings are in essence used to meet lexical needs in the BL. Myers-Scotton's view then attributes different statuses to cultural and core borrowings and hence a preference for the notion of *"asymmetry"* is expressed again in the classification of borrowings.

Illustrative examples of core borrowings which occur in my corpus are (carte d'identité) instead of /nəkwa/ (identity paper), la mairie instead of /baladijja/ (town hall) and other concepts designating names of food and other objects like (la menthe) for /naʕnaːʕ/"mint", (choux) for /krumb/ "cabbage", (betterave) for /baːrba/ "beet".

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[40] Myers-Scotton (2002a: 373) argues that not all established borrowings take place because of the absence of equivalences in the recipient language culture and therefore shares Haugen's idea which states that "borrowing always goes beyond the actual needs of language".

[41] This example is taken from an excerpt analyzed in Ouahmiche (2008).

In her review to the criteria established by Poplack and her associates to distinguish B from CS, Myers-Scotton (1993b: 191) argues that only morphological/ syntactic integration cannot be considered as a reliable criterion:

> The problem with morphological/syntactic integration as a criterion for B forms versus CS forms is that several different patterns of integration occur, not just one. This survey has pointed ou four patterns: (a) not all B forms show complete morphological integration; (b) most CS forms in ML+ EL constituents regularly show near-complete morphological integration; (c) when there is incomplete morphological integration, it may characterize B and CS forms in contrast to indigenous forms; and (d) both forms show syntactic integration.

We concur with Myers-Scotton (1993b/1997) considering singly-occurring lexical items from the EL to be morphologically and syntactically integrated to the same extent as the ML categories with which they are congruent. Since we adopt an insertional approach in our research, we will consider certain linguistic forms as CS instances since in our corpus the French verbs inserted in OrA-framed CP's are most of the time integrated to the ML rules. Furthermore, the principle of insertion presumes linguistic integration. Mixed constituents are considered as instances of CS as well. Thus, a distinction between B and CS forms is not so problematic to the structural analysis of our data.

2.4.9 The mental lexicon

For Myers-Scotton (1993b), the distinction between B and CS forms is not pertinent when phonological and morphological integration is taken as an operating criterion. The author claims that the B/CS distinction is important in terms of their classification in the mental lexicon[42] and their level of access. In this sense, the distinction between B/CS forms is relevant at the mental lexicon since it determines whether an EL system morpheme may occur in a mixed constituent. For Myers-Scotton, EL lexemes are embedded only if there is a congruent ML lemma. This requirement

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[42]L. Wei (2000: 109) defines morphemes as "the surface realizations of more abstract lexical entries in the mental lexicon". The author means by this definition that lemmas which are abstract entries in the mental lexicon underlie surface morphemes. In fact, Levelt (1989: 162) defines a lemma as the "non-phonological part of an item's lexical information", including semantic, syntactic, and some aspects of morphological information. In this sense, it is at the mental lexicon that lemmas provide conceptual information linked to grammatical function. For example, the lemma entry of a verb contains information in relation to semantic/pragmatic selectional information, argument structure, tense/aspect characteristics, and case marking features.

does not hold when the EL lexeme is borrowed, since in that case its lemma is part of the ML lexicon. Myers-Scotton (1993b: 192) claims the following:

> First, a form probably has entries in the mental lexicon of both the ML and its parent, EL. [..]Second an EL origin word which is a CS form is accessed in ML+EL constituents through an EL lemma, true, but only if it is congruent with an ML counterpart, while a B form is accessed directly (through its own lemma).

Myers-Scotton (ibid: 207) proposes the mental lexicon[43] which implies unequal activation of two lexicons linked to two different codes, as a criterion which allows making a distinction of B and CS forms. Borrowed forms belong to the ML mental lexicon while CS forms require the activation of the mental lexicon of the codes involved in bilingual speech. The author (ibid.) states that "B forms and CS forms differ in their status in relation to the ML mental lexicon, B forms are entered in this lexicon, but CS forms are not".

The distinction between B and CS, as established by Myers-Scotton, seems appropriate to the way we analyse the data when testing the MLF model and its sub-models. As such, the criterion of integration proposed by Poplack and her associates appears to be inadequate to cover many structural areas which still remain unsolved. In contrast, Myers-Scotton's typology may explain the occurrence of non-integrated longer stretches within a mixed CP in cases like the following example:

(213) nti ki teqri   **texte à l'origine anglais**
    you when IMPERF-read-2F INDEF-M text at DEF-origin English
    "When you read a text at origin in English."

Thus, we get along with Eastman's (1992: 1) idea that states that the "efforts to distinguish Code-Switching, Code-Mixing and borrowing are doomed" and that the "need to characterize any instance of seemingly non-native material in language as a borrowing or a switch" is not of paramount importance for understanding the socio-pragmatic mechanisms relevant to the production of inter-mingled languages.

2.4.10 The Base Language/Matrix Language in relation to the unmarked code

Many scholars have used the concepts of Base Language and Matrix Language to refer to a variety with a particular status in mixed-code utterances. We do not insist on

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[43] Boumans (1998b) discusses in depth the organization of CS form at the mental lexicon, with particular emphasis on the insertion of French verbs in Moroccan Arabic Matrix Language.

the criteria for identifying the BL or the ML as this issue will be addressed in chapter (4). We will rather focus on the relation established between the ML and the unmarked code, as discussed in the literature.

Myers-Scotton (1993b: 3) has used the term ML to refer to "the main language in CS [mixed] utterances in a number of ways" while Appel and Muysken (1987) prefer the term BL pointing out that there are three main ways through which the BL may be perceived: psycholinguistic, sociolinguistic, and grammatical. Psycholinguistically, as the authors (1987: 121) have stated "it makes most sense to think of the base language as the dominant language of the bilingual speaker making the switch, since that language is the most important one in determining his verbal behaviour". Sociolinguistically, it is "the unmarked linguistic code in a particular setting" while grammatically, it is the language which "imposes a particular constraint" on switch utterance.

The issue of a base, host, or matrix language has figured predominantly in works on intra-sentential Code-Switching[44] and the major criticisms have relied on the fact that it is impossible to identify the BL or ML on purely structural grounds. In this vein, Myers-Scotton (1993b: 67) argues for a sociolinguistic criterion, and points out that "the ML is the language more unmarked for the specific type of interaction in which the CS utterance occurs", with the unmarked code being the one that is expected in the situation and the embedded language being the marked language.

In fact, Myers-Scotton (1993a) suggests a socio-psychological model to account for linguistic choices in multilingual communities. She has worked primarily in Kenya, Zimbabwe, Tanzania, Uganda, Nigeria and Malawi, describing first the structural aspects of language use to arrive at a new proposal which aims at explaining the socio-psychological motivations behind CS use. She argues that any code choice is indexical of the social norms prevalent in society at large; yet these norms determine only the markedness of such linguistic choices and not the codes themselves.

According to Myers-Scotton (ibid.), any language is associated with what she calls a *"rights and obligations set"* where bilingual speakers signal their understanding of the relevant context and negotiate their social roles within the current situation. The markedness model (MM model) seems to be based on the indexicality of each code, speakers alternate the codes at their disposal to index the set of rights and obligations

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[44] E. Lanza (1997) gives a detailed interpretation of Language Mixing from sociolinguistic perspectives and therefore she evokes the issues of base, guest, and matrix language.

holding between the participants to the current exchange. Myers-Scotton (ibid: 6-7) points out that:

> CS in general is a type of skilled performance with communicative intent. From the socio-psychological point of view, CS can be characterized as symptomatic either of unwillingness or an uncertainty on the speaker's part regarding the commitment to indexing any single rights-and-obligations set between participants in a conversation, or of a negotiation to change the rights-and-obligations set. This is because each linguistic variety used in CS has socio-psychological associations, making it indexical of a 'rights-and-obligations set.

Myers-Scotton (1993c) assumes then that bilingual speakers must share a common knowledge of the social meanings attributed to each code within the society. On the basis of their understanding of the indexical value of each code, they choose the expected variety to negotiate social relations. Inspired by Grice's (1975) *"co-operative principle"*[45], Myers-Scotton (ibid: 113) suggests a "negotiation principle" as underlying social relations in bilingual speech, formulated as follows: "Choose the form of conversation contribution such that it indexes the set of rights and obligations which you wish to be in force between speaker and addressee for the current exchange".

She (ibid.) proposes three related maxims operative in bilingual speech: the unmarked choice maxim requires that speakers switch from one unmarked code (expected) to another in accordance to situational changes, this maxim directs "make your choice the unmarked index of the unmarked RO set in talk exchanges when you wish to establish or affirm RO set". The marked choice maxim requires the speakers to negotiate rights and obligations balance for various motives such as increasing social distance or creating an aesthetic effect; it directs "make a marked choice when you wish to establish a new RO set as unmarked for the current exchange". The exploratory choice maxim takes place when the unmarked choice is ambiguous and community norms do not provide the appropriate choice; it states that "when an unmarked choice is not clear, use CS [Code-Switching] to make alternate exploratory choices as candidates for unmarked choice and thereby as an index of an RO set which you favor".

The markedness model as a cognitive model states that bilingual speakers' choices are accomplished on the basis of their assessment of the markedness of the varieties used. The speakers are endowed with an ability that allows them to distinguish marked

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[45] Grice (1975: 26) stipulates in this principle: "Make your conversational contribution such as is required at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged".

choices from non-marked ones. This innate ability or *markedness metric* (called *markedness evaluator* in the late versions of this model[46]) is a mental construct. But, the distinction between marked and unmarked choices relies principally on the social relations existing between interlocutors. This point has been sharply criticized by conversational analysts who reproached to this model its heavy reliance on external knowledge, speakers' beliefs and mainly their understanding of the situation. They have also criticized it for its adoption of Fishman's domain-oriented approach (1965, 1972)[47].

Myers-Scotton and Bolonyai (2001) make it clear that the drawbacks of the early markedness model can be allocated to its incapability of explaining how negotiation leads speakers to translate their linguistic choices into various social meanings. The framing of the new model is apparently reinforced by ideas that match with Myers-Scotton and Jake's views from other approaches like the relevance theory.

Renaud (1998: 32-33) also reproaches to Myers-Scotton the attributing of much importance to codes in spite of the speakers in her Markedness model. He argues that "if this choice which belongs only to the speaker, remains unpredictable, the MLF model permits to predict, for languages 'already there', what is linguistically possible and what is not in terms of CS, independently of participants" (my translation). He (ibid.) adds that:

> The message which is the subject of the communication process can be expressed either in one or the other of the languages, or both being in turn contributing in alternation, what is changed in a form to another in the phenomenon of code-alternation, it is the social meaning associated to one of the two languages within the social context of their production. The MLF model makes therefore of codeswitching a form of linguistic variation where the embedded language is inserted as a variant of the other language, however; all things being equal, notably the content of the message, to the social significance which is almost a matter of social or communicative competence, not of linguistic competence. (My translation)

Mueeuwis and Blommaert (1998) reject Myers-Scotton's claim suggesting that the Markedness model allows for *"dynamic variability"* and consider the mapping between the chosen code and the indexical value of the RO set it reflects fairly static. They allege

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[46] The extended form the markedness model is elaborated by Myers-Scotton and Bolonyai (2001) as the Rational Choice model The premise of this newly-modified model is the assumption that speakers in bilingual communities make rational choices depending on the costs/rewards associated with the marked and unmarked codes for the exchange at hand and they act later to optimize their returns.

[47] The "allocation of languages to social domains" plays an important role in the shaping of Myers-Scotton's (1993a) "allocation paradigm". According to this principle, languages are allocated to specific domains and the linguistic choices by speakers engaged in CS depend on the social situation.

this model for giving a mistaken conception of the indexicality assigned to social norms. In response, Myers-Scotton and Bolonyai (ibid.) have revisited the markedness model in an attempt to combine cognitively-oriented assumptions with social structures to deal with socio-pragmatic dimensions of code-choices. They claim furthermore that the extended version of the markedness model is able to explain a wide range of issues in contact linguistics and social behaviour. However, Renaud criticizes the MLF model because no place is attributed to semantics in it. The author (ibid: 33) asserts that: "The stability of the semantic message and its transferability to a mental lexicon to another, as different as Swahili and English, in cases where each language alternate as a Matrix Language, are not treated" (my translation). He further explains that the MLF model ignores the real motives behind code-switches and limit them within a social acceptable code in in unmarked context. He (ibid.) sates that:

> The model, strictly linguistic, is thus "transferrable" and can be applied anywhere, totally indifferent to cultures, except local settings by speakers. This may seem surprising. This is a static model and exogenous since it limits the phenomenon of Code- Switching to universal rules of hierarchical syntactic constraints of co-occurrence between linguistic forms in a verbal repertoire and the social constraints, as limiting the products of these rules only to the socially accepted forms.

In this research, we will use the terms BL and ML interchangeably to signify the language which sets the frame in a mixed-code utterance. We agree with those researchers who reject any type of correlation between the ML and the marked code. Nonetheless, we consider that context cannot be the trigger of CS because it is in constant change. Even Myers-Scotton has advocated the hypothesis of the turnover to describe the changes of the ML within a conversational exchange.

2.5 Conclusion

This chapter has considered methodological and conceptual issues which will be needed to the understanding of this research. For this purpose, two main parts have been established, namely methodological design and conceptual apparatus.

The data that constitute our corpus have been constructed through the use of several means of data gathering among the informants such as, natural recordings, well-formedness judgements, and sometimes hypothetical examples constructed by the participants themselves. Furthermore, the respondents were aware of being recorded in most of the speech situations.

In fact, we claim that the choice of certain methods of data collection is largely determined by the theoretical framework under which the data are analyzed. Since we adopt Myers-Scotton's insertional models as a frame of reference for this study, we will refer to the subsequent concepts, principles and methods which agree with Myers-Scotton in the way she conceives B and CS.

It is worth recalling here that besides naturally-occurring data, we also refer to relative judgments on the well-formedness of certain mixed constructions. The hypothetical examples used in this research were constructed by the participants themselves while some other examples are selected from the speech of non-participating speakers.

Although the context is the same, the speech situations changed from one group of informants to another. The 27 participants in this study display different degrees of competence/proficiency in MSA, OrA, Fr, and even in Eng. In most of the speech situations, we were not present in order to avoid the observers' paradox. Nonetheless, we have attempted to gather some information about the respondents in order to analyse the data objectively by focusing mainly upon the linguistic component of the collected data, and comparing the participants' degrees of competence/performance with their self-perception at another stage.

As far as data representation is concerned, we have taken into consideration the contextual elements when transcribing the data though our interest is not attributed to local meaning of code-switched utterances. It is rather the structural configurations which are of utmost importance. We will then attempt to correlate the different patterns of CS revealed in our informants' bilingual speech with other factors such as, proficiency, intentions, beliefs and attitudes.

For the analysis of our corpus, we shall conduct a micro-sociolinguistic study which relies mainly on qualitative methods. Nevertheless, quantification of the data is pre-requisite to reinforce our findings and strengthen our arguments about certain issues like items recurrence, the length and the frequency of certain patterns, and even the sites of CS occurrences within the CPs.

Conceptual issues have also been handled in this chapter. The term bilingual speech has been preferred as opposed to plurilingual speech, and it is used in this research to subsume the latter when discussing trilingual CS. The concept of bilinguality has been selected instead of bilingualism because this study concerns the individual competence/performance of the respondents and not the collective act which

is denoted by bilingualism.

The issue of CS typologies has been treated as well. Thus, only intra-sentential CS will be analyzed structurally since the premise of Myers-Scotton's insertional models which are chosen as a frame of reference, is based principally on this type of switching while inter-sentential and extra-sentential CS have been discarded. Yet, the term diglossic CS has been retained to describe CS instances between MSA and OrA.

Similarly, the different issues related to B and CS reveal several remarks, both on the theoretical and empirical sides. We have tried to discuss some theoretical findings which generated many debates and controversies in order to test the empirical validity of certain conceptions on our corpus.

We have remarked that adaptation strategies are not sporadic dia-systemic rules but rather regular analogical conversions. The respondents' linguistic behaviour has shown regular patterns of imported French words and larger constructions. They adhere to variable routines when adapting French nominal and verbal stems. These adaptation routines disclose certain asymmetries and hierarchies, nouns are more borrowed followed by verbs and then come the other categories which range on a continuum. A predominance of the morphological adaptation in verbs has likewise been observed. The same remark holds true cross-linguistically.

The linguistic behaviour of the respondents varies from a context to another. For instance, they produce more adoption in certain contexts when discussing specific topics. In fact, adoption is used when treating topics related to studies and university problems. Adaptation is, however, used consciously or unconsciously to fulfil certain communicative functions such as, humour and emphasis (the case of the word that denotes "light stop" and most of the repetitions noted in the corpus). The degree of adaptation varies considerably from one speaker to another. Several layers of French loans display the degrees of adaptation: the participants sometimes resort to full integration, partial and intact French items in other cases.

We claim that the degree of adaptation is determined by the speaker's degree of proficiency. Proficient speakers in French (mainly girls) use French because of its prestigious connotation (context 5). So, attitudes and beliefs play a certain role in shaping speech patterns (context 8). Thus, the aim of the next chapter is to explain these observations, adopting a quantitative perspective. Moreover, contrastive/comparative analysis is required at this level between the syntactic categories in MSA, OrA and Fr.

This contrastive analysis will help us to understand the MLF and its supportive models which rely on morpho-syntactic schemes.

COMPARATIVE INSIGHTS AND SOCIO-PRAGMATIC FINDINGS

3. Comparative insights and socio-pragmatic findings

3.1 Introduction

In this chapter, we shall discuss first the languages and varieties in contact in an Algerian context to give a general picture of the sociolinguistic situation in Algeria which is necessary to understand CS patterns observed in our data. Secondly, we shall present some morphosyntactic properties of Standard Arabic, Oran Arabic and French, with reference to the characteristics of syntactic categories and larger constituents, which constitute the elements switched in the data analyzed. Finally, we shall proceed to the quantification and analysis of the data in the light of the theoretical framework (s) adopted in this research work from a quantitative point of view. Therefore, quantitative data are the first step of our corpus analysis. We will focus on the diverse categories/ constructions mostly inserted within different CS configurations. Sometimes, other variables are needed for analysis, especially when tackling OrA/MSA code-switched utterances, be they social or discursive.

Indeed, the formal description is a prerequisite because the identification of the ML in bilingual CPs entails an explicit knowledge of the morphosyntactic convergences and divergences characterizing the languages involved in CS. Still, the understanding of Arabic and French grammars in the mixed constituents being switched cannot be achieved unless an accurate description of the syntactic properties of each code is realized. Nevertheless, we shall focus mainly upon the features relevant to the explanation of the issues raised in our analysis, and highlighted in the different chapters of this research work.

The discussion of the above-mentioned points will take the following major elements: language profile, language contact phenomena such as borrowing, Code-Switching and interference, languages in use and their implementation in teaching. For this purpose, we stress on the way the languages present in the Algerian context interact with each other and their intermixing within grammatically well-formed utterances. Some other considerations will also be discussed: the characteristics of the data, reflecting language dynamics and social factors influencing this dynamicity. Some questions will be raised in relation to this issue. We hypothesize that certain factors play a determining role in shaping CS configuration patterns rather than changes in eco-

structures[48] and contextual elements like the speakers' ideological assumptions and attitudes, their pragmatic intentions and level of consciousness, and overtly their degree of bilinguality as triggers of different types of CS patterns.

3.2 Languages, varieties in contact within an Algerian context

The linguistic landscape in Algeria is characterized by the coexistence of different languages, namely Arabic with its varieties and the various Berber varieties. The presence of these languages and dialects within the same geographical space has triggered a complex situation that has attracted the interest of linguists, sociologists, anthropologists and other specialists in different fields of research. We shall present each language in relation to other languages present in the Algerian realm. Our intention is not to give an exhaustive description of the languages, varieties in contact within an Algerian context, but we attempt to shed some light on the linguistic heterogeneity characterizing Algerian speakers' behaviour in general that may help to understand the linguistic patterns distinguishing the speech of university students who have displayed a particular language use characterized by varying patterns of mixed constructions.

In fact, Algeria is characterized by a socio-ethnic heterogeneity which may be ascribed partly to the various invasions and the mixing of the different languages and cultures that marked its history (Phoenician, Carthaginian, Roman, Byzantine, Arab, Spanish, Turkish and French). This heterogeneity had generated situations of various languages in contact with noticeable effects, namely with a four-dimensional linguistic configuration. This situation is distinguished basically by MSA (a written prestigious language) as a dominant language, Algerian Arabic and Berber (spoken stigmatized languages), as minority languages[49], and French as a second prestigious language. In this sense, Standard Arabic is a dominant prestige language reserved for official use since it is supported institutionally while Algerian Arabic is a minority vernacular

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[48] Cadora (1992) demonstrates that the linguistic correlates of transitional stages of urbanization in a contemporary rural community may explain linguistic changes and variation among ruralite communities. Put otherwise, ruralite speakers develop certain rules when they adapt their speech with urbanite speakers.

[49] The notions of a minority language as opposed to a dominant language are used in the sense perceived in Owens (2000) of these constructs. Many variables have been proposed to distinguish dominant languages from minority languages. Although demography is the major factor, it is not the only criterion for minority status. The author (ibid: 3) considers other variables such as: "self-categorization, common descent, distinctive linguistic, cultural or historical traits related to language, social organization of the interaction of language groups in such a fashion that the group becomes placed in a minority position", and "prestige, which is "measured in terms of institutional support which a language receives, choice of language in inter-communal exchanges, and various other factors".

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language since it is spoken natively by the great majority of Algerian population and used for everyday communicative purposes but with no official status. Furthermore, Berber is a minority language characterizing 25% of the population with no institutional support since it is spoken by Kabyle, Chaoui, and Touareg groups whereas French is a minority prestige language as indicated by Boumans and Caubet (2000), a language maintained because of its instrumental value as a language used side by side with MSA in different sectors such as education, administration, and alone in science and technology. Given this mosaic landscape defined through traits of plurilingualism, many language contact phenomena arise in verbal interactions between Algerian individual speakers (Arabophones and Berberophones), namely Code-Switching, Code-Mixing, interference, borrowing, etc.

In the following section we will draw a concise picture of the different languages coexisting in Algeria with reference to the relationship they exhibit with each other. Algerian history cannot be traced back to the Spanish or the French colonization and less even to the pre-hilalian conquest. Algeria has experienced a great number of invasions and its history is deeply influenced by multiple cultures and civilisations. Nonetheless, the first-known citizens "Imazighen", later designated as "Berbers" were the indigenous people of Algeria and North Africa. Many scholars point out that the origins of Berber groups are rather controversial[50]. Yet, we will not treat the Berber languages since this subject is beyond the scope of our inquiry. We rather focus on the Arabic language, Algerian Arabic and some foreign languages.

3.2.1 The Arabic language: the language of power or the power of a language?

Arabic belongs to the South-western Semitic languages, spoken by about 250 million (Holes: 2004), and it is the only joint official language in the Middle East and North Africa. Despite the existence of Berber minority languages in North Africa, many of the Berbers speak Arabic, except those who live in isolated scattered areas though they have at least elementary knowledge of Arabic.

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[50] When raising the issue of Berbers' origin, Ruedy (2005: 9) points out that "The literature on the origins of the Berbers is full of problems and ambiguities. The balance of opinion at present holds that the Berbers of history were the descendants of a Paleolithic stock to whom had been added a variety of other racial inputs- minor ones from Western Europe and from Sub-Saharan Africa, and two major ones from the northeast and the southeast. The language which covers the centuries splintered into scores of dialects distributed among three main families may be Hamitic in origin. If so it is a relative of Golla, Somali, and Pharaonic Egyptian, a cousin rather than a sister to Arabic and the other Semitic languages".

Arabic has altered profoundly the linguistic situation in Algeria and deeply affected the linguistic systems of the indigenous varieties. For instance, Berber has borrowed from Arabic a large number of loans[51] which have been integrated into the system of the recipient language (Chaker 2003b: 134).

Thomason (2001) claims that the spread of CA is due to Islam (religion). This fact is attested in the large number of Arabic loans in many languages. The author (2001: 2) states that:

> The Koran (or, more precisely, Qur'an), the sacred text of Islam, is written in Classical Arabic, but many of the world's Muslims do not speak any form of Arabic. Nevertheless, Classical Arabic is in contact with other languages in many parts of the world through the religion, as is attested by the sizable number of Arabic loanwords in various languages among them Persian, Turkish, and Malay that are spoken primarily by Muslims.

The "Arabic language" is a general term that covers many varieties more or less close to each other but with different status and domains of use, as described in many linguistic studies. Indeed, many terms have been attributed to Arabic in several ancient and recent inquiries approaching the linguistic situation in the Arab world, namely L'Arabe Classique/Classical Arabic (Marçais: 1930), L'Arabe Moderne/Neo-Arabic/ Modern Arabic (Monteil: 1960), Modern Arabic (Stetkevych: 1970, Blau: 1981, Holes: 2004), l'Arabe vivant (Pellat: 1971), Modern Written Arabic, Modern Literary Arabic (Meiseles: 1977, Gully: 1993), Modern Standard Arabic (Kaye: 1987, Justice: 1987, Parkinson: 1993, etc.).

This categorization of Arabic varieties is not a question of mere naming but rather represents approaches and frameworks elaborated to describe the linguistic contact and/or conflict between the different forms of Arabic. W. Marçais (1930) suggests the term "diglossie" (diglossia) to designate language duality where two idioms are opposed: Literary Arabic of the Quran (Classical Arabic) and Colloquial Arabic associated to a low status. In his report, the author asks the question as whether Arabic is to be considered as one language or two languages, and points out that it is rather a question of two states of the same language, different enough that the knowledge of one of them does not necessarily imply a knowledge in the other, very similar that the knowledge of one of them facilitates considerably the acquisition of the other.

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[51] Brahimi (2000: 373) has undertaken a study on loanwords in Algerian Berber where she points out that 22, 7% of the items are of Arabic origin (by token) and that Arabic alone represents 20, 3%. Other studies conducted on Berber and Arabic in contact demonstrate that approximately 35 % of Berber words are derived from Arabic (Chaker, 1991: 58).

Other researchers have used another term "Modern Arabic" to describe a form of Arabic that Stetkevych (1970) qualifies as an intermediate language between Classical Arabic and Colloquial Arabic. This idea corroborates Monteil's (1960) description which entails that a new variety or a Neo-Arabic (in his own terms) based to a great extent on Classical Arabic but a separate variety of it has emerged. Then, Stetkevych (ibid: 121) arguably states that:

> Modern Arabic is moving away from both the Classical and the Colloquial languages. While retaining the morphological structure of classical Arabic, syntactically and above all, stylistically it is coming ever closer to the form and spirit of the large, supragenealogical family of western culture bearing languages.

Some other researchers prefer other terms to refer to different layers of Arabic with distinct conceptions. Somewhat contradictorily, other researchers have shown that Literary Arabic which comprises contemporary Arabic literature is a distinct variety from Modern Standard Arabic which covers journalistic language of the media. Kaye (1987: 377) directs, however, his attention to draw a clear-cut distinction between Classical Arabic and MSA, stating that: "The fact is, however, that MSA is not the language of the purists, nor the language of academy in Cairo, nor of wright's grammar of classical Arabic".

Van-Mol (2003: 38) considers in his turn that it is difficult to make a distinction between MSA and CA while Parkinson (1993: 47) has remarked that the native speakers of Arabic (Egyptian Arabic) are more or less unaware of these differences and recognize al-luġa al-fuṣḥa as a unifying medium, he points out that "although scholars have no trouble distinguishing MSA from classical Arabic on formal grounds, native speakers in Egypt do not typically distinguish between the two, using the term fuṣḥa for both".

When approaching and applying the notion of diglossia in the Arab world, several terms appear to be operating, among which Triglossia, Quadriglossia, and multi-layered diglossia. Many researchers who adopt a variationist approach attempt to categorize intermediate language levels (Blanc: 1960, Meiseles: 1980, Badawi: 1973, among others).

Blanc's (1960) approach to the levels of Spoken Arabic stems from his interest to the strategies developed by four Arab native-speakers engaged in interdialectal communication in Arabic and the way they modify their own dialect. The author

distinguishes two types of strategies, namely the 'levelling' and 'classicizing'' strategies. He observes that levelling strategies consist of linguistic adaptations through the appeal to higher dialectal forms which do not necessarily belong to the dialect of the speaker, aiming at reducing local dialectal features to arrive at establishing common cross-dialectal characteristics. However, the classicizing strategies consist mainly of borrowing from classical Arabic.

Blanc (ibid.) has remarked that his respondents switched from one language level to another when they talked about non-daily subjects. These stylistic changes seem to be determined by a range of factors such as, the profile of interlocutors, the speaker's attitude toward the interlocutor or even the topic of discussion, etc. Subsequently, Blanc (ibid: 85) distinguishes the following language levels:

- Plain colloquial refers to any local dialect within which the speaker may select "informal" or "mildly formal features".
- Koineized colloquial is any plain colloquial into which levelling devices have been more or less literally introduced.
- Semiliterary/ Elevated colloquial is any plain or koineized colloquial that is classicized beyond mildly formal range.
- Modified Classical is Classical Arabic with dialectal mixture.
- Standard Classical is any of a variety of classical Arabic styles essentially without dialectal admixtures.

Some other researchers bring new insights into the linguistic variation in Arabic and claim that a new supradialectal norm (Fergusson: 1990) or a new language termed "Colloquial Arabic of the intellectuals" عامية المثقفين or لغة المثقفين is in the making. For instance, Bishai (1966: 320) predicts that "the emergence in the Arab world of what may be called a Modern Inter-Arabic Language" because of the increasing contacts within the Arab world which would lead Arab speakers to adapt themselves to be able to understand and talk (communicate) with each other. Fergusson (1990: 49) claims that ESA, a new supradialectal norm of Educated Spoken Arabic, is coming into existence whereas Mitchell and El Hassan (1994: 2) considers ESA as a mixture and assumes that "ESA, both within and across national boundaries, is a mixture of the shared written language and regional varied vernaculars or mother-tongues". Abu-Absi (1990: 41) too discusses the preponderance of ESA among people and acknowledges that:

> ESA is assumed to be readily understood by most speakers regardless of their degree of education and it serves as a convenient tool among bilinguals who may not share the same foreign language and find it cumbersome and unnatural to communicate in MSA. The frequent use of ESA by politicians,

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religious leaders, and educators has brought this variety closer to the people and made it a viable means of communication among all Arabs.

Following the same line of thought, Meiseles (1980: 118) proposes to use the term 'quadriglossia' to depict the linguistic situation in the Arab world and assigns the highest place to Literay Arabic defined as follows: "This is the language Arabs learn in the course of their formal education, and the one they aspire to follow in writing and, at times, in their speech as well" (ibid: 123). Moreover, he distinguishes the 'in-between' range of the Literay Arabic-Vernacular Arabic, namely "ESA and Sub-standard Arabic".

This view does not match Parkinson's (1991) conceptions in his approach on MSA[52]. Parkinson gives an account on MSA in terms of a continuum and not as a multi-layered set of languages which display certain discrepancies. He arguably reveals that a language is determined largely by the perception of its speakers. In this sense, MSA is defined according to the way Arab speakers perceive it.

These hints about the various labels assigned to Arabic or the different forms of it are not meant to be an exhaustive review of the term Modern Standard Arabic (MSA). We will not develop any further the concepts associated to Arabic diglossia but we confine ourselves here solely to MSA as a blanket term to be used in our research. In fact, all these appellations designate forms of Arabic which display some differences at varying degrees and therefore do not constitute separate languages but levels or registers of the same language. Yet, we use MSA as the language used at school, in the media and newspapers. It is the official language in Algeria which exhibits variation with Algerian Arabic. As a response to those who pretend the existence of a wide gap between these two varieties, a real observation of Algerian speakers' practices show the penetration of a large amount of vocabulary into AA from MSA. Our corpus is too a sample showing a considerable use of vocabulary drawn from MSA even though our respondents possess their French equivalents. The illustrative examples will be discussed when analyzing our data in due sections.

For example, Eid (1988) assumes that there exist clear structural divergences between Standard Arabic and Colloquial Arabic and hence considers them as separate

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[52] For further details about the value of Parkinson's approach of diglossia, see Stadlbauer (2010). Eisle (2002), Ayoub (2003), Jaffré (2005), and Eid (2007) also conduct a reflection on the evolution of the term "Modern Standard Arabic" in relation to the main approaches set up to treat Arabic diglossia as a specific subject of inquiry.

languages. Besides, she claims that Standard Arabic and dialectal or native Arabic constitute a form of code-switching. Brahimi (2000), however, points out that the different approaches distinguishing Standard Arabic from native Arabic are misled by the use of both varieties and suggests to handle this problematic issue by referring to the term of "a regionally-based Koiné". She (ibid: 374) states that:

> Both of these approaches are contradicted by the actual usage of Standard Arabic and native Arabic. Even in the case of North African dialects, which are relatively distinct structurally from Standard Arabic, the commonalities between the two predominates, rendering it difficult to speak of two different languages, as a Code-Switching approach would require. The educated spoken Arabic approach is feasible, though only within broadly-defined boundaries, as one and the same speaker, according to context, region, addressee and other factors will produce distinct varieties of educated spoken Arabic. Against the background of an increasing integration of Standard Arabic loanwords in native language, it is possible to speak of this variety in terms of regionally-based koiné.

In this respect, we agree with Brahimi that MSA and Colloquial Arabic are two distinct forms of the same language despite their differences in terms of domains of use.

Recall here that many researchers have described the linguistic situation in Algeria as a complex one and attributed the main problems in language policy as practiced in Algeria to the superimposed status of Standard Arabic. Yet, the observation of the real linguistic practices among Algerian speakers reveals that some descriptions (Ayari: 1996, Benrabah: 1998, Benrabah: 2007, Abu-Haider: 2000, Grandguillaume: 2003, Grandguillaume: 2004/2005)[53] considering Arabic and the process of Arabization to be the major source of language problems in Algeria are misleading and often attempt wrongly to foster the idea that Standard Arabic is overvalued at the expense of the local (native) varieties, the main means of communicative exchanges. In fact, despite of its religious load Arabic has played an important role in unifying Arab populations, preserving the Arabo-Muslim identity facing the various occupations and it was at a certain time a language of science. Contrariwise, the problem with the Arabic language lies mainly in the restrictions imposed on it and the constraints enforced on its use. Arabic was most of the time considered as the language of the holy Quran and therefore deprived from any evolution, and this misconception created beliefs around the Arabic language as a sacred language.

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[53] Ayari (1996) has undertaken a research the problems of illiteracy in diglossic situations.

Chelli (2011) claims, for instance, that Literary Arabic is an abstract language imposed in Algerians' life and particularly at school where it has greatly increased illiteracy and reduced the real native languages into spoken dialects without a written code, notably Algerian Arabic. The author adds that the situation is even more complex and psychologically traumatic for infants at school who find themselves, from the first day of class, confronted with a new language and compelled not to practice their respective first languages. Besides, he ascribes the decay of the educational system and in particular language teaching to a negating policy which makes of Arabic the official language of the state.

Following the same reasoning, Queffélec et al. (2002: 47) consider the status assigned to the Arabic language in the Algerian policy as a psychological manipulation since language policy in Algeria consists in instrumentalizing and using popular mental representations related to the notions of "Arabic language" and "Islam" and their legitimizing and sanctifying power; deeply internalized in the Algerian people's consciousness. This conception implies that literary Arabic has been placed on a peak of value hierarchy because of its prestigious and symbolic power.

Again, the authors insist on the child once enrolled who find himself faced with various languages in his process of learning who could not assimilate a third language, and even further a fourth language which are absent in his immediate linguistic environment. According to these authors, the first education is disturbed by other languages of which, in this case Standard Arabic which has a highly coercive status, in accordance with the following language combination:

ML (dialectal Arabic) + L_2 (French) + L_3 (Standard Arabic), ML (Tamazight) + L_2 (dialectal Arabic + L_3 (French) + L_4 (Standard Arabic) + L5 (anglais).

Other contemporary Algerian researchers (Taleb-Ibrahimi 1997: 86) share this point of view and acknowledge that Algerian speakers, in their relation to the Arabic language, find themselves constantly oscillating from the positive to the negative pole, torn between their loyalty to the authenticity of the model, to the past and inheritance values transmitted by their own language (Arabic), and their attraction to the other's language, associated mostly with modernity. Boucherit (2002: 12) describes the linguistic situation in Algeria as similar to other heterogeneous situations in the World. She states that nearly about 80% of the Algerian population speak Arabic as a first language and most of Berberophones are bilingual speakers (Arabic/Berber). According

to her, all Algerian Arabophones and beyond Maghribi, are relatively homogeneous and the linguistic differences between the dialects may be disconcerting, they may create ambiguities, misunderstandings or provoke laughter or ridicule, and even produce discomfort in understanding but the speakers would not have difficulty to make themselves understood. The author (ibid.) claims that the linguistic situation in Algeria is but as compared to the French situation where speakers from Marseille and Paris talk to each other despite their different "accents".

A look at the main conceptions associated to the Standard variety of Arabic shows that most of researchers agreed on one main idea which ponders Classical Arabic or even MSA as having a coercive status, associated mainly to failure and linguistic schism. A large number of them claim the legitimacy of native and local varieties but pass over the essential point which is alternatives. Some other scholars exaggeratedly describe the linguistic situation in Algeria like Chelli who claims that there is a wide gap between the official language and the dialects to the point that most of Algerian speakers could not understand it.

No doubt that Algerian Arabic is the mother tongue of the majority of Algerians, no body appeals against the fact that Berber is the native language of indigenous people in Algeria but what about the way of implementing such varieties in the absence of a norm. Many questions can be raised here in relation to language issues in Algeria: What are the parameters which can overgrade native and local varieties into official languages? Can they challenge foreign languages? Can they keep pace with changes resulting from globalization and linguistic imperialism?

We think that neither Berber nor Algerian Arabic possess the power to encounter the new challenges. We rather advocate that attempts would be directed in the opposite direction. What is needed in Algeria is to reduce the gap between the spoken varieties and the written language through awareness about common and separate structures. We claim too that linguistic diversity in Algeria is but normal and variation is a normal state of affairs. Furthermore, this diversity is a richness and not a weakness, dialectal Arabic and even Berber should be combined in a way that each variety facilitates the acquisition/comprehension of the other. Even foreign languages should be exploited to participate in the evolution of both official and non-official languages.

Before describing the status of Algerian Arabic and other related issues, it would be interesting to give some hints on the process of Arabization in Algeria.

3.2.2 The process of Arabization in Algeria

The decision to introduce the process of Arabization[54] can be traced back to the early years of independence. In the primary schools, Arabization was slow in the beginning but the target was achieved in that the first two years of elementary school were totally arabized by 1966. In the secondary and higher schools, humanities were taught in Arabic while other fields were still taught in French. This situation is still the same with slight differences in higher education: some other subjects or units are fully arabized whereas technical subjects continue to have French as a medium of instruction. Besides, government administration started to be arabized by 1970 that was a turning point for this particular sector.

Taleb-Ibrahimi (op.cit: 184) has explained the target behind Arabization in Algeria pointing out that Arabization represents a return to authenticity, and recovers the attributes of the Arabic identity which can be retrieved solely by the restoration of the Arabic language, the regaining of the dignity scoffed by the colonizers and the elementary condition to become reconciled with oneself. Kateb (2005: 54) has also expounded the second objective behind Arabization which consists of the renewal of the Algerian personality deeply affected by the French colonization and the valorisation of the national language which was prohibited and relegated and its history as well as its culture which were denied and impaired. Grandguillaume (2004: 9) has associated Arabization to monolingualism which negates bilingualism marking Algerian policy. He depicts the steps of Arabization claiming that up until the 1970s in primary schools and the 1980s in secondary schools, bilingual sections juxtaposed Arabized sections, each with their own teachers and their own methods. For many years, European teachers worked side by side with teachers from Arab countries. This juxtaposition of methods and curricula led to a parental preference for the bilingual sections and a certain devaluation of Arabization. Especially since the economic sector, and the administrative sector to a large extent, still relied on the French language. The Algerian teachers, who gradually became the majority, were split into Arabophones and Francophones, reproducing the pattern of conflict between a modern system and an archaic one. The bilingual sector was cut back as a result of the authorities' Arabization decisions and a halt called to training French teachers in the late 1980s. As a consequence, in some

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[54] For more details about the process of Arabization in Algeria, see Abdulrazak, F. (1982), Arabization in Algeria, *MELA Notes (26)*, 22-43.

regions, even though French was included in the curriculum, instruction was no longer provided. By the 1980s, education had to a large extent become monolingual.

Boukhchem and Varro[55] (2001: 12) point out that the Arabization policy signifies actually the rejection of multilingualism and the real practices in Algeria. In this sense, language mixing, levelling between Standard Arabic and the different dialects as well as borrowing have been firmly refused. The authors add that Literary Arabic taught as a High variety is far from being a means of individual identity structuration since it is distant from daily usage. Arabic crystalized resistance against colonial powers but after independence native and local languages (Algerian Arabic and Berber) have been completely ignored. Thus, far from being the tool of people's liberation and the recovery of local languages, Arabization hence represents a new settlement.

Chelli (op.cit: 12) considers that the diglossic pattern is more appropriate to the political power that used it to reinforce its supremacy and strengthen its legitimacy. The introduction of Arabization policy is merely an act which aims at reducing the mother tongues into patois and deviant forms of a norm "Standard Arabic". Nevertheless, a place has been reserved for the French language in the educational system at the expense of native languages.

Though Arabization has been seen as a negation of the local varieties, we truly believe that the conflictual relationship between AA and MAS is just a figment of imagination. Chelli and other researchers stress on Arabization policy in Algeria but ignore totally regional variation in France and other multilingual countries as if linguistic variation concerns only the varieties of the Maghreb.

After this brief consideration of Arabization in Algeria, we shall speak about Algerian Arabic without mentioning the structural similarities/dissimilarities between AA and MSA. Our objective is to provide a general picture about regional variation as well as some processes subsequent to contact between Arabic (MSA and AA) and other languages.

3.2.3 Algerian Arabic between negation and the claim for integration

Algerian Arabic is essentially a spoken variety which comprises many regional dialects. Although it is the mother tongue of 85% of the Algerian population, and constitutes the first language of socialisation and the major base for communication

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[55] BOUKHCHEM, K and VARRO, G. (2001), Benrabah, Mohamed. Langue et Pouvoir en Algérie: Histoire d'un Traumatisme Linguistique. Paris, Seguier, 1999, *Cahiers d'Études Africaines*, 163-164, http://etudesafricaines.revues.org/132

(Taleb-Ibrahimi, 1997), it lacks official status. Unlike Berber varieties, these regional dialects display specific phonetic, morphosyntactic and lexical dissimilarities, most of these varieties are mutually intelligible.

When investigating linguistic diversity, Cherrad-Benchefra (1990) realizes that in spite of apparent similarities between dialectal Arabic (AA) and Literay Arabic, the great majority of the population do not have access to Literary Arabic which is a highly written literary language. Notwithstanding, accurate descriptions of both varieties of Arabic (Literay Arabic and dialectal Arabic) would show a high proportion of structural proximity when loanwords are disregarded. For instance Marçais (1960: 582) argues strongly that "Whatever the difference between the dialects of the Maghreb, they remain closely akin to one another".

Ph. Marçais (1977) describes the linguistic variation within Algerian dialects using two attributes, namely Bedouin/sedentary. The author suggests that because of the large dimension, the geographical partitioning and the complex history of Algeria, one cannot say that there exists only one dialect. He considers three spoken varieties: le parler Constantinois, le parler Algérois et le parler Oranais.

Bouhadiba (1988) notices, however, that the dichotomy rural/urban appears to be inadequate to set up the different varieties prevailing in Algeria. The author (ibid: 18) states that:

> Dichotomies such as Urban/Rural varieties are quite difficult to set up in the linguistic situation that prevails in Algeria today. Previous inter-dialectal studies of the early 40's and 50's on Algerian dialects by Marçais, Cantineau or Cohen did recognize similarities and differences at various linguistic levels of analysis among dialects. However, contemporary Algeria is characterized by a number of social and linguistic upheavals resulting in a continual 'brassage' of different dialects and cross-dialect contacts that lead to mutual borrowing and adaptation.

Many dialectologists have noted that the opposition between nomad/sedentary or rural/urban varieties seem to loose validity because the linguistic particularities would increasingly disappear. For instance, Ph. Marçais (1960: 390) predicts that a koiné of Algerian Arabic is in the making resulting from the dialect mixture due to huge internal population movements within Algerian regions. This common koiné would probably substitute the old regional dialects in Algeria, according to this author. Bouhadiba (op.cit) shares the same view stating that a new variety named "Algerian Arabic" is in the making since the regional varieties of Algeria seem to be converging in a slow

rhythm towards a uniform variety closer to MSA. The author also remarks that a high degree of understandibility would be realised across these regional dialects because of the strong influence of the media on the speakers of these varieties. Besides, the findings obtained in a study undertaken by Bouamrane (1993) have shown a high degree of cognation between nomad and sedentary varieties. Additionally, the degree of cognation among Nomad dialects scores higher than that achieved when Nomad and Sedentary dialects are compared.

Some recent studies seem to emphasise these findings. Dendane (2007: 74) has remarked that a large number of *"classicized"* lexical items are attested not only in semi-formal contexts, but also in informal ones. The author ascribes the penetration of this important bulk of vocabulary in the speech of his respondents to the influence of the language of TV and that of school as well. In this sense, the introduction of these linguistic forms is not determined by a lack of French equivalents since many people may know their equivalent forms in AA and in French. An interesting example of classicized forms has been cited in this research, it is a question of the word *qaðijja* ('matter', 'affair' or 'case') which has no equivalent in AA, except its French borrowed equivalent *affaire* realized often in its plural form as *lezaferāt*. Other interesting examples have been given by the author to elucidate the impact of the language of school on children who transmit explicitly this idiom to their parents and hence their entire immediate environment.

Again this issue may lead back to the linguistic situation in Algerian, and the relationship between MSA and AA. For example, Bouhadiba (1993) claims that researches undertaken on the linguistic situation in Algeria are mostly characterized by a tendency to compartmentalize communication processes, making use of binary-based theoretical models, namely Classical Arabic/dialectal varieties, Arabic-French/Arabic-Berber, and Berber-French bilingualism. The author argues furthermore that these approaches imply inevitably that the language/communication facts are described as if the Algerian speaker can choose among the codes at his disposal because he has a control over them, which alludes to an individual rather than a collective plurilingualism. In fact, this view is not so far from the ideas considering heterogeneity and language variation in Algeria as the main source of school failure, focusing mainly upon surface structural divergences between Standard Arabic and the dialectal varieties.

However, Boukreris (2011) undermines the complexity of the linguistic situation in Algeria by advocating the different domains of language use ascribed to Standard

Arabic or the "school tongue" as termed in her point, and the local varieties. She (ibid: 24) states that:

> Actually, the Algerian situation is simpler than that. It can be reduced to the Arabic language and its corresponding dialectal forms, the Berber language and its dialectal forms and French as a foreign language having a potential hierarchy status in some domains. Politically speaking, the Arabic language does not display any conflict with its dialectal forms, but each is attributed a different status. The Arabic Language "school tongue" is promoted a national official one used in formal speech situations and domains while dialectal Arabic is limited to oral use.

Dendane (op.cit) too debates an interesting point related to the Algerian individual speakers' competence/performance when discussing the complexity of the linguistic situation in Algeria. The author points out asymmetries in the Algerian interlocutors' proficiency either in MSA or French and notes that most of them are more proficient in perception rather than production when it comes to MSA. These remarks may explain the main problems with MSA claimed by some researchers who consider Arabic as an alien language to the largest number of the Algerian population. The author (ibid: 110) makes this issue explicit as follows:

> It is worth mentioning at this point that a distinction should be made between production and perception skills in the two non-native languages that Algerian individuals are exposed to in contrast with their mother-tongue(s). In fact, the degree of proficiency in speaking effectively and passive understanding of French and MSA vary according to different factors among which the level of education and the socio-economic status are essential. People's competence can in fact be measured in terms of a continuum, though it is attested on the whole that they are more proficient in perception than in production, particularly in MSA.

On the basis of the previous remarks and conceptions, we suggest that the different varieties of Arabic can be placed on a *"double continuum"*. Horizontally, the spoken dialects vary on a continuum[56] where distant varieties are placed on the two extremes. The points on which varieties are placed can be measured by proximity and common linguistic features. Vertically, Literary Arabic, MSA, a unified form of AA (a variety in the making), and AA at the bottom of the scale. Literary Arabic and the vernacular dialects are placed on the two extremes. Evidently, Berber is not excluded but treated separately. We consider Berber as a language which exhibits important

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[56] For further details on the Arabic language continuum, see Bouhadiba (1993).

variations due to the lack of mutual intelligibility. Berber remains a national language and is part and parcel of the Algerian patrimony.

The coexistence of Modern Standard Arabic, Algerian Arabic, Berber, and French developed many cases of bilingualism, and constituted sources of Code-Switching. The main types of relationships are as follows:

- Algerian Arabic/French bilingualism.
- Modern Standard Arabic /Algerian Arabic bilingualism.
- Algerian Arabic/Berber bilingualism (in a few restricted areas).
- Algerian Arabic/French Code-Switching.
- Algerian Arabic/Berber Code-Switching (in a few restricted areas).
- Algerian Arabic/Berber/French Code-Switching (in relevant areas).

These different types of relationships may reveal the linguistic practices prevailing in Algeria. When we speak of bilingualism we refer to balanced bilinguals who have nearly equal competencies in the languages involved. Otherwise, cases of Code-Switching show the languages mixed within verbal interactions which can either constitute a sign of competence or a signal of linguistic insecurity. This is verily due to many factors which influence the perception and/or production of the codes present in the interlocutors' repertoire. Nevertheless, diglossic relationships are not disregarded here since they can shape merely very particular cases and not collectivism. We think that the diglossic binary model is being substituted gradually by linguistic continua.

Before we move to a succinct description of foreign languages in Algeria, we shall talk briefly of the dynamicity of Algerian Arabic. In fact, dialectal Arabic appears to be more open to borrowing new items and linguistic structures from other languages. The different languages which were in contact with Algerian Arabic have left considerable structural traces in the local varieties, mainly urban dialects. Although Arabic has deeply affected Berber in North Africa through the process of Arabization achieved during the Arab conquests, an important number of lexical items have been borrowed from Berber and adapted into the phonetic and morphosyntactic system of the different dialects of Algerian Arabic. Spanish and Turkish have also influenced AA though to a very slight extent, but it is French that has had the greatest impact on the internal structure of AA.

We will not consider at this level the different loanwords adopted or adapted into AA. The following tables drawn from a study conducted by Guella (2011) are used just to illustrate the dynamics of AA and its capacity to integrate alien elements and

structures. In fact, no explanations will be given because the subject of borrowings[57] in AA has been heavily treated and a considerable amount of literature can be referred to. We confine ourselves here only to some Berber instances used by speakers of AA without being aware of their origins, to some other Turkish loans to illustrate the contact between AA and Turkish, and finally we give certain French loans and calques fully integrated in the lexicon of Algerian dialects.

Table (3.1) represents some instances of loanwords from the Berber substratum which have infiltrated into the core vocabulary of Algerian dialects and succeeded to resist to the changes due to variations allotted to time and space. Although these cases of borrowing display phonetic and morphosyntactic integrative patterns, their syllable structure may indicate their affiliation to another language different from Arabic. For instance, /āzdūz/ « a pestle » indicates a use of a vowel (generally known as « attaque vocalique » in French dialectologists' terminology), a vocalic structure not allowed in Arabic dialects.

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[57] Versteegh (2001) has provided a detailed article on the various loanwords borrowed from Arabic by the different languages across the world.

Mot d'origine berbère	Glose en français	Glose en anglais
āzdūz [4]	un pilon	a pestle
sāsnu [5]	fraises (sauvages)	(wild) strawberries
səkkūm	des asperges	asparagus
fəkrūn (pl. fkārən)	une tortue	a tortoise
ʿatrūs (pl. ʿtārəs)	un bouc	a goat
fərnān	liège, bouchon	balsa wood, corkwood
mṣāṣət (sg. məṣāta)	jambes, fesses	legs, buttocks
(bu)žuġlāl	escargots	snails
gəržūma (pl. grāžəm)	une gorge	a throat
zərmūmiya	un lézard	a lizard
fərtəṭṭu (pl. frāṭəṭ)	un papillon	a moth, a butterfly
azəllīf (pl. azlāləf)	une tête de mouton	a head of sheep, ox, etc.
azəqqūr	un rocher, une pierre	a rock, stone
tiziġziġt	Vers (dans viande séchée)	Worms (in dried meat)
qarqra (pl. qraqar)	un crapaud	a toad, a frog
tiflilləs	une hirondelle	a swallow (bird)
aməndās	un rat, une souris	a rat, a mouse
ānġa	une uvule	a uvula
šlāġəm	moustache	Moustache
rzazzi (ou tarzazzi)	une guêpe	a wasp
azəbbūž [6]	oleaster	
fallūs⁻	un poussin	a chick

Table 3.1. Berber loans in dialects of Algerian Arabic
(Guella 2011: 82)

Table (3.2) illustrates some loans drawn from Turkish as a result of a contact between this language and Algerian dialects. Most of the words elicited in this table reveal the daily use of these terms and hence indicate their frequency of occurrence as being the main reason of their transmission into AA. It would be interesting to mention here that some names of occupations exhibit the suffix {-dʒi} of Turkish origin. Loanwords of this type are frequently attested in AA, such as /suʕaːdʒi/ "a watch-maker" and /qahwaːdʒi/ "café-owner".

Mot d'origine turque	Glose en français	Glose en anglais
tabṣi (pl. bāṣa)	une assiette	a plate
buqrāž	une bouilloire	a kettle
tqāšir (sg. Taqšīra)	chaussettes	socks
bašmāq (pl. bšāmaq)	une mule. une sandale	a sandal
bāylak[8]	publique	public
bālāk	peut-être	maybe
qahwāži[9]	garçon. patron de café	café-boy, café-owner
su'āži	un horloger	a watch-maker
qmārži	un joueur. parieur	a gambler
sukārži	un ivrogne	a drunkard
fūra[10]	Jeu ! terme de défaite dans un jeu de carte	Game ! Term of defeat in card-playing
fərtūna	bagarre. désordre. chaos	fight. chaos, disorder
batinti[11]	taxes. impôts	certificate of rates
bāla[12]	une pelle	a shovel. blade
məngūša (pl. mnāgəš)	boucle d'oreille	ear-ring
branīya	aubergine	aubergine
zerda	festin	feast

Table 3.2. Turkish loans in dialects of Algerian Arabic
(Guella ibid: 83)

Unlike Turkish and Spanish, French influence on AA is tremendously remarkable in a sense that not only single items have penetrated into the system of AA but also entire structures have been transferred by Algerian speakers. The motivations behind such wide-ranging borrowings go beyond the scope of our research work. Consider the following table:

Mot d'origine française	Glose en français	Glose en anglais
bagīṭa	Baguette de pain	Loaf of bread
tipāna (also : ptipāna	Petit pain	(thin) loaf of bread
rubīni	robinet	(water) tap
tīki	ticket	Ticket
bunāni	Bonne année	Good (new) year
sandli	Descente de lit	Bed mat
muzīt	Musette	Haversack ; satchel

Table 3.3. French calques in dialects of Algerian Arabic
(Guella ibid: 86)

3.2.4 Foreign languages: new perspectives and challenges in Algeria

Many languages were in contact with Algerian Arabic as a result of colonialism or natural contact. These languages have lost their status or their status has increasingly withdrawn in Algeria and they are used or taught today as foreign languages.

According to Queffélec et al. (2002), the Spanish language was used by Spanish immigrants, refugees from Muslim Moors, and Jews deported by Catholics after the fall of Granada in 1492. This population that settled exclusively in coastal cities and some towns in the west of Algeria is reinforced by other immigrants in 1505/1509 during the occupation of Algerian ports by the naval forces of Ferdinand the Catholic. The presence of Spanish is still manifested in the spoken varieties in Algeria (le parler Oranais), mainly Oran Arabic. The authors have considered Spanish and the other Mediterranean languages (Provencal Italian, Maltese, Portuguese) a linguistic source for the establishment of a trade pidgin, a sort of lingua franca which is based mainly on original combinations and mixture of many languages.

Though Spanish had a great influence on certain spoken dialects in Algeria, it did not preserve a status of a prestigious language. This withdrawal may be due to its domain of influence: Spanish has affected mainly trade and commerce aspects. Currently, the Spanish language is rather taught at universities as a foreign language.

The French language constitutes the second academic language in Algeria. Despite the fact that Standard Arabic is used as a language of teaching, French occupies an important place at school, universities and it is still used in other sectors with varying degrees in accordance to the speakers' level of proficiency and their attitudes and common beliefs. Similar to other situations in the Maghreb (Morocco and Tunisia), French continues to be associated to modernity, openness on the occidental world, and it represents a certain class and culture, a particular social prestige and an appropriate medium of communication. Indeed, Benzakour et al.[58] (2000) have recorded positive attitudes towards the French language in Morocco who consider it a high variety rivalling MSA. Moreover, Moroccan speakers perceive French as a permissive language since it is free of the ideological and moral constraints attached to the local varieties.

In contrast, the English language does not have the same status as French in Algeria. Yet, English is increasingly integrated in many spheres. When discussing the status of English in the Maghreb, Battenberg (1996: 4) has noted that: "Although

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[58] For further details on the place and the role of the French language in Morocco, see Benzakour et al. (2000: 79-80).

Arabic, French, and Berber will remain the principle languages of the Maghreb for the foreseeable future, English is making impressive entrances into sectors of North African society".

Contrary to the observation made by Fishman (1983: 20) on the English and French languages in the Middle East which reveals that "English is less loved but more used; French is more loved and less used", Battenberg (op.cit) has remarked that a growing body of evidence suggests just the opposite in the Maghreb "French is more used, English is more loved".

Some other researchers have found in their studies on plurilingualism that English is preferred over French as a foreign language. This finding may suggest that English has emerged as a viable linguistic option for educated North Africans. Although English will not replace French, its role and status is intensely increasing. For instance, Rezig (2011) has recorded the Algerian experience consisting of the integration of the English language at the primary school which doomed to failure. The author (ibid: 1329-1330) states that the educational system throughout Algeria is still largely based on French as a first and major foreign language because of the parents' preferences:

> Starting from 1993 a new process to enhance the foreign languages teaching at an early age by giving the opportunity to primary school pupils to choose between French and English as a compulsory foreign language. Teachers were more than 90 percent Algerian at all levels. Arabization of the education system was considered an important objective of the 1990s. Vocational education at the secondary level received attention as part of the reorganization of the mid-1970s. The program was experienced only in some primary schools but stopped because the majority of parents preferred French to English.

The author (ibid: 1332) adds that the results of his inquiry show that "the students' performance at university level cannot be treated far from their initial education at the primary, middle and secondary schooling". He suggests that the Arabization long-term policy has created a wide gap between general education (from primary to secondary school) and university which prepares the students for their professional life not only in departments of foreign languages but also in other scientific and technical streams where subjects are taught in French like Medecine, Architecture and electrical engineering, etc.

Romy-Masliah and Aronin (2007) advocate that the domination and hegemony of English are largely determined by economic and cultural factors, they also claim the

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sweeping this international language could not be stopped. The authors[59] (ibid: 31) state that: "Whether we take English as a dangerous instrument of cultural imperialism or as an agent of progress which permits better exchanges in communication and commerce, it remains that the sociolinguistic predictions expect no brake to this momentum." (my translation)

After these brief insights about the different languages used and taught in Algeria, we shall introduce the variety under study and give some of its characteristic features in order to facilitate the comprehension of the data analysed from a quantitative perspective. Then, we will interpret the motivations behind the use of particular CS patterns rather than others in different speech situations even though the major context is university.

3.3 Some historical and linguistic insights about Oran Arabic

The variety spoken by the informants who constitute the subjects of this research work is OrA. In fact, Oran is the capital city of Oran Province (figure 3.1) in western Algeria which constitutes an important commercial centre. It owns this importance to its strategic situation as part of the Mediterranean Sea and its port of Mers-El-Kebir.

The name "Oran" is a French transliteration of "Wahran" which is believed to originate from a Berber root <whr> meaning 'lion', and the suffix "-an" to signify "two lions". According to some sources based on a local legend, there were sightings of lions in the area around 900 BC, and the two last felines were killed in a mountain near the city of Oran which is called now "La montagne des Lions" (Mountain of Lions).

Oran was founded at the beginning of the 10th century by Andalusian merchants as a base for trade with the North African hinterland. The city developed commercially because of its sea connections with Europe. In 1492 and 1502 Oran received colonies of Spanish Muslims escaping from compulsory conversion to Christianity. Then it declined. Owing to its Mers el-Kebir port, Oran became a centre for colonizers. In 1509, it was occupied by the Spanish and then the Turks in 1708, and it was occupied by the French in 1831.

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[59] The original text reads as follows : "Que l'on tienne l'anglais pour un outil dangereux d'impérialisme culturel ou pour un agent de progrès permettant de meilleurs échanges dans la communication et le commerce, il n'en demeure pas moins que les prédictions sociolinguistiques à court terme n'envisage aucun frein à cette lancée."
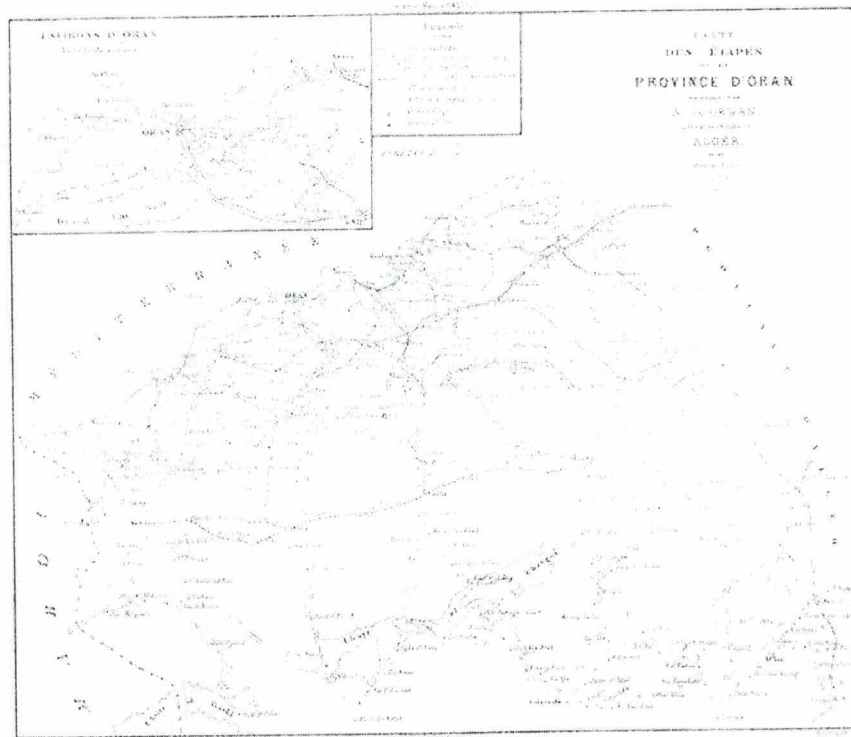
Figure 3.1. The Province of Oran
Source gallica.bnf.fr/Bibliothèque Nationale de France

As mentioned earlier, the different occupations of Oran have resulted in a hybrid language spoken by the different interlocutors in contact. These linguistic traces have been studied from various perspectives. For example, Abi-ayad (2012) acknowledges that the city of Oran, formerly known as the *"Corte chica"* by the Spanish conquerors, is not only the capital of Algeria Hispanics, but also the city of the entertainer Miguel de Cervantes. The author also claims that the history of Oran is characterized by its deep connection with the Iberian Peninsula.

Benalou (2002) claims in his linguistic description of « le parler Oranais » that a little amount of works was devoted to this variety. Nonetheless, Basset (1969) has analyzed and described some phonetic, morphological and lexical particularities of what was named "l'arabe Oranais" but the most significant analysis of this variety was undertaken by Cantineau (1940). Indeed, Cantineau (ibid.) specified in his study that the Department of Oran (le Département d'Oran) is the only area where Berber occupies a little space compared to the Departments of Constantine and Algiers. The author rather claims that the "Beni Bou Saïd" represent the sole Berberophones in this particular area, situated in the southern part of Tlemcen.

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More recent studies on "le parler Oranais" are of a limited number, except a work conducted by Benalou (2002) who provides a full description of the phonological properties of this variety spoken in the western part of Algeria. In his description of this variety as an urban dialect, he has shown the most productive phonological processes like the hiatus, assimilation, dissimilation and apheresis. The author[60] (2002: 17) also discusses the issue of "Hispanics" in Oran Arabic claiming that "Oran Arabic has always been characterized by the use of a hybrid, heteroclite and mixed language".

Benalou (ibid) explains the strong presence of Spanish items in "le parler Oranais" and ascribes it essentially to geographical and socioeconomic factors (proximity with Spain, population movements, and the open market). All these contributing factors have participated in the penetration of Spanish loans in Oran Arabic.

Moussaoui[61] (2009: 141) too advocates that "l'Oranais", a variety spoken in urban zones as well as in rural zones of the west of Algeria, is distinguished by innovation and heteroglossia since it is in a constant dynamics of interaction/negotiation with other languages (Arabic, French, Spanish and recently English which is introduced massively by schooling). She adds that this variety is interspersed with words, forms and phrases referring to a plural reference and assigning it a special expression.

In a previous research, Moussaoui (2004) demonstrates that the issue of Spanish loanwords in OrA reveals a process of reactivation not of permanency since Spanish items never disappeared to be restituted. She further explains that certain terms do not only expound the stage of its development but also certain social phenomena like the word "*trabendo*" frequently attested in many Algerian dialects. This idea is expressed as follows:

> Survivance et étrangeté suppose la fixation du sens voire son inertie. Or, l'enquête que nous avons entrepris, et celle que nous menons aujourd'hui, révèlent que, comme tout phénomène langagier, une fois adopté, l'emprunt n'échappe pas à la dynamique du changement. En effet, dans l'Oranais, nous avons constaté, non pas une permanence puisqu'il n'a jamais été question de disparition, mais une réactivation voire une résurgence de

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[60] Benalou states in the original text that : « "L'Oranie s'est toujours caractérisée par l'usage d'une langue hybride et truculente, bigarrée et hétéroclite, métissée et bâtarde."

[61] The content of the original text is a s follows : "L'oranais est une variété parlée dans les zones urbaines ainsi que dans certaines zones rurales de l'Ouest algérien. L'innovation et l'hétéroglossie en sont la norme. Elle est en perpétuelle interaction/négociation dynamique avec les différentes langues: l'arabe dont il dérive, le français, l'espagnol et actuellement l'anglais introduit massivement par la scolarisation. En effet la variété oranaise est parsemée de mots, de formules et de tournures renvoyant à une référence plurielle et qui lui confère une expression particulière".

certains lexèmes (dans le sens de notion et praxis). Bien que, à première vue, l'emploi de termes empruntés au domaine de la physique semblent incongrus, le sort (apparition-trajectoire) de certains hispanismes nous pousse à en faire usage car non seulement ils expliquent, au stade où nous en sommes, la notion (lexème) mais aussi, en parallèle, certains phénomènes sociaux avec l'activité ou la pratique.

Abi-ayad (op.cit:17-18) argues that the Spanish language has been established among workers and low social strata in Oran at the expense of the French language. He considers this Spanish linguistic heritage[62] as a cultural legacy and lists some of the integrated items borrowed from Spanish:

> *La mona, calentica, chancla, kartagena, carro, calvo, baile, almario, setuta, bogado, basura, borracho, chamba, (chance), tonto, (débile), churro, (beignet), corbata, coche, trabendo, cuadro, cuatro, cuberta, slata, scalera, espartena, (sberdina), sederia (nappe ou banquette), falso, rojo, negro, raya, pulpo, sipia (seiche), fama, fdewasch (fideos), feschta, fondo, gancho, gato, gentes, gordo, gosto, khaleo, lejia, manco, (manchot), monio, (chignon), moreno, moro, pasta, bulisiya, trago, trinta, tris, vinga, vino, sabato.*

We use the term "Oran Arabic" to refer to the urban variety used in Oran and therefore the other dialects constituting *"le parler Oranais"* will be disregarded. The historical and linguistic insights mentioned above will serve to delimit the area of our inquiry. We shall now discuss some morpho-syntactic properties of MSA, OrA and Fr, mainly the PRO and word order.

3.4 Some Formal properties of Arabic and Syntactic features

3.4.1 Arabic as a pro-drop language

Subjects may be dropped in Arabic. This property of optionally dropping subject pronouns and allowing subjectless sentences is not limited to Arabic but is also found in other languages like Persian, Turkish, and Spanish, to name but few. The pro-drop property of Arabic has created much debate in the literature because of the verb-subject-object (VSO) word order, the absence of vowels and the relatively free word order.

Most researchers have agreed that Arabic allows a null subject (PRO) in its structure but the relation between PRO and other elements in the sentence like verb movement and agreement features remains a debatable issue. Consider then the

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[62] Benalou (2002) has studied in details the Hispanics penetrating Oran Arabic. Besides, he discusses the adaptation routines used by speakers of OrA as well as semantic changes affecting these items.

following examples which indicate the structures of an overt and a covert (PRO) subjects:

(214) ħaddɑɾɑ   ʔal waladʊ d-darsa
     prepare-PAST the boy-NOM the lesson-ACC
     "The boy prepared the lesson."

(215) ħaddɑɾʊː   d-darsa
     prepare-PAST (PL-M) the lesson
     "(The boys) prepared the lesson."

The above sentences show structural differences with regard to the presence/ absence of the lexical covert subject. Example (214) lacks the covert subject "ʔal ʔawlaːdʊ" (the boys) which is named a covert subject, null subject, and PRO. Besides, the suffix {-ʊː} is attached to the verb stem "ħaddɑɾ" in (215) and appears to designate the features of PRO (3-M-PL). This suffix specifies the three missing features (person, gender, and number) and is therefore called "full agreement" in contrast to other affixes named "partial agreement" which specify only two features, namely person and gender.

Akinci and Backus (2008: 31) point out that Turkish is also a pro-drop language and subsequently attest subject pronouns' dropping. The authors argue that the use of subject pronouns in pro-drop languages like Turkish serve pragmatic functions. Unlike English, their use of subject pronouns is mainly for emphasis. They are used to stress contrastivity that a certain person has performed some role as against some others. Emphatic pronouns have a tendency therefore to be at least as specific in their reference as the unemphatic structure would already indicate.

MSA and Arabic dialects in general are considered to be pro-drop/null subject languages (Alhawary 2009:14, Farghaly 2012: 40-41, Eid: 2013). As with other pro-drop languages, the agreement inflection on the verb refers to the properties of the null subject. Objects (DO and IO) can also occur on the verb as pronominal clitics, in which case the clitic object follows the agreement inflection. The following example exhibits a case where the subject can be dropped and the object can be replaced by the clitic suffixes:

(216) raʔai   -tu   -hu
     see-PERF 1S   3MS
     "I saw him."
     (Shlonsky, 1997: 184)

Many researchers agree on the contingent relationship between the rich (overt) inflections and the null subject property, specifying certain languages like Arabic. Eid (1996) states that being a pro-drop language, Arabic allows the subject position to be empty as the monolingual data show. Since English does not allow empty subjects; the bilingual data reflect this restriction. Alhawary (2009: 218) also considers that the presence of rich agreement morphology is generally assumed to be the licensing condition for the dropping of subject pronouns in pro-drop languages. Similarly, Gibson (1996) mentions the link correlating the verbal and the pronominal systems in pro-drop languages like Arabic. The author (ibid: 109) states with regard to these properties that:

> Non pro-drop languages, like English, do not always reflect the same feature marking in the pronominal and the verbal systems: the verbs often have less marking than the pronouns, such marking being redundant information. In pro-drop languages, on the other hand, there is more likely a stronger match between the verbal and pronominal systems, as the normal, unmarked case in any sentence is that of one with full subject pronoun. In such languages the semantic distinction is carried by the verb. So as in languages such as Spanish, pro-drop languages have maintained full person distinction in the verbal morphology. Arabic also displays such a system, and unlike Indo-European languages, uses gender as a feature to be marked in the verbal morphology.

Owens et al. (2009) also explain in what way the verb alone is sufficient to make a complete sentence in Arabic. The authors (ibid: 20) claim that "Arabic does not have highly specialized morphological or syntactic mechanism for tracking subject reference". Chomsky (1995) proposes that PRO is the null subject of a certain structure that does not show an overt subject, claiming that this phenomenon can be observed in pro-drop languages or Null Subject Languages (NSLs). This PRO is a covert nominal subject (+ pronominal) that takes the place of a regular subject; it carries a nominative case and a θ-role. Aoun et al. (1994) consider the placement and movements of PRO and argue that the lexical subject which is generated in VP moves to the specifier of IP to check its nominative case in SVO structure. This analysis is also adopted by Jalabnah (2007) and Ouhalla (1994) who precisely specify the location of that subject to be in [spec, TP]. In the VSO structure, Aoun et al. (2010) claim that the thematic subject remains in VP and another covert expletive appears in [Spec, IP] to receive, instead of the genuine subject, a full agreement via Spec-head configuration relation.

We stop at this level the explanation of PRO because in-depth analysis is beyond the scope of our inquiry. We intend simply to emphasize the agreement features in the

PRO properties that may help in the understanding of certain facts on pronoun doubling discussed in the fourth chapter.

3.4.2 Word order in Standard Arabic and Colloquial Arabic

Most researchers assume that the word order of CA is VSO. However, both VSO and SVO structures are attested in MSA and most dialects of Arabic. Most current research on Arabic assumes that the thematic subject is generated VP-internally (Aoun et al: 1994).

MSA is a verb-initial, verb-subject-object (VSO) language in which preverbal subjects are also allowed, producing subject-verb-object (SVO) structures. As sentences (217) and (218) demonstrate, the verb shows partial agreement in gender (and probably person) in VSO structures, but it shows full agreement person, gender, and number in SVO structures. The sentences also show that VSO plus full agreement and SVO plus partial agreement result in ungrammaticality.

VSO + Partial Agreement

    (217) a. darasa/* ū   l-'awlādu   l-'umθūlat-a
            studied-3m/3mp the-children-nom the-lesson-ACC
            "The children studied the lesson."

        b. daras-at/*na   l-fatayāt-u   l-'umθūlat-a
            studied-AFS/3FP the-girls-NOM   the-lesson-ACC
            "The girls studied the lesson."

SVO+ Full Agreement

    (218) a. l-'awalād-u   daras- ū/*a   l-'umθūlat-a
            the-children-NOM   studied-3MP/3FS   the-lesson-ACC
            "The children studied the lesson."

        b. l-fatayāt-u   daras-na/*at   l-'umθūlat-a
            the-girls-NOM studied-3FP/3FS the-lesson-ACC
            "The girls studied the lessons."
            (Haddad 2012: 61-62)

Fassi-Fehri (1998) assumes that VSO order is derived by verb movement to I while SVO order is further derived by the subject raising to Spec IP. Aoun et al. (op.cit) argue that the agreement facts of Moroccan Arabic and MSA are best accounted for by assuming that V is in a projection higher than I, and S is in Spec IP. Similarly, we assume the agreement features in OrA and MSA are well considered when V is not

placed within IP. In OrA the verb agrees with the subject in number in both word orders. The following examples illustrate this pattern.

(219) regdʊ   ṣṣ°ɣaːɾ
PERF-sleep-3PL DEF-kids

(220) ṣṣ°ɣaːɾ regdʊ
DEF-kids   PERF-sleep-3PL

(221) *rged   ṣṣ°ɣaːɾ
PERF-sleep-3S   DEF-kids

(222) ṣṣ°ɣaːɾ rged
DEF-kids   PERF-sleep-3S
"The kids slept."

In MSA, agreement obtains only in gender in VSO order. Hence, the equivalent of (222) is grammatical and the equivalent of (219) is ungrammatical. Consider the following examples from MSA:

(223) naːma   ṣiɣaːrʊ
PERF-sleep-3MS DEF-kids-NOM

(224) *naːmʊ ṣṣiɣaːrʊ
PERF-3M-PL DEF-kids-NOM
"The kids slept."

French is a verb-raising language (Pollock 1989). It is also a VO language (Belletti: 1990). Consider the following example drawn from Pierantozzi (2009) to illustrate French word order.

(225) Marie a déjà lu le livre
Marie has (already) read the book
(Pierantozzi 2009: 264)

This typological difference between Fr, MSA, and OrA is accounted for by a position of the head within the VP and the TP. In French VP and TP are both head-initial. As far as verb movement is concerned, the verb moves from V to I in French while in MSA it moves to I only in SVO order. In French, the verb reaches T and the order is SVO in both subordinate and main clauses. Given these syntactic differences between Fr, MSA and OrA, we shall consider some structural properties of the main syntactic categories. Yet, this does not mean that this contrastive part will treat in details the functional aspects of such structures.

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3.5 Some syntactic properties of MSA, OrA and Fr

We shall consider in this section the main syntactic categories but not larger constituents like DPs, NPs, VPs, PPs, AdjPs and APs. We rather insist on the placement, the function of these categories (determiners, nouns, verbs and adjectives) in MSA, OrA and Fr and the agreement features they exhibit, with a particular emphasis on the last two codes. The syntactic properties of these categories are essentially important to understand the embedded structures within OrA matrices in the fourth chapter.

3.5.1 Determiners

We shall deal with what is termed determiners (articles, demonstratives, and possessives). French determiners agree in number and gender with the head noun, and therefore make overt features which are often covert on the noun itself. What about Arabic determiners?

3.5.1.1 Articles

The determiner system of Arabic consists of definite and indefinite articles. Definite nouns are marked in the same way in MSA and OrA whereas indefinite nouns are marked differently in both varieties. Definite nouns are marked with a prefix {ʔal-} in MSA and {əl-} in OrA. The final l in this prefix is assimilated to the first consonant of the noun if that consonant is alveolar. This phonological process takes place in MSA and OrA. Consider the following examples:

(226) ʔal-ʔarḍu χiṣba
      DEF-land   fertile
      "The land is fertile."

(227) ssama:ʔu zarqa:ʔu
      DEF-sky   blue
      "The sky is blue."

(228) lma   ba:rəd
      DEF-water cold
      "The water is cold."

(229) ssu:g   mʕmmar
      DEF-market full
      "The market is full."

The status of the indefinite article is not so clear in MSA. Some researchers like Kremers (2003) consider nunation to be the indefinite article in MSA. Nevertheless, Fassi-Fehri (2004) rejects this idea since nunation occurs in environments where indefinite articles are not expected. However, we follow Bardeas (2009) arguments considering nunation an indefinite article in MSA.

OrA uses the indefinite articles {wafid əl-}, the "zero article", and {kaʃ}, as illustrated in the following examples drawn from our corpus. Consider then these examples:

(230) wafid əlmra
　　　　INDEF DEF-woman
　　　　"A woman."

(231) ʃira-at
　　　　girl-F-PL
　　　　"Girls."

(232) kaʃ ħaːʒa
　　　　INDEF thing
　　　　"Something."

In French, the definite articles are "le" (l') which denote the masculine singular, "la" (l') for the feminine singular and "les" for the masculine/feminine plural. They agree with the head noun, as shown in the following examples:

(233) Le garçon
　　　　the.M.SG boy.M.SG
　　　　"The boy."

(234) La fille
　　　　the.F.SG girl.F.SG
　　　　"The girl."

(235) Les enfants
　　　　the.M/F.PL children.M/F.PL
　　　　"The children."
　　　　(Rowelt, 2007: 64)

Besides definite articles (le, la, l', les) and indefinite (un, une, des), French has a series of partitive determiners: the plural "des" (de + les), the singular feminine "de la" and the masculine "du" which are used with mass nouns. It would important to mention that "de la" and "du" become "de l'" before vowels.

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Zwicky (1994) suggests that French articles are inflection-like whereas Granfeldt and Schlyter (2004: 337) argue that the definite articles in French are considered as clitics and behave very similarly syntactically. They also state that French definite articles are phonologically dependent and merge as the specifier of NumP and subsequently cliticize onto the D. Boumans and Caubet (2000:169) talk about the "promiscuous attachment" criterion by which French articles attach to the first word of the noun phrase. They (ibid.) argue that the phonological shape of the French articles depends on the phonology of the word it cliticizes to: preceding a vowel, singular "le" and l'[l-], and plural les [le-] becomes [lez-]. Consider the following examples:

(236) Le espion (l'espion) [l e s p j ɔ̃]
"The spy."

(237) Les affaires [l e z a f ɛ R]
"The affairs."

Boumans and Caubet (ibid: 153) argue that French definite articles express exactly the same grammatical features and have the same distribution as Algerian Arabic {əl-}. They claim that definite articles do not only mark definiteness but has numerous other uses. Also, Lyons (1999) argues that the English definite articles mark definiteness only while French articles additionally mark genericity.

On the basis of the syntactic properties put forth by the above-mentioned scholars on MSA and Fr, we conclude that the definite articles in MSA, OrA and Fr share similar syntactic distributions while indefinite articles do not. Thus, we expect that definite articles show congruence with their MSA and OrA counterparts in bilingual CPs while indefinite articles do not, a fact that can create a mismatch at the structural level.

3.5.1.2 Demonstratives

There are two types of demonstratives in MSA; some of them express proximity (proximal demonstratives) and some others express distance (distal demonstratives). Table (3.4) present the two types:

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Number	Gender	Case	Proximal	Distal	ORA Proximal/distal
Sg	M		hæ:ða	ða:lika/ ða:ka	hæ:da/ da:k
Sg	F		hæ:ðihi	tilka	hæ:di/ hædi:k
Dual	M	NOM	hæða:ni	ða:nika	hædʊ:k/ dʊ:k
Dual	M	ACC/GEN	hæðajni	ðajnika	hædʊ:k/ dʊ:k
Dual	F	NOM	hæða:ni	ta:nika	hædʊ:k/ dʊ:k
Dual	F	ACC/GEN	hæðajni	tajnika	hædʊ:k/ dʊ:k
PL	M/F		hæʔʊla:ʔi	ʔʊla:ʔika	hædʊ:k/ dʊ:k

Table 3.4. Demonstrative forms in MSA and OrA

These demonstratives inflect for number, gender and sometimes case, giving various forms and patterns, as can be shown in the following examples:

(238) haaḍihi   al-fataat-u
this (f-s)   the girl (f-p-nom)
"This girl."

(239) al-fataat-u   haaḍihi
the girl (f-p-nom) this (f-s)
"This girl."

(240) haaʔolaaʔi   ar-rijaalu
these (m-p)   the man (m-p-nom)
"These men."

(241) ar-rijaalu   haaʔolaaʔi
The man (m-p-nom)   these (m-p)
"These men."
(Bardeas, 2009: 44)

Demonstratives in MSA are sometimes treated as modifiers because they can be used prenominally and postnominally. Yet, they show some differences with modifiers in their prenominal use. Kremers (2003) treats the two positions of Arabic demonstratives (pre- and post-nominally) as derivationally unrelated. He (ibid.) argues that the prenominal demonstratives are heads of a DP (Demonstrative projection) while posnominal demonstratives are modifiers. He considers postnominal demonstratives as modifiers because they share the same syntactic behaviour; they agree with the noun they modify in number, gender and case.

OrA has also two basic demonstratives which inflect for number and gender. In OrA, demonstratives normally occur pre-nominally in a reduced form. When they occur

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post-nominally; they are used in the full form. OrA has two forms of demonstratives: construct state form (CS) as opposed to the full Free State form. It is worth-mentioning here that there is no such a contrast in MSA. Subsequently, OrA prenominal demonstratives are demonstrative heads (Dem) projected above the determiner D while postnominal demonstratives are modifiers which are right adjoined to the maximal N projection. Consider the following instances to illustrate this point:

(242) da:k l-kta:b
      D   DEF-book
      "That book."

(243) l-kta:b hada:k
      DEF-book that
      "That book."

In MSA, Demonstrative phrases can be used as the second term of Idaafa constructions while demonstratives can follow the whole Idaafa, as illustrated in the following examples:

(244) tadmi:rʊ   hæ:ða lbalad
      destruction-NOM D   DEF-country
      "The destruction of this country."

(245) marfilatu ttaʒdi:di ha:ðih
      stage-NOM DEF-renovation this
      "This stage of renovation."

The French demonstrative determiners are "ce/cet" for the masculine singular, "cette" for the feminine singular and "ces" for the masculine/feminine plural, as exemplified in the following instances:

(246) ce garçon
      DEM.M.SG boy
      "The/ his/that boy."

(247) cette fille
      DEM.F.SG girl
      "The/this/that girl."

(248) ces enfants
      DEM.M/F.PL children
      "The/these/those children."

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Rowelt (2007: 65) points out that definite articles are weak functional heads while demonstratives and possessives are specifiers. Accordingly, French demonstratives and possessives will be approached in the same way.

By making MSA, OrA and Fr demonstratives into contrast, we conclude that MSA and OrA demonstratives co-occur with definite articles while their Fr counterparts are followed solely by nouns. We expect that bilingual data would show some discrepancies due to this mismatch.

3.5.1.3 Possessives and genitive constructions

OrA expresses possessive pronouns through a process of affixation. Like AA, it makes use of pronouns attached to the noun, as in "kta:b-i" (my book). Here is a list of pronominal clitics illustrated with examples in table (3.5):

	Pronominal clitics	Examples	Significance
Singular pronominal Clitics	-i	kta:bi	'My book '
	-ak	kta:bək	'Your book'
	-u / -ha	kta:bu	'His/Her book'
Plural pronominal Clitics	-na	kta:bna	'Our book'
	-kum	kta:bkum	'Your book'
	-hum	kta:bhum	'Their book'

Table 3.5. Possessive markers in OrA

MSA makes use of another construction to express the genitive; it is the Construct State (CS). Only the second term of the CS can carry the marker of definiteness, as shown in the following examples:

(249) kitaab-u   ṭ-ṭaalib-i
book-nom the-student-gen
"The student's book."

(250) * 1-kitaab-u ṭ ṭaalib-i
The-book-nom the-student-gen
(Benmamoun 2000: 141)

We can see that the ill-formedness of (256) is due to the fact that the first term in the CS cannot carry the marker of definiteness. In this case, the first term is considered to be definite and the evidence of its definiteness comes from adjectives, which must agree with the noun in gender, number and definiteness. Here is an illustrative example:

(251) kitaab-u   ṭ-ṭaalib-i 1- žadiid-u
book-nom the-student-gen the-new-nom

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"The student's new book."
(Benmamoun, ibid.)

OrA has two types of genitive constructions, namely synthetic and analytic. The Synthetic Genitive (SG) consists of the juxtaposition of two nouns, with the first as a head and the second as a dependent, as illustrated in (258). The dependent makes the head noun definite while the head cannot be marked for definiteness in this type of constructions. The Analytic genitive (AG) is made of two nouns separated by the so-called the 'genitive exponent' "ta:ʕ/nta:ʕ" (of) which assures the link between the two referents, as indicated in (259). But in this case, both the head and the dependant noun are marked for definiteness by means of the prefix {l-}.

(252) ʕetbət   l ba:b
    step   DEF-door
    "The doorstep."

(253) l-ʕetba ta:ʕ l ba:b
    DEF-step   of DEF-door
    The step of the door
    "The doorstep."

Unlike Arabic, French has only one way to express the genitive. French refers to the periphrastic genitive which consists of the modifying noun phrase in a prepositional phrase after the head noun phrase: NP1+ de + NP2. Here is an illustrating example:

(254) la   fille   de l'enseignant
    DEF-F daughter of   DEF-teacher
    "The teacher's daughter."

French possesses six lexically distinct forms of possessive determiners. These possessive determiners are set in the following table:

Possessor / Possessum	1SG	2SG	3SG	1PL	2PL	3PL
M.SG	mon	ton	son			
F.SG	ma (mon)	ta (ton)	sa (son)	notre	votre	leur
M/F.PL	mes	tes	ses	nos	vos	leurs

Table 3.6. Possessive determiners in French (Rowlet 2007:70)

Again like the definite articles and the demonstrative determiners, the singular but not the plural possessive determiners agree with the gender of the possessum. The possessive determiners "mon/ton/son" (my, your, his) are used with masculine and vowel-initial feminine while "ma/ta/sa" (my, your, her) are used with consonant-initial feminine. Consider the following instances:

(255) mon père
my- M father
"My father."

(256) mon école
M-F school
"My school."

(257) ma mère
My-F mother
"My mother."

Cardinaletti (1998: 25) claims that French possessives qualify as deficient. They have reduced forms; they are restricted to the prenominal, derived position, cannot be coordinated, and can have a non-human referent. Here are some illustrating examples:

(258) a. ses livres
his/her books

b. *(les) livres ses
the books his/her

(259) *ta et sa recette est très bonne/sont très bonnes
Your and his recipe is/are very good

(260) ses constituants sont courts (=de cette phrase)
Its constituents are short
(Cardinaletti, ibid.)

Kayne (1977) argues that French possessives license floating quantifiers. They do not have gender distinctions in the plural. They cliticize to D and do not co-occur with the definite article and therefore are considered as clitics. Consider the following examples to illustrate these characteristics:

(261) Elle a tué notre chef à nous tous
"She has killed our boss to all."

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(262) * le son stylo
"The his pen."
(Kayne 1977: 189)

Rowlet (op.cit) claims that French does not have strong possessives. In all positions where strong possessives are required like post-nominal and predicative, a preposition phrase shows up:

(263) Ce livre est mon/ mien/ à moi
"This book is my/mine/ to me."

Zribi-Hertz (1999: 9) points out that the French possessive determiners are proclitics as the demonstrative determiner and the definite article. The author considers the following examples to illustrate these features:

(264) Pierre aime bien le pensionnaire barbu mais il n'aime pas le [e] chauve,
"Peter likes the bearded resident but does not like the bald (one)."

(265) Marie, par contre, aime bien le [e] mien.
"Mary, by cons, like (the) mine."

(266) Marie, par contre, aime bien les deux [e].
"Mary, by cons, like the two."

(267) *Pierre aime bien le pensionnaire, mais il n'aime pas la [e].
"Peter likes the resident but does not like the."

(268) *Pierre aime bien la plupart des pensionnaires, mais il n'aime pas cette [e].
"Peter likes most of the resident but does not like this."

(269) *Pierre aime bien la pensionnaire de Jean, mais il n'aime pas ma [e].
"Peter likes Jean's resident bu does not like my."

English possessives display similar properties with their French counterparts. They only appear pre-nominally, cannot be coordinated. They also do not co-occur with determiners and do not allow doubling and hence are clitics.

We conclude that possessives behave differently in MSA, OrA and Fr in terms of their placement and in the way the relationship of possession is expressed. Henceforth, we expect that bilingual constructions made up of a possessive from a language and a referent from the other would be rare. In this sense, there would be many restrictions on such mixed constructions.

3.5.1.4 Quantifiers

Quantifiers in MSA can occur prenominally, postnominally, and they may be floating. Like adjectives and numerals, quantifiers can be used prenominally or postnominally. These syntactic categories head construct State in their pronominal use, in which the quantifier carries a structural case and the noun is a complement carrying a genitive case, while they function as modifiers in their postnominal use.

(270) kʊll-ʊ l-ħada:ʔiq-i ra:ʔiʕa
     all-NOM the-gardens-GEN wonderful
     "All gardens are wonderful."

In OrA, quantifiers also occur pre-nominally in a CS configuration although there are no overt morphological cases on any term of the construct state. Consider the following examples:

(271) ga:ʕ nnsa
     all   DEF-women
     "All the women."

(272) ʃi ṣwa:leħ
     "Some things."

(273) ka:ʃ ħa:ʒa
     "Something."

Numerals in MSA may occur in a postnominal position, in which case they show similar patterns and behaviour as adjectives. Bardeas (2009: 37) suggests that numerals are derived in MSA in the same way as adjectives are. Postnominal cardinal numbers agree with the nouns they modify in definiteness and case. But, agreement in gender is clear only in the case of "waahid" (one) and "ithnaan" (two). Ordinal numbers also can occur postnominally and agree with the nouns they modify in number, gender, definiteness (and case) in MSA.

Fassi-Fehri (2012: 158) claims that numerals in MSA behave like quantifiers in heading a CS configuration. In OrA, CS properties of numerals are manifested by their pre-nominal placement, and also their morphological adjustment in this position.

(274) t̠alaat̠-u nisaaz-i-n
     three-NOM women-GEN-N
     "Three women."

(275) ʔarbaʕu   miʔat-i   rajul-i-n
four-NOM hundred-GEN man-GEN-N
"Four hundred men."
(Fassi Fehri ibid: 158)

(276) telt ʃiraːt
"Three girls."

(277) rabʕemjaːt ħabba
"Four hundred pieces."

We can notice that the numeral "telt"in (276) is the reduced form of "tlaːta" (three) and "rabʕemjaːt"in (277) is the lengthened form of the free form "rabʕemja".

In post-nominal position, quantifiers and numerals in MSA are in a free state, and they agree in case with the head noun. Moreover, numerals agree in definiteness with the head noun and pronominal affixes must attach to the quantifier. Observe the following instances to illustrate these features:

(278) albanaːt-ʊ lʔarbaʕatʊ
the-girls-NOM   the-four-NOM
"The four girls."

(279) (ʔa)s-sijaːsijjʊː-na dʒull-ʊ-hʊm kaːðibʊːn
the-politicians-NOM   all-NOM-PL   liars
"Most politicians are liars."

In bilingual data, French determiners match relatively with Arabic determiners. Similarly, OrA determiners show sufficient congruence with their Fr corresponding. Thus, we expect less restriction on these categories when insertion takes place.

3.5.1.5 Clitic pronouns

Pronominals have two forms in MSA: independent and bound forms. The independent forms function as subject pronominals. The bound forms are clitics since they are suffixed to verbs, nouns and prepositions. When attached to verbs, they function as objects while they express possession when suffixed to nouns and prepositions. Subject and object pronominal clitics are respectively summarized in the following tables:

Person	Gender	Singular	Dual	Plural
1st		ʔana:		nafinu
2nd	M	ʔanta	ʔantuma:	ʔantum
	F	ʔanti	ʔantuma:	ʔantunna
3rd	M	huwa	huma:	hum
	F	hija	huma:	hunna

Table 3.7. Subject pronominals in MSA

Person	Gender	Singular	Dual	Plural
1st		-ni:		-na
2nd	M	-ka	-kuma:	-kum
	F	-ki	-kuma:	-kunna
3rd	M	-hu	-huma:	-hum
	F	hija	-huma:	-hunna

Table 3.8. Object pronominal clitics

In MSA, the pronominals cliticize to the verb in case of direct object pronominals but in case of pronominals corresponding to indirect objects they cliticize to the preposition. This can be illustrated in the following examples:

(280) ḍaraba lwalad-u ʔalbint-a
PERF-hit-3M the-boy-NOM the-girl-ACC
"The boy hit the girl."

(281) ḍarabaha lwaladu
PERF-hit-her the-boy-NOM
"The boy hit her."

(282) ʔarsala kita:ban liṭṭa:libi
PERF-send-3S book-ACC to-the-student
"He sent a book to the student."

(283) ʔarsala kita:ban lahu
PERF-send-3S book-ACC to-him
"He sent a book to him."

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OrA also has a set of clitics. These clitics share the same properties as MSA clitics. It is widely assumed that Arabic clitics are enclitics and do not manifest overt distinctions of case. The clitic forms in OrA are illustrated in the following table.

	SINGULAR			PLURAL	
1	M/F	-(n) i	M/F	-na	
2	M/F	-ak	M	-kum	
3	M	-u	M	-hum	
3	F	-ha	F	-hum	

Table 3.9. Clitic forms in OrA

Consider the following examples to show the properties of the clitics in OrA:

(284) ∫ra:t   lmra   warda
      PERF-buy-3F the woman   flower-F
      "The woman bought a flower."

(285) ∫ra:tha   lmra
      PERF-buy-3F-it the woman
      "The women bought it."

(286) ziftet   braaja lə lmʊdi:r
      PERF-send-3F letter-F to   the director
      "She sent a letter to the director."

(287) ziftetlah   braaja
      PERF-send-3F-to-him letter-F
      "She sent him a letter."

French has a rich system of clitics. Consider then a list of clitics in French and their surface distribution which is summarized in the following table:

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I	II	III	IV	V and VI
NOMinative	ACCusative / DATive	ACC	DAT	PRO-PP
je	*me*			
tu	*te*			
il		*le*	*lui*	
elle		*la*		
nous	*nous*		*y*	*en*
vous	*vous*			
ils				
elles		*les*	*leur*	

Table 3.10. Clitics in French (Jones 1996: 253)

Granfeldt and Schlyter (2004) argue that French has two sets of pronouns, strong and weak clitics (moi vs. je). These pronouns display differences in distribution. Only strong pronouns can be co-ordinated, cannot occur in isolation or in peripheral position, and can be modified by an adverb. The instances in (283) demonstrate these properties:

(288) a. *Il/   lui   et son frère sont arrivés hier
       he: weak   he: strong and his brother are arrived yesterday

    b. Qui l'a fait
       Who it: CL has done

    c. c'est *il   / lui seul qui sait le faire
       It-is he: weak, CL / he: strong only who can it: CL do

It is has been assumed that French strong pronouns like "moi" and "lui" behave like full nominal expressions and DPs whereas weak and clitic pronouns do not. Clitics are phonetically reduced and form a phonetic unit with the verb and cannot stand as the common head for co-ordinated verbs contrary to weak pronouns.

Clitics in French appear only on verbs; they manifest case distinctions and they are either proclitics or enclitics. They are proclitics on tensed verbs and negative imperatives, and enclitics on other verbal forms (affirmative imperatives). These properties are illustrated in the following examples. (289a) makes use of the accusative clitic, and (289b) the dative while (289c) uses the enclitic on the affirmative imperative.

(289) a. Elle l'a cousu.
      she it-has sewn
    "She has sewn it."

    b. Elle lui donne un cadeau.
      she 3S-DAT gives a present
    "She gives her/him a present."

c. Donne-lui un cadeau!
  give -3S a present
  "Give him/her a present!"
  (Shlonsky, 1997: 177-178)

Miller and Sag (1997) state that French clitics behave as inflectional morphemes. In this sense, they still act like affixes to the verb although cliticized separated from the verb. This explanation is consistent with the fact that French clitics are marked for case (like inflectional morphemes). Miller (1992: 145) too considers the French pronominal clitics "en" and "y" as inflectional affixes as is the case for English possessives under Zwicky's (1987) analysis. Consider the following examples which make this point explicit:

(290) a. Il remplit un verre de ce vin.
       He fills a glass with this wine.
    b. Il en remplit un de ce vin. (en = verre)
       He fills one with this wine.
    c. Il en remplit un verre. (en = de ce vin)
       He with-it fills one glass.
    d. *Il en en remplit un.
    e. Il en remplit un.
        He with it fills one.

(291)   a. *Il a rempli deux.
     b. *Il a rempli deux de vin.
     c. Ce vin, il en a rempli deux verres.
        This wine, he of-it has filled two glasses
     d. ??Ce vin, il a rempli deux verres.
      e. Ce vin, il en a rempli deux.
         (Miller 1992: 143-144)

Fagyal et al. (2006: 113) discuss French clitics and give the following examples to illustrate some aspects of their placements.

(292) Pierre offre une poupée à sa sœur > Pierre la lui donne
       "Peter offers a doll to his sister."

(293) Pierre offre ce livre ancien à notre famille > Pierre nous le donne.
       "Peter offers this book to our family."

(294) Pierre parle de ce problème à la réunion > Pierre y en parle.
       "Peter speaks about this problem at the meeting."
       (Fagyal et al. 2006: 113)

We can notice that despite the differences exhibited between the French clitics in the above examples, they share common properties: they are attached to the inflected verb and their grammatical function is imprinted in their form. The object clitic "la" (it) in (292) and "le" (it) in (293), the dative clitic "lui" (to him) in (292) and "nous" (to us) in (293), the adverbial clitic "y" (to there) and "en" (of it) in (294) are all marked for case.

French clitics must be placed to the left of the inflected verb in compound tenses but should be moved to the right of the verb in the imperative, as would be the case in the following examples:

(295) Pierre la lui a donné
"Peter gave it to her."

(296) Donne-la-lui
"Give it to her."

French clitics can combine with the disjunctive pronouns "moi" (me), "toi" (you), "lui" (her/him), "nous" (us), "vous" (you), "eux" (them), and "elles" (them). They also can be replaced by these pronouns. In (297), the complement "mon frère" (my brother) can be replaced by the disjunctive pronoun "lui" (him) but it cannot be moved out of the restrictive construction "ne...que".

(297) Je n'ai parlé qu'à mon frère > Je n'ai parlé qu'à lui > *Je ne lui ai parlé que.
"I only spoke to my father."
(Fagyal et al., ibid. 114)

On the basis of the syntactic properties proposed for MSA, OrA and Fr clitics, we can conclude that Arabic (MSA and OrA) clitics are attached to the main verb while their Fr counterparts are attached to the auxiliary in compound tenses. Furthermore, Arabic clitics are enclitics (they appear on the right of the verb of the clause) and do not manifest case distinctions while French clitics are either enclitics or proclitics and show case distinctions. Then, we expect that bilingual data would show some restrictions in accordance to verbal insertions.

3.5.2 Nouns

Ryding (2005: 119) argues that five inflectional features characterize Arabic nouns: gender, humanness, number, definiteness and case. He states that gender and humanness are inherent in the noun, number and definiteness are determined semantically by the nature of the noun while case is determined by the syntactic role of

the noun. He further insists that these features are important components in determining agreement features in phrases and clauses.

Nouns in MSA are marked by either natural gender or grammatical gender. Natural gender refers to natural or biological assignment of gender (masculine and feminine) to words according to the nature of the referents whereas grammatical gender refers to the arbitrary assignment of gender (masculine or feminine) to words whose referents often do not show apparently such a distinction. The general rule for grammatical gender is that the masculine is the default base form and the feminine has the suffix marker {a-}. For most part, gender is overtly marked on Arabic nouns but there are few words whose gender is covert but revealed in agreement sequences like "ʕalla:ma" (great scholar) and "rafiɦa:la" (glob-trotter).

Nouns in MSA are marked by number which is expressed through three categories: singular, dual and plural. They are also marked for definiteness and can be either definite or indefinite. Nouns are made definite by the addition of the definite article /ʔal-/, or by the specification of a noun by the addition of another substantive to it to form the Idaafa construction.

Nouns in OrA are also marked for gender, number and definiteness. Though MSA and OrA share various common properties, they exhibit slight differences in terms of gender and number assignment. Some masculine words in MSA are realized as feminine in OrA and dual forms do not exist in OrA.

French nouns are marked for gender and number. Common count nouns bear gender and number features; common mass nouns bear gender too. Rowlet (2007: 18) argues that French nouns are assigned one of two genders, unmarked M and marked F. Yet, the author considers gender to be typically semantically motivated with animate nouns and gives a number of examples: ("taureau M" (bull), vache F (cow), enfant (child) M or F depending on the sex of the referent), "sentinelle" (sentry) is F, and "mannequin" "model" is M). He also states that French bear two-valued number features, unmarked singular or plural, and considers that French nouns bear abstract gender and number features, which are sometimes overtly marked.

When making French and English into contrast, Rowlet (ibid.) concludes that the feature number is associated with the noun in English but with only secondary realization in French. Number is rarely overt on French nouns and usually overt on

determiners while it is rarely overt on determiners but usually covert on nouns in English.

We do not insist here at the difference between MSA and OrA but on OrA/Fr contrast since these are the two codes which appear as ML in our data.

Both OrA and Fr distinguish feminine and masculine gender. Gender assignment is arbitrary and therefore the OrA equivalents of the Fr items respect mostly their gender features with few exceptions. OrA gender is marked on the noun while Fr gender is marked on the determiner. Furthermore, French plural nouns are not marked for gender.

Most cases of the mixed constructions in the bilingual data reveal that the Fr inserted feminine nouns trigger feminine agreement in OrA verbs and pronouns while masculine nouns trigger masculine agreement. Consider the following illustrative example from our data in which the French feminine noun "mère" triggers the feminine agreement features in the verbal stem "ʒra" (the 3SF).

(298) **ma mère** gæ:ʕ lʕæ:m whijja teʒri mʊra:ja ʕlə
my mother all DEF-year and she IMPERF-run-3F after-me on
lqra:ja
"My mother runs after me all the year for studies."

3.5.3 Verbs

In Arabic, the verbs are usually inflected for the tense (perfective or imperfective), person, number, and gender features. In addition, imperfective verbs are inflected for mood (indicative, subjunctive, and jussive). As Arabic is a pro-drop/null-subject language, a verb with a pronoun suffix attached to it can be the only word in a sentence, as shown in the following examples:

(299) daras-ū
study.perf-3.p.m
"They studied."

(300) ya-drus-ū-na
3-study.imperf-p.m-indic
"They study."

(301) ʔu-drus-ū-0
2-study.impera-p.m-jussive
"Study!"
(Alhawary, 2009: 14)

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The distinction between the past/perfective and present/imperfective is established by the presence (imperfective) or absence (perfective) of the prefix. This means that the past tense is marked with a suffix only and the present tense is marked with a prefix or a prefix and a suffix. Agreement features contained in the prefix include person and gender information whereas agreement features contained in the suffix include number and gender information. Perfective and imperfective features are listed in the tables below:

Person	Number	Gender	Affix	Verb+ Affix
1	Singular	F/M	-tu	daras-tu
2	Singular	M	-ta	daras-ta
2	Singular	F	-ti	daras-ti
3	Singular	M	-a	daras-a
3	Singular	F	-at	daras-at
2	Dual	M/F	-tumaa	daras-tumaa
3	Dual	M	-aa	daras-aa
3	Dual	F	-ataa	daras-ataa
1	Plural	M/F	-naa	daras-naa
2	Plural	M	-turn	daras-tum
2	Plural	F	-tunna	daras-tunna
3	Plural	M	-uu	daras-uu
3	Plural	F	-na	daras-na

Table 3.11. Perfective markers in MSA (Benmamoun 2000: 20)

Person	Number	Gender	Affix	Affix+ Verb
1	Singular	F/M	ʔa	ʔa-drus
2	Singular	M	ta	ta-drus
2	Singular	F	ta-ii	ta-drus-ii
3	Singular	M	ya	ya-drus
3	Singular	F	ta	ta-drus
2	Dual	M/F	ta-aa	ta-drus-aa
3	Dual	M	ya -aa	ya-drus-aa
3	Dual	F	na-	na-drus
1	Plural	M/F	ta-uu	ta-drus-u
2	Plural	M	ta- na	ta-drus-na
2	Plural	F	ya-uu	ya-drus-uu
3	Plural	M	ya-uu	ya-drus-uu
3	Plural	F	ta-na	ta-drus-na

Table 3.12. Perfective markers in MSA (Benmamoun: ibid.)

When an explicit subject is involved, two types of agreement hold between the subject and the verb, depending on whether the subject is preverbal or post-verbal. In a pre-verbal subject construction (in both the perfective and imperfective), the subject and the verb share full agreement features of person, gender, and number. However, in a post-verbal subject construction, the subject and the verb agree only in person and gender.

OrA pattern with MSA as far as the distribution of agreement features in the imperfective and the perfective. However, the paradigms are smaller in OrA than in MSA. In particular, there are no mood distinctions, at least morphologically. Also, there is no dual or gender distinctions in the plural forms. Moreover, in the imperfective, person agreement is realized by the same prefix in the singular and plural while number is realized by a suffix. The tables bellow list respectively the perfective/imperfective markers in OrA.

Person	Number	Gender	Affix	Verb+ Affix
1	Singular	F M	–t	ktəbt
2	Singular	M	–t	ktəbt
3	Singular	F	–ti	ktəbti
3	Singular	M	–0	ktəb
3	Singular	F	–at	kətbat
1	Plural	M/F	–na	ktəbna
2	Plural	M/F	–tu	ktəbtu
3	Plural	F	–u	kətbu

Table 3.13. Perfective markers in OrA

Person	Number	Gender	Affix	Affix+ Verb
1	Singular	M/F	n–	nəktəb
2	Singular	M	t-	təktəb
2	Singular	F	t–i	tekətbi
3	Singular	M	y-	yektəb
3	Singular	F	t–	tektəb
1	Plural	M/F	n–u	nekətbu
2	Plural	M/F	t–u	tekətbu
3	Plural	M/F	y–u	yekətbu

Table 3.14. Imperfective markers in OrA

French verbs can be divided into two sets: finite and non-finite forms. Finite forms exhibit morpho-syntactic agreement with a grammatical subject through inflectional paradigms expressing tense, mood and aspect. There exist simple and compound paradigms in French. Rowlet (op.cit) illustrates only the 3PL simple paradigms in the following table.

3PL	present	imperfect	future	conditional	past-historic	present subjunctive	imperfect subjunctive
faire 'to do'	font [fɔ̃]	faisaient [fəzɛ]	feront [fəʁɔ̃]	feraient [fəʁɛ]	firent [fiʁ]	fassent [fas]	fissent [fis]
aller 'to go'	vont [vɔ̃]	allaient [alɛ]	iront [iʁɔ̃]	iraient [iʁɛ]	allèrent [alɛʁ]	aillent [aj]	allassent [alas]

Table 3.15. Simple verb paradigms in French (Rowlet op.cit: 25)

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Although verbs do not share the same processes of formation in OrA and Fr, our corpus shows a number of French verbs provided that the French verbal stems are adapted in OrA system. The explanation of the mechanisms of insertion at the mental level will be explained in the fourth chapter.

3.5.4 Adjectives

Arabic adjectives occur mostly in postnominal positions. Adjectives in that position agree with the head noun they modify in gender, number, case and definiteness. Plurals of inanimate nouns are always treated as feminine singular and therefore they trigger singular agreement on adjectives. Consider the following examples from Kremers (2003) to illustrate these characteristic features.

(302) a. al-sayyār-at-u l-ḥamrā?-u
       the-car-F-NOM the-red. F-NOM
       "The red car."

    b. al-kitāb-u   l-?aḥmar-u
       the-book-M-NOM the-red. M-NOM
       "The red book."

    c. l-kutub-u   l-ḥamarā?-u
       the-book.M.PL-NOM the-red-F.SG-F-NOM
       "The red books."
       (Kremers 2003: 58)

The above examples show that the two singular nouns "sayyāra" and "kitāb" modified by the adjective "?aḥmar" (red) display the corresponding forms, with "sayyāra" as being feminine and "kitāb" as masculine. In (302c) which illustrates the case of an inanimate plural, the noun "kutub" (books) which is a masculine plural shows a feminine singular agreement on the modifying adjective.

In Arabic, NPs consisting of a head noun and an attributive adjective involve agreement between these two elements in gender (masculine or feminine), number (singular, dual, or plural), definiteness, and case (nominative, accusative, or genitive). The following examples illustrate the agreement features in Arabic between the head noun and the attributive adjective with respect to number (singular), gender (singular masculine and singular feminine), and case (nominative, accusative, and genitive).

(303) a. ṭālib-u-n   qasīr-u-n
       student.s.m-nom-indef short.s.m-nom-indef
       "A short (male) student."

b. ṭalib-a-n   qasir-a-n
student.s.m-acc-indef   short. s.m-acc-indef
"A short (male) student."

c. ṭalib-i-n   qasir-i-n
student.s.m-gen-indef short.s.m-gen-indef
"A short (male) student."

(304) a. ṭalibat-u-n   qasīrat-u-n
student-s. f-nom-indef   short-s. f-nom-indef
"A short (female) student."

b. ṭalibat-a-n   qasīrat-a-n
student-s. f-acc-indef   short-s.f-acc-indef
"A short (female) student."

c. ṭalibat-i-n   qasīrat-i-n
student-s.f-gen-indef short-s.f-gen-indef
"A short (female) student."

(305) a. ʔal-maqʕad-u   ʔas-saɣi-ru
the-desk.s.m-nom the-small.s.m-nom
"The small desk."

b. ʔal-maqʕad-a   ʔas-saɣi-ra
the-desk.s.m-acc   the-small.s.m-acc
"The small desk."

c. ʔal-maqʕad-i   ʔas-saɣi-ri
the-desk.s.m-gen   the-small.s.m-gen
"The small desk."

(306) a. ʔal- ṭawilat-u   ʔas-saɣi-ru
the-table-s.f-nom   the-small-s.f-nom
"The small table."

b. ʔal- ṭawilat-u   ʔas-saɣi-ru
the-table-s.f-acc the-small-s.f-acc
"The small table."

c. ʔal- ṭawilat-u   ʔas-saɣi-ru
the-table-s.f-gen the-small-s.f-gen
"The small table."
(Alhawary, 2009: 9-10)

Fassi-Fehri (1999) notices that the order of Arabic adjectives reflects the mirror image ordering of that observed for attributive adjectives in French and English. The author gives the following examples to illustrate these properties:

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(307) l-kitaab-u   l-ʔaxḍar-u   ṣṣaġiira
the-book-nom the-green-nom the-little-nom
"The little green book."

(308) šaay-un ṣiiniyy-un   ʔaxḍar-u   jayyid-un
tea-nom chineese-nom green-nom excellent-nom
"An excellent green chineese tea."

(309) ʕalʔab-u bi-l-kurat-i   l-kabiirat-i l-jamiilat-i
I play   with-the-ball-gen the-big-gen the-beautiful-gen
"I play with the beautiful big ball."

(310) un joli gros ballon (rond) rouge
"A beautiful big (round) red bal."
(Fassi-Fehri ibid: 107)

In (307), the adjective carries the features for definiteness, case, number and gender in agreement with the noun they modify while the adjective in (308) is indefinite. In (310), the case on the head spreads to all adjectives. Subsequently, this sequencing is the mirror image ordering observed in (308) and (309) which characterize direct and indirect A-N languages like English and French, respectively. This led Fassi Fehri (ibid.) to argue that Arabic is an A-N language.

Fassi-Fehri (ibid.) also argues that Arabic adjectives can occur prenominally. The following constructions are drawn to illustrate this remark.

Laenzlinger (2000) points out that attributive adjectives function as noun modifiers in English. They are satellites of the nominal head occurring in the DP-internal position. Attributive adjectives are often placed before the noun in English, as shown in the example bellow:

(311) a. A nice/big/round table.
      b. *A table nice/big/round.
      (Laenzlinger ibid: 55)

Sproat and Shih (1988) have pointed out that the prenominal placement of attributive adjectives is not a universal linguistic property. There are several languages like Arabic, in which attributive adjectives are placed after the noun. This is exemplified respectively in the following example from OrA:

(312) a. qmǝʒʒa ʒdiːda
       shirt-F   new-F
       "A new shirt."

b. * ʒdiːda qməʒʒa
"A new shirt."

We can assume that French is a mixed language with respect to the placement of adjectives. The French examples in (313) show that an adjective can be placed before the noun (313a), after the noun (313b) or alternatively before or after the noun (313d).

(313) a. la future/belle mariée   *la mariée future/belle
             The future/pretty bride   The bride future/pretty

       b. une voiture rouge/italienne *une rouge/italienne voiture
          A car red /Italian   A red /Italian car

       c. une voiture splendide/minuscule
          A car splendid/tiny

       d. une splendide/minuscule voiture
          A splendid/tiny car
          (Laenzlinger op.cit: 55-56)

The features characterizing OrA and Fr adjectives in terms of placement and agreement show a mismatch and therefore we expect that considerable restrictions of French inserted adjectives within OrA-framed constructions.

3.6 The quantification of the data

3.6.1 Language dynamics in the data

The corpus that constitutes the object of analysis in this research is taken mostly from a particular context which is university characterized by its specific features. In fact, the data collected among university students show linguistic innovations at the lexical and sentential levels, and various changes in the matrices within a discourse sample, sometimes even within long sentences. Despite the fact that this corpus brings some structural innovations, it is likely to share some features with other corpora, mainly that of Ziamari (2007) which is elicited from the speech of Moroccan university students at the *"École Ntionale Supérieure d'Arts et Métiers"* (ENSAM). Indeed, Ziamari's corpus displays certain peculiarities compared to many corpora realized among Moroccan Arabic/French bilingual speakers. The author qualifies her bilingual data as an urban phenomenon. She hypothesizes that the linguistic innovations in the bilingual speech of her informants are stimulated by an urban context (university) in addition to education that distinguishes her informants from other interlocutors.

On our part, we consider language dynamicity in our corpus not only the result of an urban environment but also as the product of a particular practice within university or in other contexts with university students as potential participants. Furthermore, we consider the students' community not as a "social network" but rather as a "community of practice"[63]. Our question will then be as to how students construct their own identity/ identities through the practice of different languages involved in CS utterances. We give a particular attention to the varying degrees in the speakers' competence/performance when engaged in CS. Since the framework we adopt for data analysis corroborates the syntactic aspect of bilingual production with the cognitive and the social levels, another question emerges in order to question the role of social factors in shaping the mixed constructions structured at the mental level.

Research by Sayahi (2004) explores the relationship between identity and CS in bilingual speech in three communities: Spanish-Valencian in Spain, Spanish-English in New York, and Arabic-French in Tunisia. Through the use of questionnaires, Sayahi (ibid.) has participants self-report their identity and CS tendencies. According to Sayahi's findings, 68% of the Spanish-English bilinguals consider CS to be a sign of their identity (ibid: 377). For the Arabic-French group, Sayahi uses conversational analysis to argue that the participants switch from Arabic to French in order to reinforce their socioeconomic identity through the use of the dominant language.

To our knowledge, none of the previous research has explored the link between identity-construction and the choice of the ML in Oran Arabic/French bilingual speech. We attempt in this research to investigate this relationship by employing a quantitative methodology instead of a conversational analysis approach.

Finlayson et al (1998: 395) argue that "language is both an index of identity and a tool of communication" and that CS provides a means of "projecting multiple identities" for the interlocutors and associating them to a particular group. If we consider this from the point of view of the MLF model, we posit that the choice of the ML will be in the language most associated with the identity held by the speaker. Thus, a participant who has self-identified as OrA speaker will communicate his membership

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[63] We use the term "community of practice" in the same meaning used by Lave and Wenger (1991: 464): "An aggregate of people who come together around mutual engagement in an endeavor. Ways of doing things, ways of talking, beliefs, values, power relations -in short, practices- emerge in the course of this mutual endeavor. As a social construct, a Community of practice is different from the traditional community, primarily because it is defined simultaneously by its membership and by the practice in which that membership engages".

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through the use of OrA predominantly as the ML. In the case of multiplicity of the ML, we expect a more diverse reporting of identity, as our results will show.

We discuss the link between CS and identity construction in terms of indexicality. In this view, the bilingual speakers may construct multiple identities more or less consciously in accordance to their own way of considering the context of situation. They may take or adopt different positions with different interlocutors, and express neutrality, solidarity or even distance towards certain acts of speech overtly or covertly. For instance, our informants in C8 switch from OrA which is associated to intimacy and informality to MSA which is associated to authority, formality and detachment to fulfil certain purposes.

3.7 Quantitative analysis of data: the interpretation of CS patterns

In this section we interpret the overall quantitative results and examine what they reveal about mixed/unmixed utterances in terms of syntactic categories and constituents. The procedure adopted at this stage is to segment the data transcribed into chunks, then classifying them according to two levels of analysis, namely sentential and word levels. In this sense, the mixed utterances are classified in terms of singly-occurring syntactic categories inserted within OrA- or Fr-based utterances, and larger constituents like OrA or Fr embedded Islands and Internal Islands. The results obtained will be discussed in accordance to the mains issues raised in this research.

As far as analysis is concerned, the first step in the analysis of the data is to count the number of monolingual and mixed-based utterances in the whole corpus. This helps to get a general idea about the way the linguistic material at the disposal of the students is structured. This count is limited to the data transcribed in the appendix which show at certain times only some fragments which consist of monolingual, bilingual and trilingual utterances. The second step in data analysis consists of frequency count of syntactic categories used mainly in OrA/Fr and Fr/OrA Code-Switching.

Thus, our study provides findings for each of the questions addressed in relation to identity construction by using a quantitative type of research. Frequency counts for utterances that feature Fr, MSA and Eng are identified and compared to those of OrA constructions since 49, 67% of the total number of utterances in the examined CPs are code-mixed constructions and 49, 01% are monolingual only. These results may help to interpret the directionality of CS as well as the distribution of switch types within each speech situation.

Before we present the findings from the analysis of the social motivations determining the code-switches (attitudes, proficiency, and the speakers' ideology, etc.), it is necessary to give a description of the different constructions extracted from the corpus with respect to their linguality (monolingual or bilingual status of CPs), the ML in bilingual structures as well as the embedded word classes. Consider then the results presented in the next figures and tables.

The analysis of the data shows that three different tokens of CPs appear in the 8 speech situations. These are OrA-based CPs only (monolingual utterances), Fr-based CPs only, OrA/Fr, OrA/MSA, OrA/Eng, Fr/OrA, Fr/Eng and MSA/Fr CPs (bilingual utterances), and trilingual utterances. The frequency of occurrence of each of these three types in the speech sample collected is illustrated in figure (3.2) which illustrates the results in this regard. The data show that OrA-framed utterances are found to be generally dominant (49, 67%), (47, 02%) bilingual and (1, 99%) are trilingual.
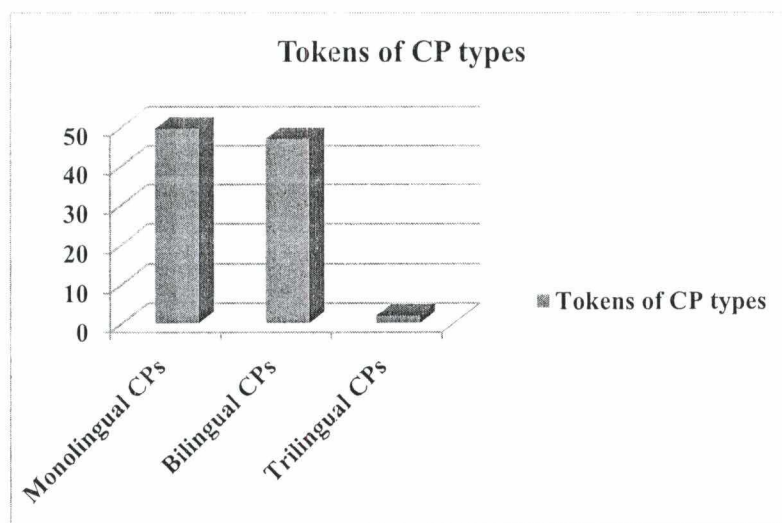
Figure 3.2. Tokens of Code-Switching types in the entire corpus

Table (1.16) presents the results with regard to the distribution of the monolingual codes and mixed constructions, indicating details about each pattern separately in the different speech situations.

Types of CPs	CS patterns	C1	C2	C3	C4	C5	C6	C7	C8
MONO LINGUAL CPs	ORA	111	35	49	221	81	111	92	127
	FR	26	33	11	29	124	14	91	10
	ENG	0	0	1	1	0	111	0	0
	MSA	0	0	0	0	0	0	0	17
BILINGUAL CPs	ORA-FR	63	55	52	139	63	79	91	84
	FR-ORA	16	16	1	7	24	3	38	5
	ORA-MSA	1	0	18	6	0	29	1	53
	ORA-ENG	0	0	0	5	0	33	5	0
	FR-ENG	0	0	1	0	1	1	1	0
TRILINGUAL CPs	ORA-MSA-FR	0	0	0	1	0	15	2	6
	ORA-MSA-ENG	0	0	9	0	1	11	0	0
	ORA-FR-ENG	0	0	0	0	0	13	0	0
	FR-ORA-ENG	0	0	0	0	0	2	0	0

Table 3.16. Overall distribution of monolingual, bilingual and trilingual CPs in the entire corpus

We notice immediately the high frequency of monolingual and bilingual CPs as compared to trilingual CPs. The percentage of OrA monolingual CPs is higher than Fr, Eng and MSA CPs. This predominance of OrA constructions may be explained by the difference of competence/performance or proficiency in the codes involved in CS configurations among the students participating to this research. We can also notice through a brief examination of the mixed constructions that the English embedded structures within OrA- or Fr-based matrices serve most of the time metalinguistic purposes. Recall here that English is not used in the Algerian speakers' daily life, and the appeal to such constructions is due to the presence of the English language in the academic life of some informants.

As for the distribution of the four codes (OrA, Fr, MSA, and Eng) in monolingual CPs within the entire corpus, figure (3.3) shows that OrA prevails significantly with 36,08%, followed by Fr with 16, 71%, Eng with 4,97% and MSA at the bottom of the scale with 0,74%.
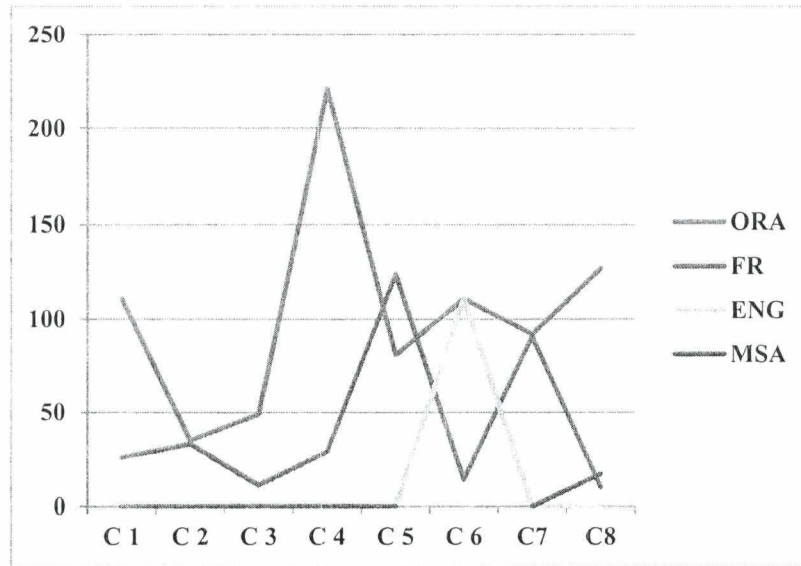
Figure 3.3. The distribution of codes in the monolingual CPs

As far as the distribution of the four codes within bilingual CPs is concerned, the results shown in figure (3.4) reveal that OrA/Fr utterances outnumber the other CS tokens with 27,31 % while OrA/Eng, Fr/OrA, OrA/MSA, Fr/Eng score respectively 4,79%, 4,71%, 1, 87% and 0, 17%. In another respect, Figure (3.5) indicates that OrA-MSA-Fr constructions reach 1, 04% compared to OrA-Fr-MSA structures which arrives at 0, 91% followed by OrA-Fr-Eng structures achieving 0, 56% whereas Fr-OrA-Eng constructions realize only 0, 08%.
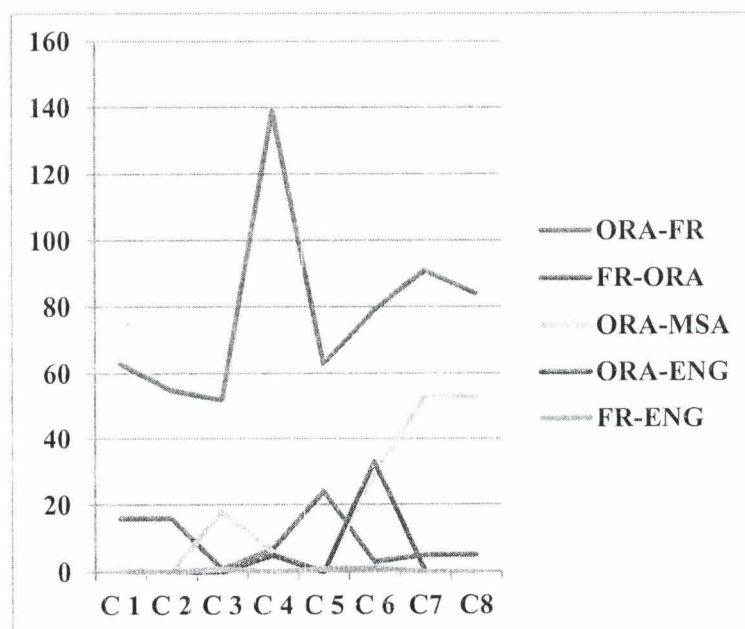
Figure 3.4. CS tokens in bilingual CPs

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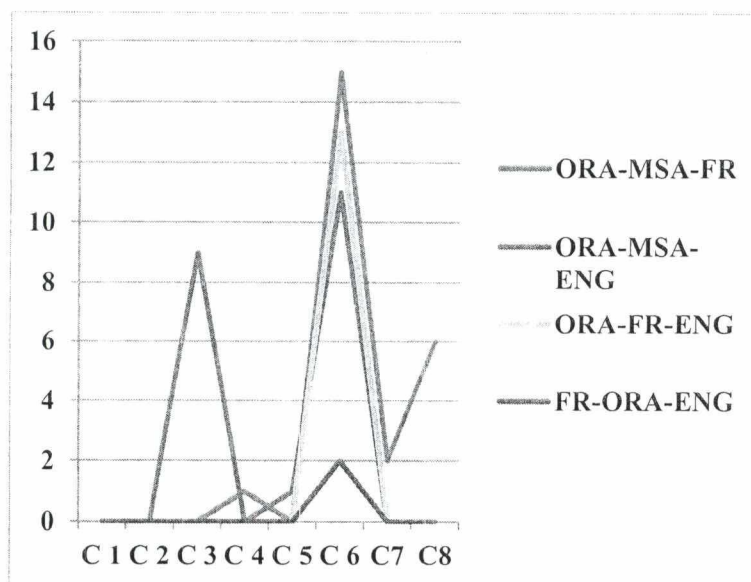
Figure 3.5. CS tokens in trilingual CPs

To summarize the above-mentioned results, figure (3.6) reveals the main tokens observed on the data analyzed in this research, either in monolingual, bilingual or trilingual CPs. This may facilitate the visualisation of the achieved patterns by the participants in each context of situation.
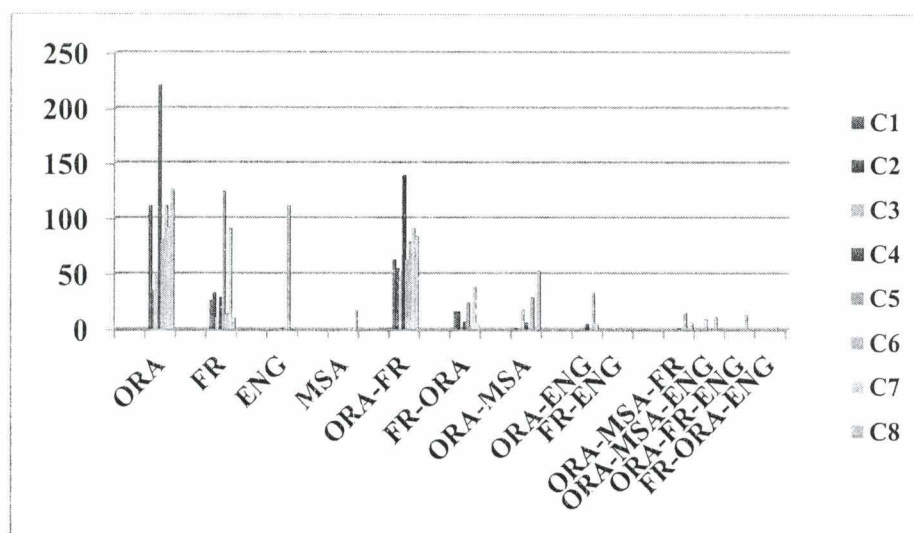
Figure 3.6. The distribution of codes in the eight contexts

The analysis of the data also shows the dominance of OrA as a ML in the whole corpus. The choice of the ML is principally contextually-determined and subsequently the quantitative results will be treated at the end of this chapter. It would be interesting to mention here that the criteria for the ML identification will be discussed in the fourth

chapter when presenting the theoretical premise of the MLF and its supportive models. The results are extracted from table (3.13) and schematized in figure (3.7).

CS patterns	C1	C2	C3	C4	C5	C6	C7	C8	Total
ORA	13,42	4,23	5,92	26,72	9,79	13,42	11,12	15,35	827
FR	6,78	8,61	2,87	7,57	32,37	3,65	23,75	2,61	383
ENG	0	0	0,87	0,87	0	97,36	0	0	114
MSA	0	0	0	0	0	0	0	100	17
ORA-FR	10,06	8,78	8,30	22,20	10,06	12,61	14,53	13,41	626
FR-ORA	14,54	14,54	0,90	6,36	3,63	2,72	34,54	4,54	110
ORA-MSA	0, 92	0	16,66	5,55	0	26,85	0,92	49,07	108
ORA-ENG	0	0	0	11,62	0	76,74	11,62	0	43
FR-ENG	0	0	25	0	25	25	25	0	4
ORA-MSA-FR	0	0	0	4,16	0	62,5	8,33	25	24
ORA-MSA-ENG	0	0	42,85	0	4,76	52,38	0	0	21
ORA-FR-ENG	0	0	0	0	0	100	0	0	13
FR-ORA-ENG	0	0	0	0	0	100	0	0	2

Table 3.13. The identification of the Matrix Language in the entire corpus
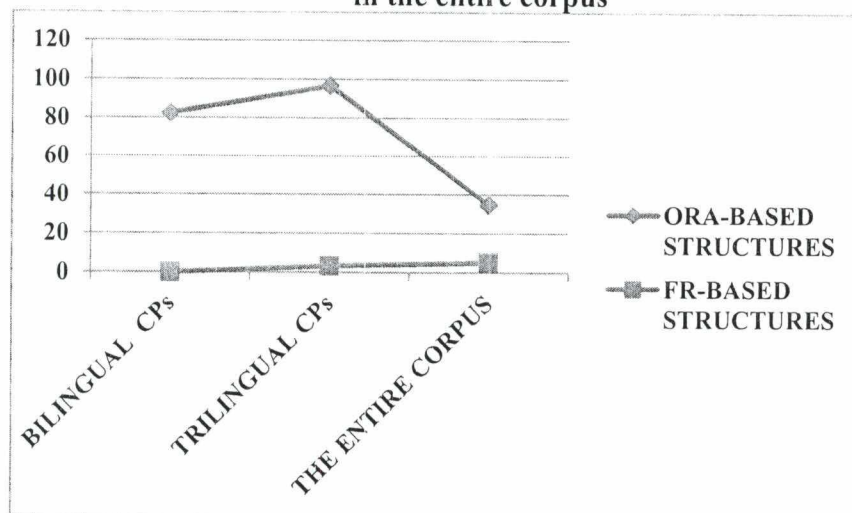
Figure 3.7. The distribution of the Matrix Language in the data

Figure (3.7) presents the distribution of the ML in the bilingual and trilingual CPs. Though our main interest is directed towards the OrA/Fr and Fr/OrA instances of CS, we include the analysis of the trilingual data in order to give a fuller picture of the choice of the ML in the dataset. It appears from this figure that out of the total number of bilingual CPs, 82, 37% (n=734) has an OrA ML and 12, 79% (n=114) has Fr as the ML. For trilingual CPs, 96, 66% (n=58) are identified as OrA-based constructions and 3, 33% (n=2) having Fr as the ML. When the entire corpus is analyzed, 34,55% (n=792)

are found to have OrA as a ML out of 2292 CPs (monolingual, bilingual and trilingual) while 5,06% appears as having Fr as a ML. Given the findings from other corpora in CS studies, we find that the patterns in the choice of ML in our data are similar to theirs.

Al-Enezi (2001) arrived at the same findings. The author concluded in his research that Arabic was the ML for almost all the bilingual CPs. He has provided a detailed discussion of the distribution of content and system morphemes in Arabic-English data, examining the proportions of Arabic ML as opposed to the English ML in children and adults speech. The findings have shown that Arabic was the ML for almost all the bilingual CPs.

Deuchar (2006) too has analyzed a sample of 163 bilingual CPs and identified Welsh as the ML in 141 CPs concluding that English was the ML in only four clauses. Davies and Deuchar (2010) applied the MLF to both monolingual and bilingual finite clauses (n=1816), and found that Welsh was the ML in 95.43% of the total clauses. When the bilingual clauses were analyzed separately, the results showed that the ML was almost Welsh 99.7% (n=335/336).

The overall distribution of the frequency levels of switch types in terms of syntactic categories and constituents in the entire corpus is illustrated in table (3.18) and presented in figure (3.8). The data reveal that the syntactic categories and constituents which are susceptible to be embedded in OrA matrices are nouns, verbs, adjectives, adverbs, participles, noun phrases, verb phrases, clauses, adjectival phrases, and prepositional phrases.

The data in table (3.18) show that the majority of French elements inserted within OrA matrices falls in NP Islands (31, 36%). NP mixed constituents appear to be the second largest embedded structures (16, 81%) followed by N (15, 01%), then come PP Islands (9, 03%), V (5, 49%), P mixed constituents (5, 49%), and NP Internal Islands (4, 05%). The remaining elements are found to have small proportions made up of IP Islands (3, 91%), Adj (3, 80%), P mixed Islands (3, 35%), and clauses (3, 21%). The other remaining categories are relatively of small or rare occurrences which consist of Adv (2, 99%) and participles (0, 44%).

The data in table (3.18) represented in figure (3. 9) reveal that the overwhelming majority of French embedded structures within each context are found to have NP Islands in C3 (35,06%), NP Internal Islands in C6 (15,62%), NP mixed constituents in C6 (23,95%), P Islands in C2 (6,06%), P mixed constituents in C6 (21,87%), IP Islands in C2 (10,60%) and clause in C1 (7,69%). The switches of singly-occurring categories

indicate that the largest number of code-switched elements fall in N in C8 (24, 05%), V in C6 (12, 50%), Adj in C5 (6, 66%), participants in C8 (2, 53%) and finally Adv in C6 (6, 25%).

CS Patterns	C1	C2	C3	C4	C5	C6	C7	C8	TOTAL
NPs Islands	22	13	27	26	24	27	73	15	227
NP Internal Islands	0	1	1	5	4	15	7	2	35
French	0	1	1	5	4	8	6	2	27
English	0	0	0	0	0	7	1	0	8
NP mixed constituents	5	13	11	40	3	23	55	11	161
PPs Islands	1	4	4	0	3	1	13	3	29
P mixed constituents	0	2	8	16	0	12	27	1	66
French	0	2	8	16	0	7	27	1	61
English	0	0	0	0	0	5	0	0	5
P mixed Islands	6	7	4	14	3	13	13	10	70
IPs Islands	4	2	0	1	7	1	5	0	20
Clause	4	1	2	1	6	0	10	1	25
N	5	13	15	25	9	0	46	19	132
French	5	13	15	25	8	0	37	19	122
English	0	0	0	0	1	0	9	0	10
V	2	6	2	3	2	12	6	7	40
FRENCH	2	6	2	3	2	10	6	7	38
ENGLISH	0	0	0	0	0	2	0	0	2
ADJ	0	4	0	5	5	5	7	5	31
French	0	4	0	5	5	4	7	5	30
English	0	0	0	0	0	1	0	0	1
PARTICIPLES	0	0	0	0	0	1	0	2	3
ADV	1	0	1	8	1	6	10	3	30
Total	52	66	77	147	76	110	262	79	869
Total FR	52	66	77	147	75	96	252	79	844
Total Eng	0	0	0	0	1	14	10	0	25

Table 3.18. Tokens of OrA/Fr switch types in the entire corpus
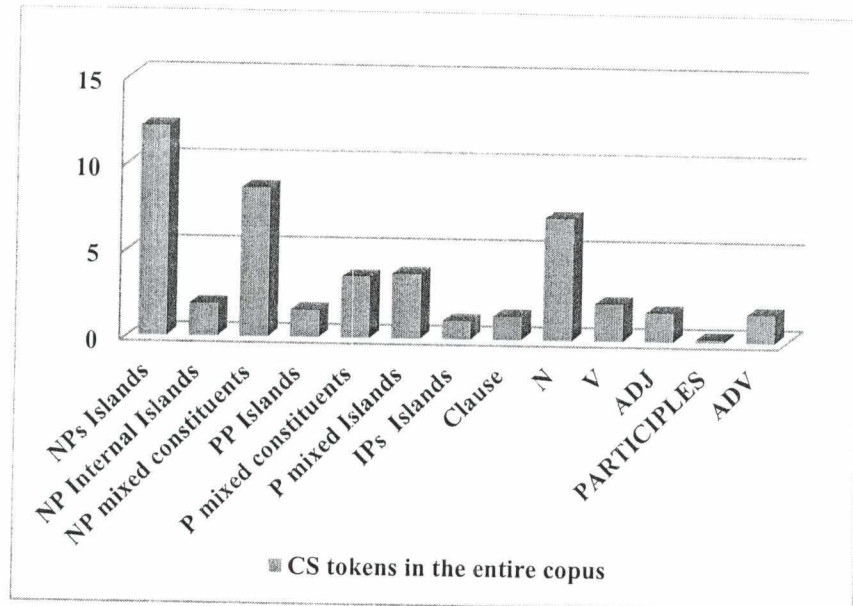
Figure 3.8. OrA/Fr CS tokens in the entire corpus

Frequency of occurrence %	C1	C2	C3	C4	C5	C6	C7	C8
NP Islands	42.30	19.69	35.06	17.68	32	28.12	28.96	18.98
NP Internal Islands	0	1.51	1.29	3.40	5.33	15.62	2.77	2.53
NP mixed constituents	9.61	19.69	14.28	27.21	4	23.95	21.82	13.92
Prepositional Islands	1.92	6.06	5.19	0	4	1.04	5.15	3.79
Prepositional mixed constituents	0	3.03	10.38	10.88	0	21.87	10.71	1.26
Prepositional internal islands	11.53	10.60	5.19	9.52	4	13.54	5.15	12.75
IP Islands	7.69	10.60	0	0.68	9.33	1.04	1.98	0
CLAUSE	7.69	1.51	2.59	0.68	8	0	3.96	1.26
N	9.61	19.69	19.48	17	12	0	18.25	24.05
V	3.84	9.09	2.59	2.04	2.66	12.50	2.38	8.86
ADJ	0	6.06	0	3.40	6.66	5.20	2.77	6.32
PARTICIPLES	0	0	0	0	0	1.04	0	2.53
ADV	1.92	0	1.29	5.44	1.33	6.25	3.93	3.79

Table 3.19. The frequency of occurrence of OrA/Fr CS patterns
in each context

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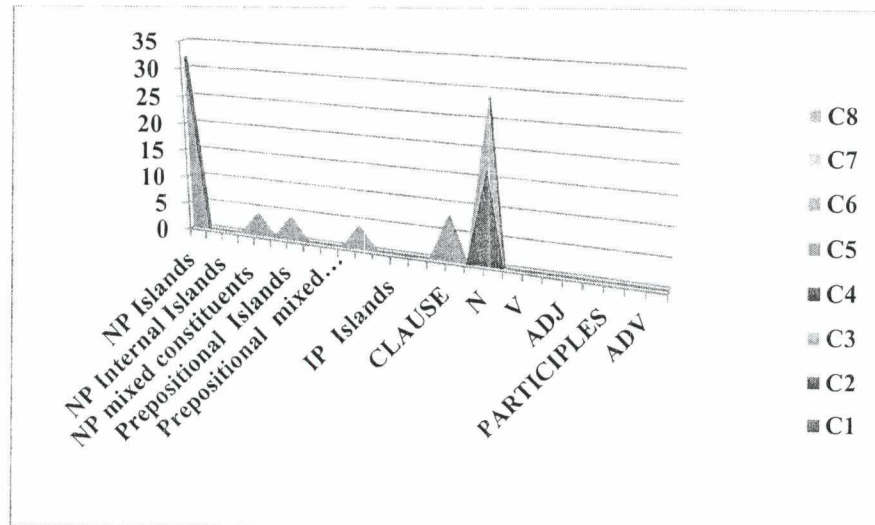
**Figure 3.9. Tokens of code-switched constructions
in each context**

The data in table (3.20) presented in figure (3.10) show that the inserted OrA elements within Fr matrices are very restricted and the realized switches are limited to some syntactic categories only, namely adverbial phrases, prepositional phrases, clauses, nouns, adjectives, prepositions and discourse markers. The results indicate that the largest proportion of OrA embedded structures is found to have clauses (0, 95%), followed by N (0, 48%), APs (0, 26%), P (0, 21%), discourse markers (0, 21%), and Adj (0, 08%).

CS Patterns	C1	C2	C3	C4	C5	C6	C7	C8	TOTAL
AP Islands	1	4	0	0	1	0	0	0	6
PP Islands	0	2	0	0	1	0	2	0	5
Clauses	4	0	0	0	0	3	14	1	22
N	3	0	0	0	5	1	2	0	11
ADJ	0	4	0	5	5	5	7	5	31
P	2	0	0	0	0	0	3	0	5
Discourse markers	0	1	0	1	1	1	1	0	5

Table 3.20. Tokens of Fr/OrA switch types in the entire corpus

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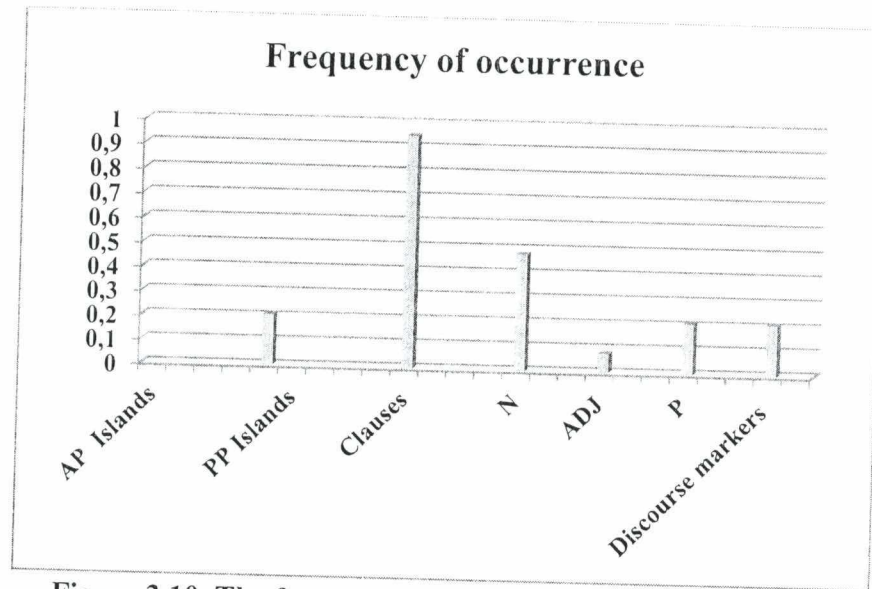
Figure 3.10. The frequency of occurrence of OrA structures within Fr-framed CPs in the entire corpus

After the quantification of our data, we move now to the explanation of the different occurrences of OrA/Fr and Fr/OrA CS and the conclusions drawn on the basis of this investigation. These explanations take into consideration the Matrix Language, the restrictions on some syntactic categories and constructions, the directionality of the switches, the topic of conversation, the speakers' degree of proficiency in the embedded codes, their attitudes and perception of the context of situation.

First, the results depicted from the tables and figures show that the distribution of OrA and Fr is unequal. There is an asymmetry in the participating languages: OrA appears as a ML almost in all bilingual and trilingual CPs and only few instances are found to have Fr as a ML whereas other codes appear to be Embedded Languages (MSA, Eng). The examination of the identified bilingual and trilingual CPs may lead us to suggest that the topic of the conversation in C1 triggers certain code-choices making of OrA the vehicle of the conversation. Nonetheless, the participants' appeal to French NP Islands, NP mixed constituents and other larger constructions may disregard the lack of proficiency in French as a real motive behind such a choice. Similarly, the switch from OrA to MSA and to Fr in C8 supports this hypothesis. The informants tend to use MSA not because of a lexical gap but to fulfill a number of purposes, namely quotation, objectivation, formality when treating certain topics related to Arabic history, religious sermons and prominent figures in the Arabo-Muslim tradition. For instance, the use of structures like //ga:llah ja: bʊnnaj ʔiða ħamaltahʊm ʔan jaʕmalʊ

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lʔamɾa ʒumlatan waːħida taɾakʊhʊ ʒumlatan waːħida   gaːllah χalli nəbdaːw beʃʃwijja// (*He told him: "son, if you compelled them to do things all at a time, they would let them all at a time". He told him let us start little by little,* //kima ʕumaɾ bnʊ ʕabdəlʕaziːz ʕumaɾ miːn twʊlla lχilaːfa ʒa ʕændah ʔibnah//, (*Like Omar Ibn Abdel Aziz when he has undertook the caliphate, his son came to see him*), //lbanna staʕʒəl lʔumʊːr gaːllah matəstaʕʒəlʃ lʔumʊːr bə lʔaχţɑːʔ ttaːʕah staʕʒəl lʔumʊːr// (*Al Banna hastened things. He told him: "do not hasten things. Al Banna hastened things with his mistakes*) may reveal that the choice of MSA is determined by the informant's attitudes towards the languages involved in CS.

A look at the students' linguistic behaviour in C8 suggests that they exhibit a high level of identification to the Arabic language and a marked perception of religion (most of the scholars cited, the sermons' content and other discursive markers show their identification to the Salafi movement). Besides, some of the participants in C8 are fluent in French (one of them is a doctor and some others are post-graduate students). This observation may justify the students' appeal to French in some discussions (*des lots de terrains, les paroles, les juifs, la vidéo, la franc-maçonnerie, la révolution française, les grandes révolutions, les actes notariés, les sources, la république, etc.*) who show a command over the French structures, except "la franc-maçonnerie" which has been used as a masculine form.

These findings comply with Myers-Scotton's suggestions considering the use of EL Islands as a sign of proficiency in the EL. Likewise, these observations may support our perception of identity construction when two languages or more are involved in CS. Otherwise, the participants in CS construct multiple identities when switching from OrA to MSA and to Fr. These changes in footing are not contextually-determined since the physical context is the same but socio-pragmatically motivated. In this sense, CS instances occur not because they comply mostly with the marked or unmarked expectations of the codes used but because they conform to the speaker's perception of context at the moment of the switch. We don't consider codes to be marked or unmarked but the choice of the code itself as such. Even in case of unbalanced bilingual speakers, it is the speaker who directs his choices consciously or unconsciously.

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Second, the data reveal that the frequency of inter-sentential CS instances in C5 implies that the participants who resort to this type of CS are fully competent in the participating languages separately and not in Code-Switching. According to Deibert (2008), the bilingual speakers' appeal to inter-sentential CS can be explained by their in-group understanding. We share this perspective of interpretation in a sense that these speakers construct a specific context in which they are convinced that the chosen code can properly express their intentions. For instance, the same speaker in C3 and C6 changes his linguistic priorities according to her understanding of interlocutors. She resorts to MSA when talking to her sister and to English when talking to her friends in the English department.

Third, the data show the identification of the ML in the entire corpus deeply affects the distribution of the inserted elements. We can assume that the choice OrA as a ML is responsible of the internal make up of a great number in embedded constructions and therefore determines largely the distribution of the content, early and late system morphemes. In another sense, the participants sometimes seem to accompany French nouns and noun phrases with OrA early system morphemes (definite articles and demonstratives), and in other times they tend to insert French NP Islands instead of NP constituents. This variability may suggest that sufficient/insufficient congruency cannot explain the various CS configuration patterns in the corpus. Subsequently, structural divergences between OrA and Fr are not sufficient to explain these cases. Another factor may fulfil this effect. It is a question of the speakers' intentionality which is the only measure of context. The participants resort mostly to the codes which depict adequately their socio-pragmatic intentions (the use of *"la révolution"* (the revolution) and *"ʔalmasunijja"* (freemasonry)).

Fourth, the data indicate that the variation noticed in CS patterns depends not only on the switch points and the equivalence between the codes involved in CS but also on the code-switchers themselves. This may reinforce the hypothesis stating that the direction of the switches cannot attributed to language typology only but rather to the speakers' degree of bilinguality and their linguistic preferences.

Fifth, the data specify that the switches are characterized by the high frequency of larger constituents (NPs, PPs, IPs, etc.). This finding does not lend support to other studies involving Arabic and French or Arabic and English (Bentahila and Davies: 1983, El-Fiki: 1999, and Al-Rowais: 2012) in which single items mainly nouns are the

greatest syntactic category to be inserted within Arabic-framed constructions. Our informants resort frequently to French NP Islands and NP constituents. Myers-Scotton (1993b:143) has proposed a functional perspective and provided structural and pragmatic explanations to explain EL Islands which are frequently attested in Arabic/English corpora. The author (ibid.) assigns the insertion of EL Islands to their categorization as core or peripheral constituents. She also attributes it to the speaker's proficiency in EL.

Last, the data stipulate that the choice of French EL constructions is compulsory under certain circumstances. This means that certain elements are inserted because of their semantic value or rather their semantic specificity. We can assume that the participants are fully aware of the selection of some items from the Embedded Language in order to convey a specific meaning about certain objects and things. This is known as the "Specificity Hypothesis" in the literature which is read as: *"Code-Switching is likely for embedded language words that are high in specificity, where highly specific means both that the word has a highly specific referential meaning, and that its matrix language equivalent, if there is one, conjures up quite different connotations"* (Backus 2000: 132). Several examples illustrate these embedded elements like *"Chapati"* (chapati), *"Panzani"* (Panzani), and *"système laïc"* (laïc system) which are specific to the culture of EL.

This is not meant to be an exhaustive analysis of the social motivations behind CS instances in our corpus, we have merely attempted to interpret the quantitative results obtained in this research with some illustrative examples. The quantified data will serve in the structural analysis of OrA/Fr and Fr/OrA code-switched utterances.

3.7 Conclusion

This chapter has treated the analysis and interpretation of the data. For this purpose, three inter-related parts have been proposed: the sociolinguistic linguistic situation in Algeria followed by some hints on the variety under investigation, a contrastive part on the main single syntactic categories in MSA, OrA and Fr.

Our overall objective is to examine quantitatively some aspects of OrA/Fr and Fr/OrA instances of CS among university students in 8 speech situations.

We claim that the code-choices made by the students signal their membership to certain groups via linguistic practices. Put otherwise, we assume that the different switches realized by these students reveal multiple ways of identity construction. The

participants resort to specific codes to show different behaviours in different speech situations.

It is important to mention at this level that at least two perspectives have been adopted to analyze the data. First, we have identified the monolingual, bilingual and trilingual CPs within which we identified the ML and subsequently the directionality of the switches. Second, we have related the quantified data to other findings obtained from CS studies involving Arabic and other languages.

On the basis of the remarks and conceptions developed in the literature on the sociolinguistic situation in Algeria, we have suggested that the different coexisting varieties vary on a double continuum. Horizontally, they are found to show some major differences with a common core vocabulary which do not affect considerably mutual intelligibility. The intermingling of these varieties through dialect contact has stimulated speech accommodation among individual speakers who refer mostly to lexical items belonging to different varieties of AA. This may confirm the hypothesis stipulating a koiné in making. Vertically, may layers appear through the contact between MSA and AA resulting in many contact phenomena, mainly diglossic Code-Switching.

The contrastive part on the syntactic properties of some single categories in OrA and Fr has shown a number of divergences. The results reveal a problem of equivalence between OrA and Fr with respect to word order and inflectional paradigms. OrA is a pro-drop language with an inflected system contrary to French in which the subject is covert and the agreement features are marked on determiners within NPs. The results also show that the placement of attributive adjectives is problematic between OrA and Fr as well as features. These contrastive findings detailed in this chapter influence significantly OrA/Fr and Fr/OrA CS patterns because the insertion of syntactic categories within ML frames is largely determined by equivalence and ordering.

In order to test our hypothesis relating CS to identity construction, we have segmented the data, identified the ML in each bilingual CP, and classified the different CP configuration patterns.

The analysis of the data shows an asymmetry in the roles of OrA and Fr in the mixed constructions. OrA is found to play predominantly the role of an ML and Fr is found to be more restrictive and often plays the role of an EL. In addition to Fr, other languages are found to be Embedded Languages, namely MSA and Eng. Some participants resort to MSA to fulfill certain purposes (quotation, clarification, formality, argumentation, authenticity, etc.), while other participants resort to Fr to signal their

membership to a certain group. The participants in this research change constantly the codes and even the ML according to a co-constructed context.

The analysis of the data also shows that the direction of the switches is not only structurally-determined but also socially-motivated. The main questions addressed in this research are directed towards the way CS patterns in both directions (OrA/Fr, Fr/OrA CS) are related to structural divergences between the two codes and the social factors motivating the students' code-choices. In order to provide answers to these issues, we first discussed the overall CS patterns attested in our corpus from a quantitative perspective. The next step would be testing the hypotheses we advanced and their empirical validity by applying the MLF and its supportive models on the data.

STRUCTURAL ANALYSIS OF ORAN ARABIC-FRENCH CODE-SWITCHING

1. Structural analysis of Oran Arabic-French Code-Switching

4.1 Introduction

This chapter treats some of the syntactic/socio-pragmatic aspects of CS observed among university students participating in this study, with OrA as being their native language, MSA as their first language, Fr and Eng as foreign languages. We attempt to explain the different manifestations of the formal properties of Arabic, French, and sometimes English when intertwined within the same string of speech. However, we owe a particular attention to the syntactic/sociopragmatic interface shaping mainly OrA-Fr mixed utterances.

The code-switched data characterized most often by OrA-Fr and Fr-OrA CS will be analyzed and interpreted in the light of the predictions of Myers-Scotton's models. The main objective of this research is principally to account for the directionality of code-switched utterances when OrA and Fr grammars are in contact. In this sense, we shall identify the syntactic constructions frequently attested in our corpus and explain the psycholinguistic implications of such insertions. Moreover, we shall explain how language hierarchy in OrA-Fr bilingual speech is manifested in different distributions of syntactic categories and constructions within the same CP, resulting in disparate CS patterns. In this way, we shall demonstrate the way the framing processing of a bilingual mode is determined by the speakers' intentions and proficiency such as, the socio-pragmatic motivations behind the insertions of Fr EL Islands within OrA matrices.

Before testing the predictions of Myers-Scotton's insertional models on our data, we shall provide some explanations of the elements mostly essential to the comprehension of such models like the CP as a unit of analysis and the structural grounds for the identification of the ML.

1. Myers-Scotton's insertional models: principles and areas of application

1.1 Classic code-switching vs. Composite code-Switching

The Matrix Language Frame (MLF) model, was first developed by Myers-Scotton (1993b), and then expanded and refined continuously by Myers-Scotton (1995, 1998a, 2001, 2002a, 2006) to end up with two supportive extended models, namely the 4-M and the Abstract Level models. The MLF model is designed to account for the different structural configurations and syntactic structures in "classic Code-Switching", defined

in Myers-Scotton (2002a: 8) as the alternative use of two languages within a CP, with the morphosyntactic frame set by only one participating language:

> Speech for which the speakers are proficient enough in the participating languages that they can produce well-formed monolingual utterances in the variety which becomes the source of what is called the Matrix Language (ML), the abstract morphosyntactic frame of bilingual utterances. They are also proficient enough in the other participating languages to do this.

In contrast, composite Code-Switching is defined by Myers-Scotton (ibid: 105) as bilingual speech consisting of more than one language as a source of frame-building:

> Composite code-switching can be characterized as a phenomenon with morphemes from two languages within a bilingual CP, and with the abstract morpho-syntactic frame derived from more than one source language.

The example below is an instance of classic code-switching. In this example, there are three CPs with one embedded island and three singly-occurring nouns in mixed NP constituents, characterized by OrA as a source of system morphemes and subsequently it is the ML. The first CP (**même le contenu** kuːn maːt-diruː-ʃ **kif-kif**) is framed by OrA since the Arabic word order is respected. The left dislocated construction **même le contenu** is a French embedded island which satisfies the requirements of the French language as an EL while the single inserted adjective **kif-kif** obeys Arabic grammar rules. The two other CPs are also OrA-framed because OrA provides the definite article l- attached to French content morphemes *contenu* (content) and *module* (unit).

(314) **même le contenu** kuːn maddiruːʃ **kif-kif**   ma-ɣadiːʃ j-
Even DEF-content if Neg-IMPERF-do-Neg same Neg will Neg PERF-
ħoṭṭoːl-ək l-**contenu** ɣːadi j-ħoṭṭoːləkl**module** lfla:ni
put- to-2S DEF-content will PERF/put-to-you DEF-unit   DEF-specific
lli dərtiːh
that PERF-do-3M
"Even if you don't study the same content, they will not put the content, they will put the unit that you have studied."

Myers-Scotton (2002b) illustrates composite Code-Switching with the next two examples taken from generations one and two, respectively:

(315)   ʔaloo laazim [ʔinnu l-**engine locked up** fi hadiik il-laħd̪a]
3/P/say/PERF that 3M the engine locked up in that the moment
illi daxlat fiiha il-may lil-**engine**

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that PERF/enter/ 3F in-3S/F the water   to/the engine
"They said that the engine must have locked up at the moment that the water
  got into the engine"
(Arabic/English, Myers-Scotton ibid: 323)

(316)   hiyya halaʔ ʕam   bitxayyit-**ing**   **she will call**
        she   now AUX/PROG HAB/sew/IMPERF/3F-PROG she will call
        you later
        you later
        "She is now sewing, she will call you later."
        (ibid: 324)

Myers-Scotton (ibid.) claims that these examples involve incongruence between Arabic and English in English-framed CPs. The first example comprises a complementizer in Arabic and an Arabic definite determiner il- attached to the English noun "engine" instead of its English counterpart 'the' in addition to a finite verb *locked up*. Thus, both Arabic and English provide system morphemes ʔinnu, il- and INF instead of having only one language to set the morphosyntactic frame for this bilingual CP. Myers-Scotton considers that the selection of the determiner il- instead of the definite article "the" of English shows splitting in the abstract structure and hence incongruence between Arabic and English articles. The whole CP would be framed in English in which an Arabic PP "fi hadiik il-laħd̩a" is inserted as an EL Island.

Example (316) demonstrates insufficient congruence between Arabic and English verbs, characterized by a competition between the two languages mainly in controlling system morphemes projected under INFL. The identification of the ML in this CP is not unambiguously easy since the Arabic verbal stem "xayyit" (to sew) is affixed by the Arabic system morphemes bi-denoting aspect, {t-} marking third person feminine imperfective, and the English progressive {-ing}. Thus, this CP is also characterized by two languages as sources of the abstract structure.

Bassiouney (2006) has given several examples taken from monologues recorded in Egypt illustrating this type of code-switching, meaning composite Code-Switching, as shown in (317):

(317) ka:n fi: ʔittifaʔa: t **bititnafizz**

     "Agreements were being implemented."
     (ECA/MSA, Bassiouney 2006: 144)

The application of the ML-EL hypothesis would not lead to the identification of the ML easily in this example for different reasons. As the aspectual marker on the verb is in Egyptian Arabic (ECA), it appears at first sight that the ML is ECA. Nonetheless, other features in this mixed constituent indicate that another variety provides system morphemes, which is MSA. In fact, MSA offers the discontinuous system morpheme expressing passivation in the verbal stem "titnafizz" (to be implemented). However, passivation is expressed in ECA through the addition of the prefix it- to the s-stem and the prefixes yit-(M)/tit- (F) to the p-stem. The MSA equivalent to the whole CP would be "ka:nat huna: ka ittifa:qa:t **tunaffað**" (كانت هناك اتفاقات تنفذ), consisting of the morpheme expressing existence "huna: ka" in spite of the ECA locative adverb 'fi:', and the verb *tunaffað* instead of "titnafizz". Accordingly, both ECA and MAS participate to the building of the abstract structure of this bilingual CP.

Examples from our data also show some cases of composite Code-Switching, as illustrated in the following instances:

(318) məkka:ʃ ɦa:ʒa miʃi **planifié**
NEG-EXIS something NEG plan-PASS
"There is nothing which is not planned."

(319) Ma réponse juste
my answer correct
"My answer (was) correct."

(320) **les études problème** f hæ:d d-**départment**
DEF-PL studies problem in this DEF- department
"The studies are a problem in this department."

(321) **les sources les mêmes** ɣi **les**
DEF-PL sources DEF-PL same only DEF-PL
personnages jetbəddlʊ
Characters PERF-change-3PL
"The sources (are) the same, only the persons change."

In (318), both Arabic and French are involved in the framing of this CP. The mixed constituent "miʃi **planifié**" consists of the negative marker (a system morpheme) from OrA and the participle particle -é, a system morpheme from French

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which expresses passivation. An expected realization would be "məkka:ʃ ɦa:ʒa miʃi məplanifia".

It is difficult to assign the frame-building into French in the above two CPs despite the fact that all the surface morphemes come from this language. So, one might not consider these code-switched utterances as French-framed CPs because they lack the copula. This means that both OrA and Fr participate in the abstract structure of these CPs. Indeed OrA does not require a copula in this type of constructions and the equivalents of these constituents would be (a) ʒʒawa:b nta:ʕiniʃa:n, (b) lqra:ja muʃkil f hæ:d əlmaʕhad, and (c) lmaṣɑ:dir nəfsha ɣi l bnijja:dəm jətbəddlʊ.

Myers-Scotton's view of CS is different from linear equivalence approaches in that her insertional models advocate for unequal partnership[64] between the languages involved in code-switched discourse (dominance-subordination relationship) while linear approaches apply for equal participation. Yet, Myers-Scotton reconsiders the relationship between the lexicon to the different components, namely the syntactic and the phonological components. In Myers-Scotton's perception, this means that the MLF model is not primarily a *Phrase Structure model* and therefore seeks the recognition of the abstract structure behind surface phrase structure. In fact, it is the ML which constitutes the grammatical frame or simply the abstract structure. By defining the grammatical frame, Myers-Scotton tries to make explicit the notion of the Matrix language *"as a theoretical construct"*. Two interrelated concepts "oppositions and asymmetries" are the keys to the nuts and bolts of the MLF model. The more dominant language is the Matrix Language (ML) and the other one is the Embedded Language (EL).

Gafaranga (2007) points out that the MLF model is characterized by a mentalist view which takes into consideration at first fully competent interlocutors with high proficiency in either language. The author (ibid: 48) advocates that:

> Influence from the notion of 'balanced bilingualism', and, by implication, that from the Chomskyan 'ideal speaker-hearer' is obvious. Thus, the MLF is primarily a model of the ideal 'bilingual language competence', although

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[64] Bentahila and Davies (1998) examined some source of inequality between Moroccan Arabic/French code-switching in order to explain the way this unequal partnership influences the nature of the switching occurrences.

it may be extended and applied to language contact phenomena for which speakers do not have such full access to abstract grammatical structures.

In this research work, however, we consider proficiency with varying degrees as one of the sources of asymmetry but not the ultimate one. Yet, there are other socio- and psycho-linguistic variables that may explain this fact, such as the degree of identification into the host language, the degree of consciousness when switching utterances, the topic of the conversation and the common beliefs with regard to the participating languages, among others. For instance, context (8) displays inequalities in the roles played by MSA, OrA and Fr at sentence and discourse levels, marking various variables at play (political and religious topics, convictions and beliefs about certain facts, and therefore representations of the French language).

We consider now the notion of the CP as articulated in Myers-Scotton and Jake (2001) to make explicit the criteria used to identify the ML in the mixed constructions in our data.

4.2.1 The CP as a unit of analysis

One of the most important steps in the application of the MLF model is to identify the ML within a bilingual construction and therefore to recognize its abstract morphosyntactic structure. For this purpose, a unit of analysis has been proposed to account for the structural constraints on intra-sentential CS. Subsequently, the CP "S-bar" (S') (Projection of the Complementizer), appears to be the relevant constituent level to establish a distinction between the ML and EL.

The unit of analysis in the earliest version of the MLF model was discourse. The MLF model has been criticized because of the vagueness of this idea of "discourse sample". This notion of discourse sample is hazy because it does not really take into account the specific elements to be analyzed. Besides, the sentence can have many structural configurations (matrix clauses, subordinate clauses, interrogative phrases, etc.) that raise problematic cases for the analysis and interpretation of CS instances. Put otherwise, the sentence may comprise several CPs.

As a response to these claims, Myers-Scotton (1995: 238) has re-articulated her understanding of discourse sample and attempted to give more specific definitions; she considers that "a discourse sample of at least two sentences (within the same turn or across speakers) is a minimum". In other words, the sample to be analyzed implies

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"minimally two sentences, either from a single speaker or from an adjacency pair produced by two speakers" (ibid., 1997: 96). Nonetheless, this definition needs more specification since it identifies matricity only at discourse level and does not portray syntactic constraints intra-sententially. Henceforth, a new articulation has been suggested for CS analysis.

Myers-Scotton and Jake (2001) posit the CP as the unit of analysis not the sentence. According to these authors, a CP comprises a constituent containing a proposition-expressing part and a complementizer-like element that may or may not be null. This complementizer-like element can be any of the clause peripheral words, particles, morphemes used with subordinate clauses or clauses with non-indicative mood. Otherwise, a constituent with an element occupying the COMP position is the head of that clause.

According to Myers-Scotton and Jake (ibid: 88-89), the CP "is the syntactic structure expressing the predicate-argument of a clause, plus any additional structures needed to encode discourse-relevant structure and the logical structure of that clause". It is only within the CP that the grammars of the two languages are in contact as explained by Myers-Scotton and her associates. Thus, the unit of analysis is intra-CP code-switched sentences, neither inter-sentential code-switching nor inter-turn switching. On the basis of this way of seeing the CP, Myers-Scotton et al. (1996: 11), define intra-sentential Code-Switching as:

> A CP shows intra-sentential CP if it includes morphemes from two or more languages in one or both of two patterns: (a) it includes a maximal projection with morphemes from two or more languages and/or (b) it includes monolingual maximal projections, but from two or more languages.

Consider the following examples taken from Okasha (1995) that illustrates the notion of CP:

(322) ħaṭooli **brand new engine** wa ʕimlooli **rebuild** lil **transmission**
   3PL/put/1S   and 3PL/made/1S   for/the
   "They put (in) a brand new engine and rebuilt the transmission for me."
   (Arabic/English, Okasha 1995: 15)

The above sentence contains two CP's. The first CP "ħaṭooli **brand new engine**" and the second CP "ʕimlooli **rebuild** lil **transmission**". In the two CPs, Arabic sets the

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abstract frame since it participates with system morphemes and the syntactic frame in the clauses follows Arabic word order while English supplies content morphemes.

Myers-Scotton (1998) asserts that there could be three types of constituents in a CP which constitute intrasentential CS within the frame of the MLF model. Bilingual speech can be the result of two conjoined monolingual CPs each with its own frame, as in the following examples from my corpus:

(323) **je m'ennuyais** ʔajja fətt
    I REF-bore-PAST so PERF-drop in
    "I was bored so I dropped in."

(324) haːdi lli nəkrahha **c'est pour ça j'ai évité tout contact**
    this that IMPERF-hate-1S-3F this is for that I avoid-PAST all contact
    "This is what I hate. This is why I avoided all contact."

A bilingual sentence may comprise a monolingual main clause and an embedded clause in a language different from the first language, as illustrated in the following example:

(325) **je pense** hijja lli χarrʒaːtʊ mənqbəl
    I think she that PERF-remove-3F-2M before
    "I think [it is] she who removed it before."

Additionally, a bilingual sentence can consist of a single bilingual CP, containing elements from both languages, as shown in the example below:

(326) **je suis professeur** fəl **bibliothèque** taːʕ **les sœurs**
    I am teacher in DE- library of DEF-PL sisters
    "I'm a teacher in the library of [Christian] sisters."

It seems then that the last type of CPs is the more adequate configuration for CS analysis since it is the only type where the two grammars are really in contact. Consider the following example from our corpus to reinforce the idea that the sentence is not the appropriate unit for CS analysis.

(327) lli jdiːr **didactique** ʒaːj **polyvalent** jnəʒʒem
    that IMPERF-do didactics PART-come-3M polyvalent IMPERF-can-3M
    jenseigni gaːʕ **les modules**
    IMPERF- teach-3S all DEF-PL units
    "(Someone) who studies didactics is polyvalent, he can teach all units."

The unit of analysis in the above example is not the whole sentence but the different clauses that it comprises "lli jdi:r didactique ʒa:j polyvalent" is the first bilingual CP which contains an external argument "lli jdi:r didactique" (subject) that carries the thematic role of a "Patient" denoted in the predicate "ʒa:j polyvalent". The second bilingual CP is "jnəʒʒem jenseigni ga:ʕ les modules" which reflects the grammars of both OrA and Fr in contact. This CP is the highest unit projected by the lexical items (verb and noun), it is the maximal projection of the node I (Inflection) where the verb "jenseigni" is the head, the auxiliary "jnəʒʒem" is the specifier and the noun phrase NP (les modules) is the complement. This example shows that taking the sentence as a unit of analysis would miss many structural details necessary to the understanding of the functioning of mixed constructions. The analysis of the above sentence conforms to the understanding of Myers-Scotton and Jake (1995: 982) of the CP as "the highest unit projected by local elements. It can be defined unambiguously in terms of phrase structure as a complementizer or an element in Specifier (Spec) position followed by an IP".

4.2.2 Critical issues in identifying the ML in frame-building

There is a controversy among scholars over the main criteria that should be used to identify the ML in cod-switched utterances. Indeed, the objective behind earlier studies is to investigate the question of equal/unequal partnership between the languages involved in CS. The strenuous question is whether these languages play equal roles in shaping CS abstract structure or one language is structurally more dominant than the other. A large number of researchers agree that there is an asymmetry in the distribution of languages in code-switched data. Therefore, the results of their inquiry converge towards the idea considering one language being the source of the abstract structure in bilingual speech.

Perhaps the first scholar who refers to the notion of the ML is Wentz (1977). The author defines it as *"the language of the sentence"* by appealing to the language in which the determiner and the main verb are constructed. Then, Sridhar and Sridhar (1980) distinguish between "the host language" and "the guest language" and determine the host language on the basis of *constituent order*. Meanwhile, the authors insist on the fact that the internal structure of the guest language is not required to adhere to the

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constituent structure of the host language. Some researchers like (Doron, 1983: 35-59) and Joshi (1985: 190-205) have also defined the ML as the language of the major constituent or simply the first word in a sentence while others (Treffers-Daller, 1990: 259-277) and Klavans (1983) distinguish it as the language of the finite verb or INF. On the other hand, Pandit (1986) relies on word order in the establishment of the ML that she has named "the governing language", defined as the language of the verb in the sentence. So far, these criteria have proven to be inadequate to explain some instances of CS data set.

Clyne (1991: 31) argues that the ML cannot be identified only on the basis of the language affiliation of the verb, he states that "Klavans' (1985) claim that all sentences can be assigned to a Matrix Language according to the language affiliation of the verb is not practical in Dutch-English Code-Switching spoken by Dutch emigrants in Australia".

Nortier (1990) demonstrates that it is not possible to establish the ML only on structural grounds. The counter-examples she has provided limit the adequacy of the major constituent and the INFL category as basic criteria for ML identification within a sentence. The problematic cases where Nortier could not assign the ML to either language are taken from Dutch-Moroccan Arabic, as illustrated in the following examples:

(328) **temma** krijgen ze veel meer
     there get   they much more
     "There they get much more."

(329) **xess-hûm** anders omgaan met hun
     they must differently deal   with them
     "They must deal with them differently"
     (Dutch/Moroccan Arabic, Nortier 1990:159)

In fact, Nortier (1990: 158) differentiates the BL of the whole conversation from the ML in individual sentences. Thus, the approach adopted by Nortier is rather different from that espoused by Myers-Scotton. Other cover terms have been used in the literature to designate two opposing languages at different levels of analysis (micro- and macro-levels). For instance, Moyer (1998) distinguishes the BL which determines the grammar of the sentence from the main language which sets the frame for the entire exchange.

Similarly, counter-examples to the claim advocated by Klavans (1983) and Treffers-Daller (1990) are numerous in our corpus. Consider the following examples which display verbal and nominal stems from Fr with inflectional morphemes belonging to OrA:

(330) ʃħaːl mə **les profs** **multipli**j̟jawuːnna **les notes**
how many from DEF-PL teachers PERF-double-3PL-1PL DEF-PL grades
"So many teachers have doubled marks."

(331) waːh **la manière** wʊ **(s) style** taːʕ lluwwul liːq tʊgguʕdi
yes DEF-F manner and DEF style of DEF-first must IMPERF-stay-2F
mgard**y**athʊm
PART-keep-3F-3PL
"Yes, the manner and the style of the first one should be retained."

Berber also exhibits the same patterns in Berber/French CS where French nominal stems are attached to Berber derivational morphemes like the deictic {-nni} which are early system morphemes, as illustrated in the following example:

(332) **kemmini** *déjà tu me l'as conseillée la chaîne*-**nni**
"You did advise me (to buy) that chain."
(Berber/French, Mettouchi 2008:192)

Among the researchers who claim the inappropriateness of the two above-cited criteria is Nishimura (1986) who points out that it is difficult to assign the ML to one language in certain cases and suggests that word order is the relevant criterion. The following examples illustrate this claim. Despite the fact that the surface structure indicates that these sentences are English-framed, Nishimura assigns the MLs into Japanese since the two examples display Japanese word order SOV which is head-final:

(333) only small prizes **moratte ne**

Get-PAST- TAG
"We got small prizes"
(Japanese/English, Nishimura 1986: 128)

(334) right in the center grow-**shitara**
do-CONDIT
"If (they) grow (it) right in the center (of it)."
(Japanese/English, ibid: 129)

In earlier discussions of the MLF model, Myers-Scotton (1993b) identifies the ML on the basis of a quantitative criterion. The author suggests that the ML can be

identified on the basis of a frequency count in a discourse sample. The author (ibid: 68) states that ML is "the language of more morphemes in interaction types".

Some scholars argue that the idea of identifying the ML on the basis of a frequency count is difficult to achieve. For example, Bentahila and Davies (1983) point out that this criterion does not hold true in a great number of code-mixed sentences within French-Moroccan Arabic discourse samples.

In contrast to Myers-Scotton's (1993b) claim which considers that the utterance "dak *la chemise*" as an Arabic-framed CP, Bentahila and Davies (1998: 36-37) assume that the ML is French by resituating the CP within the entire conversation using frequency count. The authors point out that the entire dialogue comprises 44 French words and only 27 Arabic ones. It appears that this bilingual speaker shows a preference for French, and the only embedded elements from Moroccan Arabic are the demonstrative "duk". These remarks have led Bentahila and Davies to stipulate that it is rather the presence of the Arabic demonstrative which is problematic and not the French article. Besides, they have noted that even the explanation of this CS pattern in terms of "Internal Embedded Language Islands" could not make this configuration clear.

On the basis of this criterion, many bilingual conversations could be seen as changing ML several times. Bentahila and Davies (ibid: 31) have questioned then the efficiency of frequency of occurrence as a criterion for establishing the ML as follows:

> Should an interaction containing four sentences dominated by one language that are followed by two more sentences dominated by the other be analyzed as having a single Matrix Language, calculated on overall morpheme frequencies, or should one recognize a change of Matrix Language within the interaction?

The identification of an ML can be particularly problematic in cases of CS where the ML may change from turn to turn or even within the same utterance. Nishimura (1986) discusses some instances drawn from Japanese-English bilingual speech. She claims that the syntactic pattern of the sentence which includes constituent order, morphological marking, is the most reliable criterion for ML assignment. Consider the following example in which the ML is assigned to Japanese because the word order displayed is SOV (that of Japanese as a head-final). Moreover, Japanese provides the system morphemes such as topic marker "wa" and posposition de "on":

(335) kaeri ni wa border de **we** got stopped, eh?
       return on TOP   on

"On our return we got stopped at the border."
(Nishimura 1986: 130)

Myers-Scotton et al. (1996) argue that several factors are involved when bilingual speakers refer to intra-sentential CS, and therefore the ML cannot be identified mainly on structural basis, but rather on a complex interaction between structural, psycholinguistic and sociolinguistic factors. According to them, the structural considerations for ML assignment reveal the ML as being the language which projects the morpho-syntactic frame to the entire bilingual CP. The authors (ibid: 16-17) state that:

> The ML is the language which projects the grammatical frame for the unit showing intra-sentential CS. Major aspects of this criterion are operationalized as the Morpheme Order and the System Morpheme Principles of the MLF model, principles applying to constituents containing morphemes from both languages.

Myers-Scotton and her associates (ibid: 17) claim that the sociolinguistic factors within a community determine largely the status of a particular language as the "unmarked code" and henceforth the Matrix Language. As such, they define ML from a sociolinguistic perspective as follows:

> The ML is typically the unmarked or expected choice as the medium of communication in the interaction type in which the intra-sentential CS occurs. The unmarked choice can he identified empirically: it contributes quantitatively more linguistic material in the entire discourse (including monolingual portions).

Still, they acknowledge that the so-called "cohort co-identities" characterize Arabic/English CS data sets in the United States. In this type of data, the speakers belonging to a particular su-group show equally strong allegiance to two or more group identities. The second generation group uses equally both languages (Arabic and English) and identify themselves more than their parents to the American culture. In sociolinguistic terms, they appeal to CS as "the unmarked choice" following Myers-Scotton's (1993b) maxims of social motivations in CS studies.

Some scholars advocate that ML has a psycholinguistic reality. For instance, Myers-Scotton (ibid.) claims that the Matrix Language may be defined on the basis of psycholinguistic and sociolinguistic considerations independently of structural grounds. The author (ibid: 256) claims:

Since the ML plays the distinctly more major role in setting the frame, its identification obviously is crucial. The ML is defined independently of its role in frame-building on the basis of psycholinguistic and sociolinguistic criteria.

Myers-Scotton (ibid.) postulates the hypothesis making of the ML the language which is most activated by the speaker in his bilingual speech. Put otherwise, it is the language perceived by speakers engaged in CS as "the language we are speaking", as Myers-Scotton et al. (op.cit 18) indicate. It is also related to the language in which the bilingual speaker is most proficient. Some other scholars have interpreted the psycholinguistic explanation advanced by Myers-Scotton and considered ML as a sign of the bilingual speakers' proficiency. Nonetheless, Muysken (2000: 66) points out that the way the ML was perceived by Myers-Scotton in relation to the speakers' proficiency does not hold true. Muysken (ibid.) argues that speakers may switch to the language in which they are less proficient under certain circumstances. Gardner-Chloros (2009: 103) also questions the adequacy of the idea advocating a direct link between the language which is mostly activated at the mental lexicon of the bilingual speaker and the frame-building within the entire CP. Indeed, the difficulty resides in establishing a direct relation between bilingual speech processing and CS production.

Adopting an insertional perspective of CS, Boumans (1998) proposes another view about the ML. The author tries to identify ML in accordance to the verb's inflections within the clause. In fact, Boumans provides a dynamic view of ML assignment, and states that the ML can be identified at phrase or clause levels. Moreover, the author (ibid: 100) argues that the inflections of the finite verb within the finite clause constitute an indicator of ML and states that "in Code-Switching with languages marking Tense and/or Aspect of the verb, verbal inflection is a reliable indicator of the ML on the finite clause level".

Boumans and Caubet (2000) insist further on the finite verb as the most appropriate criterion of ML identification at the finite clause level. The authors (ibid: 118) state that:

> The finite verb is probably the best criterion for the identification of the matrix language at the finite clause level. There turns out to be a constant correlation between the language of the inflection of the finite verb, and the language to which the order of the major constituents (the verb and its arguments) must be attributed.

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Consider the following example taken from the authors' corpus to illustrate this point. In fact, ML in this example is Dutch since the nominal constituent "hadak ʃ-ʃi" from MA is inserted within a Dutch finite clause in which it occupies the position of a topic. This distribution does not violate Dutch grammar rules because word order is not reversed when the topic constituent is the subject in a declarative main clause.

(336) hadak ʃ-ʃi   *is eh uit den boze*
          DEM   DEF-thing   is er from the evil
          "No, this is fundamentally wrong."
          (Dutch/Moroccan Arabic, Boumans and Caubet ibid.)

Boumans (op.cit: 66) contends the concept of "layered insertion" when discussing the criteria of ML assignment. The author claims that ML can be identified independently on the constituent and finite clause levels, he indicates that:

> On the constituent level, the ML is the language to which the internal structure of the constituent as expressed by the distribution of all morphemes within the constituent can be attributed. The distribution of a morpheme concerns both its occurrence and its order relative to other morphemes that make up the constituent.

The author (ibid: 76) adds: "The Matrix Language (ML) on sentence level is the language of the inflection-bearing element of the tensed verb". Indeed, the concept of "layered insertion" is relevant not only to MA/Dutch corpora but also to database from Nishimura's (1986) corpus.

After this overview of the different conceptions proposed in the literature on the criteria of ML identification, we refer to the language of INFL in the finite verb and the one which provides system morphemes within a bilingual CP as ML. As demonstrated quantitatively in the third chapter, most of the time OrA is the ML in our corpus.

Beside the criteria for ML assignment, the asymmetry and opposition between ML and EL is another important component of the insertional models advocated by Myers-Scotton (1993b, 1997, and 2002). Asymmetry operates at different levels and reflects different hierarchies. We shall consider these oppositions and hierarchies in the next section.

4.3 The frames of the MLF model

4.3.1 The Matrix Language vs. Embedded Language

Myers-Scotton claims for an inequality of partnership between the languages involved in CS and posits one language as having hierarchical importance over the other in determining the structure of CS patterns. According to the author, one of the participating languages sets the grammatical frame for the structuring of CPs (word order and system morphemes), this frame-setting language is ML and the other is EL. ML morphemes occur frequently while EL morphemes are restricted. This major role distinction between the two languages indicates that ML is a grammatical frame which provides functional elements while EL constituents fill the slots within that frame. The following example is an illustrative case: OrA is ML with an inserted French NP, it is responsible for the constituents' word order and supplies system morphemes (the inflection for the passive participle and the morpheme "n-" signifying the imperfective):

(337) wana χaːjfa   ndiːr   **la deuxième page**
     and I PART-afraid-3F IMPERF-do-1S DEF-F second page
     "And I'm afraid to make the second page."

The identification of ML is not so easy, there are cases where the surface structure obeys the rules of a particular language but the abstract lexical structure belongs to another, as seen in the following example:

(338) Il   y' aura pas spécialité
     there will be NEG special field
     "There will be no special field."

In the above example, the bilingual speaker produces an utterance entirely in French. Though all the surface morphemes come from French, the morphosyntactic structure that underlies this CP is OrA /məkkaːnʃ ʔiχtiṣaːṣ/ because the well-formed construction in French "il n'y aura pas de spécialité". Indeed, OrA is characterized by certain verbless sentences and other constructions which lack prepositions and other functional elements. So, ML assignment relies principally on the syntactic role played by such a language within a bilingual CP: it sets word order and provides functional morphemes.

Similarly, in (339) the surface morphemes are from French but the whole construction is not well-formed in French. The adverb comes before the adjective in French but in this example it does not follow this word order. Besides, this construction

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lacks the in definite article "un". The appropriate construction in French would be "un agenda bien planifié".

(339) ɾaːni   mʕaːk **agenda planifié bien**
       PRSENTATIVE-1S   with-2M agenda plan-PASS well
       "I agree with you, it's a well-planned agenda."

4.3.2 Content morphemes vs. System morphemes

The second distinction established in the MLF model concerns content and system morphemes. Myers-Scotton has proposed some features to set a universal line of demarcation between these morphemes regardless of their different behaviour cross-linguistically. These properties are [±Quantification], [±thematic role-assigner] and [±thematic-role receiver]. Categories which show the property [–Quantification] are prototypical content morphemes. Verbs, for instance, are potential content morphemes since they assign thematic roles. Nouns are also content morphemes because they show the properties [–Quantification, +Thematic-role receiver]. Most nouns and verbs are potential content morphemes in most languages, these elements constitute the predicate-argument structure and therefore they either receive or assign thematic roles.

Consider the example below taken from our corpus in which the French verb' stem "naviguer" (get around) is integrated into OrA through the attachment of the cyclic morpheme indicating the first plural of imperfective, and the noun "videur" (bouncer); are inserted within an OrA-framed mixed utterance.

(340) fina mʕaːmən **nnavigu** mʕa l**videur**
      we   with whom IMPERF-get around with DEF bouncer
      "With whom we get around: with the bouncer."

Adjectives are content morphemes within this thematic grid, most obviously as predicative adjectives and in other constructions. The adjective *"intéressée"* [à] in (341) assigns the role of stimulus to NP1 "les sciences du langage" and the role of experiencer to the NP2 "la candidate" in the bilingual CP.

(341) **la candidate** kaːnət **intéressée l les sciences du langage**
      the candidate PERF-be-3F interested to DEF-PL sciences of language
      beṣṣaﬁ **refuz**aːwulha
      but   PERF-refuse-3PL-to-3F
      "The candidate was interested in language sciences but they refused her."

Some prepositions only assign case and not thematic roles, they are considered as system morphemes in Myers-Scotton's typology, as can be shown (342). Notice that in this example the CP "mə *les quarts de finale*" (from the quarter-final), consisting of the preposition "de" which is a system morpheme and an NP, assigns objective case to the noun "finale".

    (342) mə **les**   **quarts de finale** wrʊːɦ
            from DEF-PL quarters of final and after
            "From the quarter-finals and after."

Contrary to the [±thematic role-assigner] and [±thematic-role receiver], the feature [Quantification] is a construct that specifies the quality of individuals across variables. For instance, determiners (a, the) specifying particular individuals, numbers or definiteness, quantifiers (any, no, few, many, all) and possessive adjectives (my, its, her, their) are system morphemes as well. Tense markers which specify a special time-frame within discourse appear at the specifier position of NP and therefore belong to the category of system morphemes. Similarly, adverbs of degree or intensifiers such as "very, extremely, rather" are system morphemes; they specify the extent of a quality or the degree of a frequency, as in *very* nice or *extremely* important.

Here is an example from our corpus which includes the system morpheme "bəzzaːf" denoting "beaucoup" (much):

    (343) wiːnha lblaːd f l'**Europe** lli fiːha <u>bəzzaːf</u> **les**   **juifs**
        where-3F DEF-country in DEF-Europe that in-3F much DEF-PL Jews
        "In which country in Europe are there many Jews?"

Myers-Scotton assumes that the mapping of thematic roles onto morphemes varies cross-linguistically. The assignment of certain θ-roles is language-specific, what is considered as a content morpheme in a language can be a system morpheme in another language. For example, pronominals behave differently cross-linguistically. French and English show partial incongruency with respect to pronominals. In English, personal pronouns (I, you, he, me, him, etc.) are free morphemes which are classified as content morphemes under the 4-M model since they can occupy argument positions within NPs. In contrast, French possesses two types of pronominals. Pronominal subjects (je 'I', tu

'you', il 'he', etc.) are clitics classified as late system morphemes since they cannot occupy argument positions, as illustrated in the example below:

(344) *They gave **je** an apple
"They gave me an apple."

The second type of pronominals is free "strong pronouns" (moi 'me', toi 'you', lui 'him', etc.), which are content morphemes that can occupy certain argument positions. This divergence in the pronominal systems of both languages is revealed through subject-doubled constructions, as can be shown in (345):

(345) Moi j'aimerais aller au parc
"(me) I would like to go to the park."
(Paradis and Nicoladis 2000: 257)

In this example, the strong pronoun occupies the position of a subject argument while the clitic 'je' functions as an agreement marker on the verb. Furthermore, subject pronouns cannot be separated from the verb by adverbials as English pronouns do, as revealed in the following example:

(346) *Je souvent dine avec ma mère
"I often dine with my mother."

Paradis and Nicoladis (2000) confer the restrictions imposed on the switching of clitics between French and English to status differences between clitics and pronouns. The authors (ibid: 256-257) assert:

> The difference in status between clitics and pronouns intersects with verb movement to predict further limitations on the mixing of pronominal morphemes between French and English. Because subject clitics behave syntactically like bound morphemes marking person agreement, they are INFL-related items and move with the verb in the syntax in French. Recall that in English, thematic verb movement is not apparent on the surface.

4.3.3 Constituents of the CP

The MLF model predicts three types of constituents which can occur in intra-sentential CS. These comprise Matrix Language Islands, Embedded Language Islands, and Mixed Constituents.

4.3.3.1 Matrix Language Islands

These are maximal projections entirely in the Matrix Language and they follow grammatically the ML specifications, as illustrated in (347):

(347) raddət ʕlih **deux fois** bəʃʃnaːf
PERF-reply-3F on-3M two times with DEF-anger
"She answered him angrily twice."

In the above example, both the finite clause "raddətʕlih" and the PP "bəʃʃnaːf" are Matrix Language Islands because they are under the control of OrA which frames the abstract structure of this bilingual CP.

2.3.2 Embedded Language Islands

These islands are maximal projections entirely well-formed according to EL specifications. However, EL islands are under the control of the ML as their placement in the entire CP. Observe the following examples:

(348) le jour wiːn təlqʊ **les conditions réunies...**
DEF day where IMPERF-find-2PL DEF-PL conditions met-PL
"The day you will find that the conditions are met."

(349) les workshops taːʕ **l'anglais technique**
DEF-PL workshops of DEF-English technical
"The workshops of technical English."

In (348), the French EL islands "le jour" and "les conditions réunies" are well-formed according to the French specifications: the first EL Island is well-formed according to the French grammar rules but it submits to OrA in its placement within the entire CP. Similarly, the adjective "réunies" is in a postposition while its placement does not violate OrA grammar since it follows VS order (that of OrA which frames the entire CP). In (349), the requirements of the French grammar are also met for the two EL Islands: the determination of the nouns "workshops" and "anglais" and the adjective "technique" takes the postposition.

Myers-Scotton distinguishes between two types of EL Islands: Embedded Language Islands and Internal Embedded Language Islands. Yet, Internal EL Islands may or may not be maximal projections from the standpoint of EL. They occur in mixed constituents where they are considered as "intermediate" constituents and constitute a part of maximal projections in the Matrix Language. Instances of Internal EL Islands

characterizing our corpus when OrA and Fr are involved within a bilingual CP are illustrated below:

(350) kiʃaːfʊ   hadiːk **la vidéo** taːʕ nhaːr lʕiːd
     when PERF-see-3PL that   DEF-F video of day   DEF-feast
    "When they saw that video of the feast day."

(351) ʃawaːla hæːd **le petit truc**↗
    what   this   DEF little thing
    "What is this little thing?"

In these examples, the Internal French EL Islands "la vidéo" and "le petit truc" are intermediate constituents since they are part of two maximal projections which consist respectively of DEM+ DEF+ N and DEM+ DEF+ADJ+ N ("hadiːk *la vidéo*", and "hæːd *le petit truc*").

2.3.3 ML + EL constituents (mixed constituents)

These mixed constituents include morphemes from both languages, but ML sets the morphosyntactic frame. Morpheme order and system morphemes constitute this frame. Put otherwise, "mixed constituents" include elements from both the Matrix and Embedded Languages (ML+EL constituents). Accordingly, the three constituents of the CP are quite different: ML Islands are composed entirely of ML morphemes and are under the control of ML grammar while EL Islands are composed entirely of morphemes from EL and are well-formed by EL grammar but inserted within a ML frame. Nonetheless, mixed constituents are well-formed in EL but their appearance in the code-switched CP is under the control of the ML.

Consider example (352), in which the French content morpheme "Méridien" is inserted within an OrA-framed CP. Though this item should submit to the French grammar rules, it lacks the definite article "le". Likewise, the French construction "palais des congrès" in (353) comprises N+ of+ N which is well-formed in French in terms of word order but it lacks the definite article "le".

(352) miʃi f **Méridien** χdemt   f **palais des congrès**
    NEG   in Meridian PERF-work-1S   in palace of-PL congresses
    "I didn't work in the Meridian (but) in the convention Centre."

(353) **Bon** haːdi **la**   **copie** taːʕ l **cours** taːʕ ljuːm
    well   this   DEF-F copy of DEF lecture of today

"Well, this is the copy of today's lecture."

4.4 Principles of the MLF model: relevant frameworks and applications

Myers-Scotton proposes two interrelated principles relevant to the MLF model, namely the Morpheme Order Principle (MOP) and the System Morpheme Principle (SMP). Our intention here is to test the applicability of the two principles on a particular corpus that of OrA/Fr CS. Indeed, the results will be compared with other findings realized in other corpora.

4.4.1 The Morpheme Order Principle (MOP)

In ML+EL constituents which consist of single EL lexemes insertions and any ML morphemes, surface morpheme order will be that of the Matrix Language. Myers-Scotton and Jake (1995) claim that the ML determines the surface syntactic relations in ML+EL constituents. For example, (354) follows OrA morpheme order because the French noun (*matière)* is accompanied with the definite article "*la*" in accordance with OrA morpheme order. Otherwise, the modifying demonstrative hæːd (that) is followed by the definite article and this is obviously an OrA grammatical pattern. On the other hand, the French morpheme order disallows a sequence of two determiners in this particular syntactic distribution. The French counterpart would be "il est en train de vous donner cette matière pour la traduire".

By the same token, the word order in the construction "waħid əl*mauvaise affaire*" in (355) is that of OrA since French does not allow the consecutive occurrence of indefinite and definite articles.

> **(354)** hæːd **la matière** ɾaːh   ʕaṭehaːlək   baːʃ
> this DEF-F content PRESENTATIVE-3S PART-give-3S-3F-to-2S to
> tə**tradwi**ːha
> IMPERF-translate-2S-3F
> "He is giving you this content to translate it."

> **(355)** waːh ɾawwaħina   dərna   waħid   əl**mauvaise affaire**
> yes   PERF-go-1PL   PERF-do-1PL INDEF   DEF bad   deal
> "Yes, we did go. We made a bad deal."

The predictions of MOP hold true for switches including the combination of a noun and an adjective. For instance, the following examples follow the word order of French in the embedded island and the internal embedded island, respectively.

(356) liːq təstaʕʕamli **des expressions faciles**
must   IMPERF-use-2F DEF-PL expressions easy
"You must use easy expressions."

(357) truːɦʊ   ʃ **les**   **grandes spécialisations**
IMPERF-go-2PL in DEF-PL big-PL   specializations
"You will go to the major specializations."

(358) gaːʕ lli jdirʊ   *translation* jtabbʕʊ   hæːd **les**
all that IMPERF-do-3PL translation IMPERF-follow-3PL this DEF-PL
trois étapes
three steps
"All who do translation follow these three steps."

When it comes to word order in mixed constructions where the combination noun + attributive adjective would appear, our corpus rarely displays this type of switch when OrA is the ML. Consider some examples:

(359) des   **jeunes filles** ʃabbiːn
INDEF-PL little-PL girls pretty-PL
"Young pretty girls."

(360) diːri   **formation** wʊɦidʊχra
IMPER-do-2F training   another-F
"Prepare another training."

Example (359) displays OrA word order in relation to the noun+ adjective combination: the adjective "ʃabbiːn" (pretty) from OrA follows the French plural noun "filles" (girls) and hence OrA word order is respected. Similarly, (360) exhibits an OrA word order where the OrA adjective "wʊɦidʊχra" follows the French noun "formation". Thus, the MOP does not seem violated in this syntactic distribution in data from our corpus.

It seems that the combination noun+ adjective occur mainly in mixed constituents while in EL islands and internal EL islands the word order followed is that of the Embedded Island. Here are some examples from our data:

(361) lʊkkaːn ddiːri   **une**   **autre formation**
if   IMPERF-do-2F INDEF-F other   training
"If you prepare another training."

(362) ɾaːni   ʕaːda fə **(t) texte argumentatif**
PRESENTATAIVE-1S still   in DEF text argumentative

"I (work) still on the argumentative text."

In fact, other studies demonstrate the scarcity of this type of switch in corpora where Arabic is ML. For instance, Boumans and Caubet (2000) have noted the same remark in their Moroccan Arabic/Dutch and Algeria Arabic/French data sets. Yet, Ziamari (2008) shows a number of examples consisting of the combination noun+ adjective, mainly in mixed constituents. Notice the following example:

(363) hiyya l-Rayon dyal **waḥed s-circonstance ṣ-ṣġiṛa**
celle le rayon de   un   la circonférence petite
"It is the radios of a small circumference."
(Moroccan Arabic/French, Ziamari 2008: 191)

The above example conforms to the predictions of the MOP because the French noun (circonférence) is modified by the MA adjective (ṣ-ṣġiṛa) in the mixed constituent "waḥed s-circonstance ṣ-ṣġiṛa" following MA word order. Indeed, the corresponding French adjective should precede the noun it modifies and henceforth the entire construction would be in French (c'est le rayon d'une petite circonférence). Likewise, (364) from our corpus consists of a French nominal phrase followed by an adjective from OrA. This example reveals that the mixed constituent submits the grammar rules of OrA which frames the entire CP.

(364) waːħed lli ʕandu   **les   gosses** sʷɣaːr
one   that have-3M DEF-PL kids   little-PL
"Someone who has little kids."

Some other cases from our corpus constitute a violation of the MOP; they consist of French nouns preceded by numeral adjectives which constitute typically a French word order. Consider the following examples to illustrate this point:

(365) w zaːdəlha   hæːd **lquatrième condition**
and PERF-add-3S-to-3F   this DEF fourth condition
"And he added to it this fourth condition."

(366) tnəʒʒmuː: fə **t- troisième année** ddiːru   *ESP*
IMPERF-can-2PL in DEF third year   IMPERF-do-2PL ESP
"You can study ESP in the fourth year."

In both examples, the mixed constituents "lquatrième condition" and "t-troisième année" should obey OrA grammar rules since the entire CPs are framed by OrA. Yet, numeral adjectives "quatrième" and "troisième" follow the nouns they modify and are

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then submitted to the grammar rules of French which is an EL in these examples. On the other hand, the only constructions which do not violate the predictions of the MOP would be EL Islands and EL Internal islands. The following examples illustrate this idea:

(367) f **les deux années**   ruːɦi χχadmi
in DEF-PL two years IMPR-go-2F IMPER-work-2F
"Go to work in the two years."

(368) kaːjen   **trois options**
EXIST   three options
"There exist three options."

Other similar cases were identified in other corpora, namely in MA/Fr, and TA/Fr code-switched data. Here are some illustrative examples:

(369) Kan ža ɛend-i f l-**premier semestre**
Il était is est venue chez moi dans le premier semestre
"He came to me in the first semester."
(Moroccan Arabic/French, Ziamari ibid: 197)

(370) mil **première année**
de la première année
"From the first year."
(Tunisian Arabic/French, Larousi 1995: 211)

4.4.2 The System Morpheme Principle (SMP)

Within her morpho-syntactic framework, Myers-Scotton (1993b: 83) claims that all system should come from the Matrix Language in intrasentential Code-Switching. The author calls this prediction the System Morpheme Principle (SMP). In fact, this principle predicts precisely that all system morphemes which exhibit grammatical relations external to their head constituent will come from the ML in mixed constituents. Otherwise, all EL system morphemes will not occur in code-switched sentences including ML+EL constituents while syntactically relevant ML system morphemes will occur.

According to Myers-Scotton's criteria of morphemes classification mentioned previously, determiners, quantifiers, copulas, do verbs, structurally assigned agreement and dummy pronominals fall under the category of system morphemes. Subsequently, all these functional elements should be sourced from the ML according to the SMP.

In her work on Swahili/English Code-Switching, Myers-Scotton has recognized that only English content morphemes are inserted within a Swahili morpho-syntactic

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frame consisting of inflectional and functional elements. Muysken (2000: 155-156) has also recorded similar patterns of language mixing when Dutch, Turkish, Malay, and Chinese are involved in bilingual speech, with Dutch as an EL.

Our informants also show similar patterns, Fr and much less often Eng provide content morphemes while OrA sets the morphosyntactic frame and provides system morphemes. Observe the instances from ou data:

(371) dduχli   **maintenant perfection**i   **n-niveau** tta:ʕek
    IMPER-enter-2F now   IMPER-strengthen-2F DEF-level DEF-of-2S
    "Enter now (and) strengthen your level."

(372) ki jprodakti   ɾa:h   jrisi:vi
    when IMPERF-produce-3M PRESENTATAIVE-3M IMPERF-receive- 3M
    "When he produces he receives."

It appears that the two previous examples reinforce the predictions of the SMP since in (371) the French stem is attached to the inflectional marker of the imperative (an outsider system morpheme) which is provided by OrA as the Matrix Language in this CP. Likewise, the stems of the English verbs (produce and receive) are attached to the inflectional imperative marker {-i}, and therefore English as an EL provides only content morphemes.

It is worth noting here that the verbal form used in the above example "jprodakti" has been derived from the English noun "product" and not from the verb "produce". Hereafter, the speaker uses this form instead of "j*produisi*" which is typically used. Other Arab contexts have showed other types of integrating English verb into the host language, as can be illustrated in the following example:

(373) huwwa la yu-*sammok* wa la yu-*darnik* wa la yu-dhar awit
    he NEG 3-smoke and NEG 3-drink and NEC 3-appear out
    "He doesn't smoke and doesn't drink and doesn't go out [at night]."
    (Lebanese or Palestinian Arabic/English, Rouchdy 1992:48)

Nonetheless, other data have provided counter-examples to the predictions of the SMP. Some examples have shown cases of inserted nouns accompanied by plural markers in EL and not in ML. For instance, Boumans (1998) provides many examples which illustrate this point. Consider the following example:

(374) Duk   *artikel-en*, ila bġiti   t-teržem-hŭm, *is echt moeilijk*
    DEM-PL article-PL if   want-2SG 2-translate-3PL is really difficult

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"Those, articles, if you want to translate them, that's really difficult."
(Moroccan Arabic/Dutch, Boumans 1998: 37)

In the above example, Boumans (ibid: 37) considers that the Dutch suffix –en which marks plurality in the NP duk artikel-en "those articles" constitutes a violation to the SMP. The author (ibid.) states that "If there is just an EL system morpheme marking a plurality in a mixed constituent, it cannot be syntactically irrelevant. This EL system morpheme challenges the System Morpheme Principle and the proviso stated in the Principle cannot solve the problem".

Myers-Scotton rejects the idea of "double morphology" as a counter-example to SMP. According to her (2002: 92) "only early system morphemes may be doubled in classic code-switching". Nonetheless, Ziamari (2008) provides two cases which invalidate the predictions of SMP. Consider these examples:

(375) si on **les** nẓiyyṛu-**hum**
si on les nous serrons eux
"If we oppress them."
(Moroccan Arabic/French, Ziamari op.cit: 202)

(376) **ġadi** *jamais il va accepter*
allant jamais il va accepter
"He will never accept."
(French/Moroccan Arabic, Ziamari ibid: 202)

According to Ziamari, the two CPs include system morphemes from both MA and FR. In (375), MA is the Matrix Language which provides the INFL {-u} and the clitic {-hum} while French provides the clitic "les" which is an outsider system morpheme. Likewise, (376) is a counter example to the double morphology hypothesis since French as a Matrix Language provides the auxiliary "aller" indicating the future, and MA as an Embedded Language also participates in building the morpho-syntactic frame of the entire CP by providing the future marker "ġadi".

Though Ziamari insists on the fact that these instances of CS are counter-examples to the double morphology hypothesis and SMP, no instance of CS of this type occurs in our corpus. Besides, our informants consider the above examples as ill-formed. In all the examples indicating the future in our corpus, the future auxiliary is sourced from OrA, as shown in the following examples:

(377) hæ:d **la   matière** zaʕma ʁa:di nʕa:wʊd
this   DEF-F material supposedly will IMPERF-repeat-1S
nˌtarʒəmhʊm

IMPERF-translate-1S-3PL
"This material I supposedly will translate them."

(378) **alors** ɣaːdi jaʕʕarfʊ   **une notion**   ʕla ħjaːtah
     so   will   IMPERF-know- 3PL DEF-F notion on   life-3M
     "So, they will know a notion on his life."

A set of interrelated hypotheses have been proposed under the MLF model to make predictions for special cases when an EL morpheme appears in ML, namely the Blocking Hypothesis, the EL Island Trigger Hypothesis and the Implicational Hierarchy Hypothesis.

4.4.3 The Blocking Hypothesis

MOP and SMP permit the free occurrence of singly-occurring lexical morphemes from EL so long as they satisfy the requirement of the word order determined by the structure of ML. As Myers-Scotton notes, however, there are many cases where the occurrence of EL forms predicted by these two principles is prohibited. In order to account for such cases, Myers-Scotton (1993b) introduces the Blocking Hypothesis.

The Blocking hypothesis states that the Matrix Language blocks any EL content morpheme which does not satisfy certain congruency conditions with ML to appear in ML+EL constituents. Myers-Scotton (1993b: 120-121) has formulated the Blocking Hypothesis as follows: "In ML+EL constituents, a blocking filter blocks any EL content morpheme which is not congruent with the ML with respect to three levels of abstraction regarding subcategorization".

In Myers-Scotton's terms, two linguistic items are congruent if they correspond to certain qualities. This means that the ML blocks EL content morphemes if they are realised as system morphemes in ML. For example, prepositions can either be content or system morphemes depending on the internal structure of the languages involved in CS. The English preposition "for" is a content morpheme since it assigns a thematic role to its complement in a construction like for +NP. Nonetheless, its Swahili counterpart does not meet the same conditions of congruency. It is realized as a postpositional suffix and therefore the English preposition "for" cannot occur in mixed islands. One specific example is taken from Swahili/English in Myers-Scotton (1993b):

(379)   a. Nikam wambia anipe ruhusa niende ni-ka-**check**
        and I told him he should give me permission so that I go and check
        for you
        for you

b. * Nikam wambia anipe ruhusa niende ni-ka-**check for** wewe
(Swahili/English, Myers-Scotton 1993b: 140)

4.4.4 The EL Island Trigger Hypothesis

The EL Island Trigger Hypothesis claims that the access of any EL morpheme which does not satisfy the conditions of both the ML and the blocking hypotheses will trigger an obligatory EL Island. Myers-Scotton (1993b: 7) states that "Whenever an EL morpheme appears which is not permitted under either the ML Hypothesis or the Blocking Hypothesis, the constituent containing it must be completed as an obligatory EL island."

Put otherwise, the EL Island Trigger Hypothesis posits that an EL Island has to be generated if an EL system morpheme is "accidentally accessed". Besides, there exist other optional EL Islands that Myers-Scotton (ibid.) defines as follows: "generally they are only those which are either formulaic or idiomatic in the main grammatical arguments of the sentence". Consider the following example to illustrate this process of EL Island triggering:

(380) Ne sano että Suomesson *higest unemployment* joka viies   henkilö
      they said that Finland+INE+is   every fifth person
      on työtön
      is unemployed
      "They said that unemployment in Finland is the highest; every fifth person is unemployed."
      (Finnish/English, Halmari 1997: 88)

In the above example, the EL Island Trigger Hypothesis explains rightly the presence of {-est} in the EL island "higest unemployment". Since the EL system morpheme was accidentally, the obligatory EL Island which has been created satisfies the requirement of English grammar. Furthermore, lexical processing and bilingual speech production explain well the different occurrences of EL Islands within ML-framed CPs. We shall discuss these points when testing the predictions of the 4-M model against our data, especially the insertion of French NP constructions in OrA-framed CPs. However, in (381) drawn from our corpus the formulaic expression has triggered the EL Island in French which is inserted within an OrA-framed CP:

(381) kʊːn ʕlabaːnna **dès le début** kʊːn wuʒʒədna   rwaːħna
      if   on mind-1PL from the start if IMPERF-prepare-1PL ourselves
      "If we knew from the start, we would have prepared ourselves from the start."

As far as clauses are concerned, the unexpected activation of the French pronoun "ce", a system morpheme from EL, triggers off an EL island to produce "c'est le charme" (it is the charm), as exemplified in the following instance of CS:

(382) ki jkuːn bəzzaːf **c'est le   charme**
when EXIST many   it is   DEF-M charm
"Where there are many (people) it is the charm."

It seems that the notion of "congruence" is central to the understanding of the construction of EL islands within a ML frame. Congruence refers to "a match between the ML and the EL at the lemma level with respect to linguistically relevant factors." (Myers-Scotton and Jake 1995: 985)

In Myers-Scotton's model, congruence is manifested at two levels. The first level is related to the status of syntactic categories and the matching between system and content morphemes. If a syntactic category shows incongruency with its EL counterpart, the EL content morpheme cannot occur in ML+EL constituents. For instance, pronominal pronouns are realized as system morphemes *(clitics sourced from the ML)* and their EL counterparts are content morphemes, ML clitics can occur in ML+EL constituents but not the EL's content pronouns.

The second level of mismatching which prohibits an EL content morpheme to appear in ML+EL constituents is linked to thematic role assignment. If EL content morphemes are not congruent with ML morphemes in terms of sub-categorization, these morphemes cannot occur in mixed islands. One specific example concerns prepositions: certain prepositions are considered as content morphemes because they assign thematic roles. The preposition *for* in English assigns the thematic role of goal to *Mary* in the sentence "She sent a letter for Mary". It can therefore appear in ML+EL constituents. In Swahili, however, it is the verb which assigns the thematic role of beneficiary or goal through the verbal suffix which is not congruent with the English preposition *for*.

Myers-Scotton and Jake (1995) reconsider the notion of congruence and relate it to the matching between the ML and EL at three levels: the lexical-conceptual structure *(intentions and semantic features)*, the predicate-argument structure *(the mapping of syntactic categories to their arguments)*, and morphological realization patterns (syntactic relations and surface word order). They assume that the appearance of EL Islands is due to some problems of incongruency between the structures of the languages involved in CS at some levels (the three levels mentioned earlier). The

occurrence of EL Islands might be explained at the conceptual level so that the bilingual speaker's intentions could not be realized in the ML.

Myers-Scotton (1993b: 252) illustrates the EL Island Trigger Hypothesis by the insertion of English IPs within Arabic-framed CPs. The author assigns the occurrence of obligatory EL Islands of this type to an insufficient congruency between Arabic and English verbs. Although Arabic and English verbs may be congruent at the level of lexical-conceptual structure, English verbs cannot be inflected with Arabic verbal morphology when Arabic sets the frame in the entire CP. Indeed, the corpora realized in Myers-Scotton et al. (1996) consider IPs as EL Islands to be the most common type. The authors (ibid: 253) attribute the prevalence of this type of EL Islands to differences in system morpheme types in both languages. They hypothesize that tense/aspect is structurally-assigned in English and hence the lemmas underlying English verbal entries do not include tense/aspect. Conversely, lemmas underlying Arabic verbal entries should include tense/aspect. In terms of language processing, lemmas underlying English verbal entries would send directions to activate the required mechanisms to structurally-assigned tense/tense at the level of the formulator when the morpho-syntactic frame is set whereas tense/aspect is indirectly activated in Arabic along with the content morphemes specifying them. Consider the following example drawn from Okasha's (1995) corpus to illustrate the hypothesis of an EL Island as an IP in Arabic-framed CPs.

(383) huma butudfaʔooli   kul haga [_CP liʔannuhum
      they HAB/IMPF/pay/3P/1S all thing because/3P
      [_IP *they can afford it*]]
      they afford it
      "They pay for everything for me because they afford it."
      (Palestinian Arabic/ English, Okasha 1995: 3.34)

According to this adjusted version of the MLF model, if there is congruence between competing items from the participating languages to CS at the conceptual level, the activated EL system morphemes will be incorporated into the grammar of the frame-building language (ML). In cases of incongruency, on the other hand, two compromise strategies will be called, namely bare forms and EL Islands. (Jake and Myers-Scotton 1997)

In case the EL inserted morphemes are single words, they appear in EL Islands as bare forms[65]. Here is an example from our data:

(384) ʔana ɣaːdi rriviːzi **didactique**
    I   will   IMPERF-revise-1S didactics
    "I will revise didactics."

In this example, the OrA system morpheme (ML) equivalent to the French definite article 'la' is required with the EL content morpheme (didactique). The noun surfaces here in its bare form because of an incongruency at the lexical-conceptual structure. The otherwise well-formed constructions would either "ʔana ɣaːdi rriviːzi *la*

didactique" or "ʔana ɣaːdi rriviːzi *d-didactique*".

The second strategy is an EL Island which meets the requirements of the well-formedness in EL, inserted within the frame constructed by an ML. The EL Island in (74) is a French well-formed inserted constituent since the adjective 'seule' precedes the noun it modifies "question", in accordance to French grammar rules.

(385) ʕt̪ɑːna **une seule question**
    PERF-give-3M-1PL DEF-F one question
    "He gave us one question."

We will not discuss in details EL Islands because they will be analyzed along with the NP, VP and PP constructions inserted in ML-framed utterances from both languages, namely OrA and Fr.

4.4.5 The Implicational Hierarchy Hypothesis

Besides the blocking and the EL Island Trigger Hypotheses, Myers-Scotton has proposed the "Implicational Hierarchy Hypothesis" which states that peripheral constituents, idiomatic expressions have more tendencies to appear as EL Islands. Prepositional phrases, time adverbials and idiomatic expressions[66] appear most of the time as EL Islands like "in fact, for that purpose, every day, very late, old habits die hard". Myers-Scotton has proposed the following Implicational Hierarchy in which formulaic expressions are on the top of the scale, followed by time and manner

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[65] According to Myers-Scotton (2002: 21), "Bare forms are EL content morphemes that lack the requisite ML system morpheme that would make the well-formedness in a ML frame. They are often nouns".
[66] Wray and Perkins (2000) consider formulaic expressions as a sequence of words or elements which appear to be prefabricated, stored or retrieved as a whole rather than being subject to analysis by the language grammar.

expressions. Quantifiers, non-time NPs as VP complements come after, then agent NPs and thematic role and case assigners at the bottom.

According to her (1993b: 143), a functional analysis may reveal the type of EL Islands frequently attested in a particular corpus and provide explanations for their occurrence. In fact, two distinct typologies characterizing EL Islands have been identified to explain the privileged hierarchies noted in a particular corpus. The first categorization has to do with the grammatical function of the constituent, be it core or peripheral. The second categorization recognizes that idioms and set expressions from EL are likely EL Islands. On the basis of data from Flemish/French CS in Brussels, Treffers-Daller (1994) proposes a hierarchy on the basis of peripherality of the elements, making a distinction then between clause-central and clause-peripheral code-switching. What distinguishes Treffers-Daller's hierarchy from that developed by Myers-Scotton is that the former applies to all constituents involving, whether Islands or otherwise. Muysken (2000: 99) shares the same hierarchy in his analysis of language-mixing. It is stated as follows:

Coordinated NPs/PPs   switched more
Dislocated NPs/PPs
Adverbial PPs/NPs
Before subordinate clauses
Predicate NPs/APs/Possessive PPs
Subject or object NPs and clauses indirect questions switched less

Myers-Scotton (op.cit) claims that EL Islands cannot be predicted categorically nor the conditions under which they must occur can be identified. The same remark can be applicable to ML+ EL constituents. While the structure can be predicted, the prediction of its production cannot be possible. Nonetheless, she shows that there is evidence that the functionally peripheral Islands are most favoured for EL Island constructions in the Nairobi corpus. The results of Myers-Scotton's inquiry have shown that of all EL Islands 29 % are time adverbials, most of them appear as two-word expressions or as brief PPs (next Saturday, every morning, after a week). Many of these constructions are almost formulaic (next weekend, on Saturdays); or belong to a limited set of time oriented modifiers which occur as (first in first time, last in last time). Mostly 10% are set expressions (olds habits die hard, in fact, for personal purposes). Most of the other Islands are VP complements, starting with quantifiers. Besides, many of them are complements of a copula which consists of an intensifier adverb + an

adjective (very fast, vary late). Therefore, 11% of EL Islands appear in her corpus to involve "very" in a copula complement.

Nonetheless, we argue against the idea of an established hierarchy for all corpora. We truly believe that each corpus has its own specific characteristics and hence a hierarchy implies the high frequency of certain categories compared to other constructions consisting of bilingual CPs. For instance, the NPs characterizing EL Islands when OrA is ML and Fr is EL, is the most frequently attested type. In fact, NPs appear at the top of the scale with 31,36% followed by NP mixed constituents with a percentage of 16,81%, then come respectively, Prepositional Internal Islands, Prepositional mixed constituents and IP Islands with 9,03%, 5.49%, 3,91% and at last P mixed Islands with 3, 35%.

In fact, Myers-Scotton claims that some constituents appear obligatory as EL Islands because of the EL Island Trigger Hypothesis and not because of their functional load. Put otherwise, when an EL morpheme which is disallowed to appear in ML+EL constituents by the Blocking Hypothesis is accessed accidentally, the only way to complete the constituent is to occur as an EL island. Accordingly, the status of syntactic categories as peripheral or core does not necessarily determine their occurrence as EL Islands but rather has to do with the EL Island Trigger Hypothesis.

After this brief view on the main hypotheses advocated by Myers-Scotton, namely the Blocking Hypothesis, the EL Island Trigger Hypothesis and the Implicational Hierarchy Hypothesis, it seems necessary to outline the Abstract Level model which plays a major role in explaining language processing when two or more languages are involved within a bilingual CP.

4. 5 The Abstract Level model

Myers-Scotton and Jake (1995) have slightly revised the predictions of the MLF model and proposed the Abstract Level model which accounts for classic CS as well. It has been elaborated to explain the nature of the abstract morpho-syntactic frame in bilingual CPs and how sufficiently congruent constructions occur in code-switched sentences. The major premise underlying this model is that language production in bilingual speech is made through three stages of abstract lexical structure (lexical-conceptual structure, predicate-argument structure, morphological realization patterns).

4.5.1 Lexical-conceptual structure

At this pre-linguistic level, the bilingual speaker forms a pre-verbal intention in the conceptualizer, activating necessarily language-specific semantic/pragmatic feature bundles or SP feature bundles. These bundles select lemmas[67] in the mental lexicon. Myers-Scotton and Jake (1997) posit that the Matrix Language is selected at this level and that directly elected lemmas supporting content morphemes and indirectly elected lemmas supporting early system morphemes are activated.

At the conceptual level speakers seek linguistic structures that satisfy their intentions. First, they make decisions structuring the entire discourse. Second, they take account of other aspects of lexical-conceptual structure that apply at the level of specific lexemes; they consider which surface lexemes would best convey the semantic as well as the more purely pragmatic and sociopragmatic features of their intentions.

4.5.2 Predicate-argument structure

When the frame-building language is selected, the ML morphemes become activated at the conceptual level. The ML supplies all late outsider system morphemes and other content morphemes in mixed islands. So, the hierarchies in regard to the participating languages and the status of morphemes will be established at the lemma level (the predicate-argument structure). This level provides information for the mapping of thematic roles on grammatical relations, the mapping of Agent to the subject, for instance, and Beneficiary to the indirect object.

4.5.3 Morphological realization patterns

At the third level (the formulator), the morphosyntactic procedures are activated and realised on the surface. This level includes grammatical relations (word order, agreement morphology). Case marking and subject-verb agreement are also examples of morphosyntactic realisation patterns.

4.6 The 4-M model: the MLF model revisited

More recently, Myers-Scotton and Jake (2000) have proposed a new sub-model to the MLF model, namely the 4-M model. This model is a redefined version of the

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[67] Myers-Scotton and Jake (2000) consider lemmas as what mediate between intentions and conceptual-lexical level. They mean the predicate-argument structure in which thematic structure is mapped onto grammatical relations. In fact, lemmas express the same meaning posited in Levelt (1989) "Lemmas are abstract language-specific entries in the mental lexicon which contain all structural information regarding lexical-conceptual structure".

content vs. system morpheme opposition. It identifies the features for morpheme classification, specifically thematic role assignment, maximal projections, and coindexing elements. According to the new classification, morphemes fall into four types: content morphemes and three types of system morphemes which include early system morphemes and two late system morphemes, namely bridges and outsiders.

The 4-M model does not only offer a new classification of morphemes but also explains accurately the way these morphemes are accessed in the process of production, a fact that might spell out the different restrictions constraining Arabic-French-English CS characterizing our corpus. These CS instances are drawn mainly from conversations recorded in 8 contexts among university students who show important variations in terms of patterns of mixed data.

6.4.1 The 4-M and Differential Access in production

The 4-M does not substitute the MLF model but rather provides accurate and precise details about the classification/distribution of morphemes and the way they are activated during the language production process. Myers-Scotton and Jake stress on the fact that morphemes are accessed differently and they play distinct syntactic roles in bilingual speech. They (2009: 341) focus particularly on the term "morpheme" as referring both to "the abstract entities in the mental lexicon that underlie surface realizations and to the surface realizations themselves".

Following the hypotheses postulated in the 4-M, not all morphemes are accessed in the same way as already mentioned in Myers-Scotton and Jake (2000a, 2000b, 2001). In addition to the main division between content and system morphemes, the latter are divided further into three types (early system morphemes, bridge late and outsider system morphemes). The authors have attempted to elucidate the misunderstandings of the MLF model' predictions and established constraints only on one type of morphemes, namely late outsider system morphemes according to the SMP.

Myers-Scotton (2003) considers the four morphemes and the "Differential Access Hypothesis" relevant split in language processing within a theoretical and empirical debate on split (mixed) languages. She claims that the changes affecting late system morphemes at the level of the abstract structure can be regarded as the main defining feature of split languages. This means that late system morphemes are accessed differently in bilingual speech production from conceptually-activated morphemes that encode a cognitive representation. A cover term for late system morphemes is

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"structurally-assigned". The idea is that activating such morphemes involves a syntactic relationship, not a conceptual relationship.

We first introduce the status of morphemes under the 4-M model in order to elucidate the dual nature of these morphemes which can play the role of content morphemes in certain syntactic environments and the role of system morphemes in others like prepositions and complementizers. Then, we refer to the *"Differential Access Hypothesis"* in order to explain the activation of morphemes within mixed utterances at the level of production (language processing).

4.6.2 The status of morphemes under the 4-M model

The 4-M model provides a new classification of morphemes and confines them different statuses. In fact, the structural analysis of code-switched utterances relies principally on the accurate identification of morpheme types in mixed constituents. Besides, the different distribution of morphemes within a CP determines widely the patterns of CS data and reflects the asymmetries recognized at the level of phrase structures.

4.6.2.1 Content morphemes

Content morphemes are defined under the MLF model as participants to the thematic grid of a CP by either assigning or receiving thematic roles (Myers-Scotton, 1997). Because of this role, information about thematic roles determine the number and nature of the arguments involved in mapping of predicate-argument structure onto the syntax of any clause. Nouns are prototypical examples of receivers of thematic roles (agent, patient, etc.) and verbs and some prepositions are prototypical examples of assigners of thematic roles. They occur at the conceptual level, they assign or receive thematic roles. Thus, the properties defining content morpheme are [± thematic role-assigner] and [± thematic role-receiver]. Together with early system morphemes, content morphemes satisfy the speaker's intentions and unlike other types of system morphemes, they are directly elected and can appear independently from other elements.

Myers-Scotton and Jake extend the notion of content morphemes to discourse markers and other elements that can occur in COMP position within a CP. Yet, discourse markers provide information about how the clause they head is to be interpreted. In this sense, they assign another type of thematic role at discourse level.

4.6.2.2 Early system morphemes

In contrast with content morphemes, no system morphemes assign or receive thematic roles. However, one type of system morphemes (early system morphemes) patterns with content morphemes in conveying conceptual information. The type of conceptual information they convey depends on their heads, in some way, they flesh out the meaning of their heads. These system morphemes also depend on their content morpheme heads for their syntactic roles. They are called 'early' on the basis of the hypothesis stating that they are accessed in the *"mental lexicon"* at the same time as content morphemes.

Early system morphemes occur in the same maximal projection as their heads and the heads supply information about their form. They are conceptually activated. Together with content morphemes, they activate the bundles of semantic and pragmatic features which express the speaker's intentions. Specific cases of early system morphemes cited in Myers-Scotton (2000) are plural affixes, most determiners and verb satellite prepositions. The difference between early system morphemes and content morphemes is related to the thematic role-assigning features. Unlike content morphemes, early system morphemes neither assign nor receive thematic roles. Moreover, they cannot occur independently of other items, they rely on their heads (content morphemes) of the maximal projection. According to Myers-Scotton (2002a: 75), "early system morphemes are closely tied to their heads; they depend on the specific semantic/pragmatic properties of a content head and add semantic/pragmatic information to that head".

Early system morphemes occur with content morphemes which select them at the level of the mental lexicon to construct larger constituents such as NP, VP, and AP. Yet, they do not participate in the thematic grid; they may occur as free or bound morphemes. Instances of early system morphemes are described in details by Myers-Scotton and her associates. Plural affixes, definite and indefinite articles, possessive articles, and some prepositions are examples of this type of morphemes.

Under the 4-M model, the French definite articles *"le"* and *"la"* are early system morphemes because they are indirectly elected by the gender and number features of their heads. Gender and number features are the necessary information to activate them. Nevertheless, definite articles differ from pronominal clitics in French which need information outside their maximal projection to be activated. This information comes from the subject/object AGR slots in INFL. The following examples reveal this

difference:

(386) hijja təbɣi   bəzzaːf **le bouleau** tafifia **pour le quitter**
she IMPERF-like-3F mush   DEF work   of-3F for it leave
"She likes her work too much to leave it."

(387) ʃraːt   **la**   **jupe** lli kaːnət   tahdaɾ   ʕliː-ha
IMPERF-buy-3F DEF-F skirt that IMPERF-be-3F PERF-talk-3F on it
mais elle ne   **la porte**   **plus**
but she NEG it wear-PRESENT never
"She bought the skirt she was talking about but she does not wear it anymore."

In the above examples, the first definite articles 'le-la' are early system morphemes since they are activated to express gender and number features (masculine/ feminine and singular) to the nouns "travail" and "jupe". The clitic pronouns 'le-la', however, are outside late system morphemes because the information required to activate them come from the antecedent nouns *"travail"* and *"jupe"* which are outside their immediate maximal projection.

Similarly, the definite article is an early system morpheme in Arabic and its varieties. Examples from our data illustrate the occurrence of this type of morphemes:

(388) ha ʃuːf   lrésultat ɗaɾwʊk
so IMER-see   DEF- result   now
"So, look for the result now."

(389) wʕana hakka lbarème jgʊːl ɾaːha nasjətli nqɑːṭi
and I like that   DEF-scheme IMPERF-say is forget to-1S grade-PL
"And me, the scheme indicates this way that she is forgetting grades."

(390) ʕlabaːlkʊm   lmatch   taːʕ **l'Allemagne** w **l'Iṭalie**
aware you   DEF- match of   DEF- Germany and DEF-Italy
"Are you aware of the match between Germany and Italy?"

Early system morphemes can occur in bilingual mixed constituents without violating the SMP. Nonetheless, Myers-Scotton and Jake (2009: 342) cite an example taken from Palestinian Arabic–English CS in Okasha's corpus, as a case violating the predictions of SMP, as in (69):

(391) **el** pharmacy is very boring
"The chemistry is very boring."
(Palestinian Arabic/English, Okasha, 1999: 110)

Verb satellites are among the early system morphemes discussed in the literature; they are also called particles. In fact, phrasal verbs and other derivational affixes are considered as early system morphemes because their appearance is determined by their heads to which they add other information. In the light of the 4-M model, such morphemes may come from EL because only outsiders are restricted in order to satisfy the requirements of the SMP. An example taken from Okasha illustrates the satellite "up" in the English phrasal embedded within an Arabic-framed CP:

(392) ?aloo lazim innu el **engine locked up** fi-hadiik el-laħda
3P-say-PERF must that-3S DET engine licked up in that the moment
They said that the engine must have locked up at the moment."
(Palestinian Arabic/English, Okasha ibid: 156)

Plural markers are also the illustrative cases of early system morphemes widely discussed in CS studies. Myers-Scotton and Jake (2009: 342) state four configurations of CS, containing plural markers in bilingual constituents: (1) EL plural marking only, (2) no plural marking at all, (3) ML plural marking only, (4) plural marked from both the EL and ML. For the purpose of this study, we concentrate on the first combination for it characterizes most often Arabic-framed data with other differing embedded languages. The following example which comes from Boumans (1998a) illustrates this construction.

(393) Duk **articl-en,** ila bġi-ti t-teržem-hum, **is echt moeilijk**
DEM-PL article-PL if want-2SG 2-trabnslate-3PL is really difficult
"Those articles, if you want to translate them, that's really difficult."
(Moroccan Arabic/Dutch, Boumans 1998a: 181)

In the above example, the EL Dutch noun appears with the Dutch plural marker {-en} in addition to the determiner "duk" (those) from MA. Since, the plural suffix {-en} is classified as an early system morpheme, Boumans considers that this marker appears to be problematic to the Uniform Structure Principle (USP) which requires only one language to be the source of system morphemes for the well-formedness of ML.

We will not discuss this example in depth here because it will be interpreted when discussing the USP. Yet, Myers-Scotton (2005b) states that the plural determiner from Moroccan Arabic as ML shows agreement and therefore the ML structure is maintained and the USP is preserved. She (2005b: 340) argues that:

[…]in Boumans's Moroccan Arabic/Dutch corpus, it is possible that a Dutch noun cannot be inflected with an Arabic plural marker because the Arabic

morphosyntactic frame does not "recognize" the Dutch noun as a candidate for Arabic plural inflection.

Other data sets do not show the same discrepancy when it comes to EL nouns with their plural suffixes without the ML marker for plurality. An illustrative example appears in Welsh/English Cs from Deuchar' corpus. Consider the following example:

(394) ni   oedd y **media stars**
      we be.3S.IMP DET media stars
      "We were the media stars."
      (Welsh-English, Deuchar 2005: 19)

EL nouns in the plural do not seem to raise a problem in our data since NPs appear to be implemented as embedded islands, as illustrated in the following examples:

(395) dda:t   **les**   **polycopes** tafifia
      PERF-take-3F   DEF-PL lecture notes   of-3F
      "She has taken her lecture notes."

As far as the definite article is concerned, it is OrA articles which are frequently used before French nouns, as can be illustrated in (396):

(396) ki:ma lcomplexe   lli   dχanna:lah
      like   DEF-complex that   PERF-enter-1PL to-3M
      "Like the complex that we entered."

In this example, the occurrence of the definite article {l-} does not depend on the speaker's communicative intentions; it depends rather on the content morpheme (the noun that elects it) that needs further conceptual information (definiteness or other information). The information required is supplied by {l-} which functions as an early system morpheme. The French noun "complexe" elects indirectly the reduced form of the Arabic definite article {l-} to complete the grammatical information that determines its form and position. It adds then definiteness to this noun expressing thereby the semantic/pragmatic features intended by the speaker.

4.6.2.3 Late system morphemes

Late system morphemes are activated at the level of the formulator. Their occurrence meets other requirements different from that of early system morphemes. They contain grammatical information and therefore are not activated conceptually.

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They are rather structurally assigned and activated when the lemma send directions to construct larger constituents. Subsequently, late system morphemes are selected to assemble clauses and sentences.

Myers-Scotton (2003) explains the difficulty of incorporating late system morphemes into another language on structural and psycholinguistic grounds. She relates their integration to language processing and the levels of activation of the different morphemes participating in bilingual constituents. The author (2003:83-84) asserts that:

> In the line of parlance of the 4-M model, they are not frequently transferred from one language to another for two reasons. First, easily borrowed morphemes seem to be only those that are salient at the level of the Mental Lexicon-that is, those that are conceptually-activated. There may be a functional explanation for this (i.e. such morphemes satisfy speaker intentions to convey meanings). However, one can speculate that there is a psycholinguistic explanation as well: at the formulator level, accessing of morpheme is not open as it is at the lemma level.

Late system morphemes are furthermore subdivided into two categories, bridge system morphemes and late outsider system morphemes:

4.6.2.3.1 Late bridge system morphemes

These are "bridges" which connect morphemes to build up larger constituents, showing their hierarchical relationships. They occur when their maximal projection *(content morphemes)* requires them. They are different from early system morphemes in terms of their relation to their heads; they do not depend on the semantic/pragmatic properties of content morphemes. Examples of bridge late system morphemes include the possessive 'of' and the expletive 'it' in English. The form of bridges is different cross-linguistically; they rather depend on the grammatical configurations that the language-specific grammar requires of that projection. A bridge connects, for instance, two adjacent nouns without any reference to the semantic bundles associated to the head of this particular structural configuration, the relation is purely grammatical.

The partitive construction **peu+N** in French requires the presence of the preposition 'de' (of) before the noun. Thus, the presence of the bridge system morpheme "de" in a sentence like 'peu de gens réflichissent' *(few people think)*, is determined by the structural requirements of such a construction in French. The existential morpheme serving as a dummy subject in the French construction "il pleut

des cordes" (it is raining cats and dogs) functions also as a bridge system morpheme which is quite different from the construction "il travaille toute la journée" (he works all the day).

Bridge late system morphemes are not covered by the SMP, but come generally from the Matrix Language. Myers-Scotton (2003) reinterprets the occurrences of the possessive preposition "dyal" in MA considered by Bentahila and Davies (1998: 37-40) as a counter example to the predictions of the SMP. According to Myers-Scotton, the preposition "dyal" is certainly a system morpheme in this instance but it is a bridge late system morpheme and not an outsider system morpheme under the classification of the 4-M model.

(397) de quel degré de connaissance dyal **la personne**
    "On which degree of knowledge of the person?"
    (Moroccan Arabic/French, Bentahila and Davies 1998: 38)

The author argues that ML in the above example is apparently French but the insertion of the Arabic preposition at this level does not violate the predictions of the SMP because only outsider system morphemes should come only from ML. Similarly, the occurrence of the Arabic preposition "f" in the example provided by Bentahila and Davies (ibid.) as a potential counter-example to the SMP, has been refuted by Myer-Scotton:

(398) du moment où tu n'as pas de réduction **f** le billet ….
    "From the moment where you have no reduction in the ticket."
    (Moroccan Arabic/French, Bentahila and Davies ibid: 37)

Myers-Scotton's response (2001: 47) is that "f" as it occurs in the above example is a bridge late system morpheme like "dyal" since the construction 'réduction **f** le billet' means "ticket reduction" and therefore "f" is the equivalent of the French preposition "de" as it occurs in "beaucoup de gens" ('much of people' meaning most people). The author explains this instance by recalling that though bridge late system morphemes are not conceptually-activated as early system morphemes in the processing production, they do not look outside their own immediate maximal projection. Yet, the preposition "f" occurs as a content morpheme in other instances because it assigns the thematic role to its complement, as indicated in example (3):

(399) d'ailleurs, hadi ma tadxultš **f** sserwal
    besides this not enters in the trousers
    "Besides, this one does not tuck inside the trousers."
    (Moroccan Arabic/French, Bentahila and Davies ibid: 37)

In our corpus, it is the possessive preposition "nta:ʕ/ta:ʕ" which corresponds to the preposition "dyal" in MA. In fact, this preposition functions as a bridge late system morpheme in most of the examples taken from our data for it exhibits a relationship between two NPs and thus it is similar to "of" in English and "de" in French". Furthermore, the same form (the preposition "f") can occur as a content morpheme as in (400) by assigning a thematic role to its complement "une page" or a bridge system morpheme in the remaining instances, having the meaning of "baisse de niveau", "des problèmes d'identité et de principes", "augmentation de prix" in (402), (403), (404), respectively.

(400) dərt   (s) **sommaire** tta:ʕi f̲ **une page** w
      PERF-do-1S DEF-content DEF-own-1SF in one page and
      siritah   ha:kka
      PERF-reduce-1S-3S like this
      "I made my table of contents in one page and I have reduced it like this."

(401) ça joue   ʕlə l **psychique** ta:ʕ **l'étudiant**
      that play on   DEF-psyche of   DEF-student
      "That influences the psyche of the student."

(402) ngullək ʕla:ʃ ka:jen **une baisse** f̲ **le niveau**
      I tell-to-2S why   EXIST INDEF-F in DEF-M level
      "I tell you why there is a drop in the level."

(403) ba:ʃtaʕrf bəlli **les juifs**   jħawwsu
      to IMPERF-know that DEF-PL Jews   IMPERF-look-3PL
      jaχχalqunna   **des problèmes** f **l'identité** ba:ʃ tku:n
      IMPERF-create-3PL-to-1PL DEF-PL problems in DEF-identity to exist
      ʕandna **une crise** f **les valeurs** w   **les principes**
      have-1PL INDEF- crise in DEF-PL values and DEF-PL principles
      "To know that Jews want to create us identity problems which lead to a crise of values and principles."

(404) ra:h ʕaddna **une**   **augmentation**   f **les prix**
      PRESENTATIVE-3M have-1PL INDEF-F increase in DEF-PL prices
      "We have prices-increase."

Myers-Scotton and Jake (2009) assert that the COMP "ʔinnu" in Palestinian Arabic is like that-complementizers in English and therefore functions as a bridge SM. The occurrence of "ʔinnu" meets the specifications of bridges because it links two larger constituents, an independent clause and an IP phrase. The authors illustrate this

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configuration by an example which comes from Palestinian Arabic/ English CS:

(405) ʔaalat hiyya <u>ʔinnu</u> **she did not like that**

      PERF-say-3F   she   that she did not like that

      "She said that she did not like that."

      (Palestinian Arabic/English, Okasha, 1999: 92)

In the above example, Palestinian Arabic is ML even though it heads the second clause in English as an EL island. In other examples another complementizer appears to link two clauses, an independent clause in Arabic and a subordinate clause. It is the case of the subordinator "liʔannhʊ" or rather the form "liʔannhʊm" shown to head the English IP in (406). Here, it seems that the bridge system morpheme "liʔanna" receives the suffix "hʊm" as an outsider SM because it shows agreement AGR with the subject of the second IP headed by this complementizer.

(406) huma biyadfaʕulu   kul haga   <u>liʔannuhum</u> **they can afford it**

      they hab-IMPER-3P-pay-1S everything because 3P they can afford it

      "They pay for everything for me because they can afford it."

      (Palestinian Arabic/English, Okasha, ibid: 123)

In (407), the preposition 'b' is a bridge system morpheme because it connects two larger constituents (maɾa:kʊmʃ **convaincu**) and **(le niveau).** In this instance, the preposition "b" does not assign a thematic role but it participates in the building of the structure of this bilingual CP by linking two elements. In the French equivalent of the whole structure "Vous n'êtes pas convincus du niveau", the preposition "b" can be translated as "de" in French and "of" in English which are considered as bridges under the typology of the 4-M model.

(407) maɾa:kʊmʃ   **convaincu b le**   **niveau**

      NEG-PRESENTATIVE-3PL-NEG convinced with DEF-M level

      "You are not convinced of your level."

4.6.2.3.2 Late outsider system morphemes

Outsiders are structurally assigned at the positional/surface level. That is, the information required for their occurrence is available only when the formulator sends directions to unify maximal projections contracting a larger constituent in the Matrix Language. Like bridges, outsiders connect morphemes into larger constituents but differently. They depend, however, on the grammatical information outside the

immediate maximal projection in which they occur. Therefore, they are outsiders because their form is determined by the information available outside the immediate maximal entity projected by the lexical head. Examples of outsiders include subject-verb agreement markers, tense-aspect, case and object clitics among others.

Myers-Scotton (2005c: 25) points out that outsiders "knit together elements at another level" reinforcing through these grammatical relations semantic coherence within the CP and even within larger constituents. Additionally, the author argues that "these characteristics are the basis for an argument that outsider morphemes are the main bastion for maintaining uniform structure [the USP] in a clause".

While all system morphemes participate in the frame-building, Myers-Scotton stresses mainly on the importance of outsiders in the realization of argument structure for diverse reasons. Outsiders build the basic relationships within a CP and thereby constitute the main morphemes used to identify the structure of a particular clause. Indeed, this feature of building grammatical relationships within the clause makes the difference between outsiders and other morphemes. Early and bridge system morphemes, however, rely on the juxtaposition as their main resource for building constituents.

As already mentioned, the identification of the appropriate type of morphemes is of great importance to structural analysis of CS data. Myers-Scotton and her associates have discussed the status of "ASPECT, TENSE and CASE" under the 4-M model.

Myers-Scotton (2007) points out that morphemes marking ASPECT but not Tense are to be considered early system morphemes because they add meaning to the verb and their presence is determined by the verb. TENSE marker and AGR forms (subject-verb agreement), however, depend on information outside the verb and thereby are considered as outsiders.

According to Myers-Scotton (ibid.), Jake asserts that the verbal assembly in Arabic relies on the type of root of the verb and ASPECT, with verbal roots as content morphemes and aspect markers as early SMs. Nonetheless, other inflections look outside the verb and hence they are outsider SMs. The author (ibid: 23) cites the argument put forth by Jake as in: "Even if each overt morpheme is not inextricably bound with AGR, it is checked against AGR to see that form of AGR that the system needs because other forms in the same paradigm are bound with AGR".

Example (408) from MSA an EGA in Bassiouney's data (2006) consists of an aspectual marker "bi" from EGA, functioning as an early system morpheme. Indeed, the

prefix {bi-} does not look outside the verb but rather adds other information (habitual action to denote the progressive form) and therefore it is an early SM. As opposed to the prefix {bi-}, the morpheme {it-} indicates the passive form of the verbal root "naffaza" in EGA and the morpheme {t-} denoting the feminine. So, the assembly {tit-} is an outside SM.

(408) Ka:n fi: ʔittifaʔa:t bi titnafiz
"Agreements were being ilmplemented."
(EGA/MSA, Bassiouney 2006: 144)

Case markers are also prototypical instances of outsider SMs. Myers-Scotton (2008: 22) defines these morphemes as "those morphemes that carry the case designations that appear on elements in the core thematic grid (not those on adjuncts). As such, they make the argument structure of the clause clear".

In case-marking languages, these affixes are assigned by verbs or prepositions but realized on nouns, adjectives or determiners. Turkish as a case marking language in contact with other languages offers many examples of outsider SMs in Turkish-framed CS material. Example (409) from Turkish/Dutch CS illustrates a Turkish suffix attached to a Dutch noun "gesprek" within a Turkish-framed CP. This suffix is {i-} and it marks accusative case:

(409) Politiek **gesprek**-ler-i   ophoud-en   yap-in la
political conversation-PL-ACC   stop-INFIN   do-IMP INT
"Stop, this is about politics, man"
(Turkish/Dutch, Backus 1994: 99 cited in Myers-Scotton)

Example (410) illustrates the way outsider SMs behave to build the structure of a bilingual CP. The affix {-i} indicating the third person singular feminine, attached to the French verb 'transmettre' incorporated into OrA system, is a late outsider system morpheme marking subject-verb agreement. The prefix {ta-} is also a late outsider SM which marks the imperfective. Although this tense marker is a morpheme which occurs within the verb projection, it takes its surface form the noun (the covert subject). Thus, it looks outside its maximal projection to get its surface form in language processing:

(410) li:q hada:k **l**message ki   tətransmiti:-h   jli:q
must that   DEF-message when IMPPERF-transmit-3F-it IMPERF-must
taʕʕarfi   le-mmən ɾa:ki ɾa:jħa   tməddi:h
IMPERF- know-3S to whom be-3F go-PART-3F IMPERF-give-3M

"When you transmit that message, you should be aware to whom you are going to give it."

Example (411) illustrates some outsider SMs. This bilingual CP is Arabic-framed since Arabic provides outsiders, the suffix {-ʊ} for the third person masculine and the prefix ja-for imperfective.

(411) gaːtl-i   ɾaːhʊm   jcherchʊ ʕla wafida
      PERF-tell-1F PRESENTATAIVE-3PL IMPERF-look-3M one
      ddiːr   **les   cours anglais**
      IMPERF-do   DEF-PL lectures English
      "She told me they are looking for someone to give lectures in English."

Again, Moroccan Arabic/French CS provides instances of outsider SM with the preposition "dyal" which receives a suffix, co-indexed with a content morpheme. In fact, the suffix "u" in the possessive construction "dyalu" which serves as a possessive pronoun, is an outsider SM. The following example from Ziamari (2008) illustrates this type of constructions in which the suffix {-u} encodes 3S with the meaning of "his":

(412) ḥuli   dak la queue dyal-u mqeṭṭɛa
      mouton ce   la queue de lui coupée
      "A sheep, its tail is cut."
      (Moroccan Arabic/French, Ziamari 2008: 220)

Our corpus displays a high frequency of these structures which consist of the preposition "ntaːʕ-/taːʕ-", to which is cliticized possessive pronouns. Again, the clitics in these possessive constructions can be the suffixes i-, na-, ək-, ha-, -kʊm, -hʊm or -na. Here are some illustrative examples:

(413) gʊnnaːlah   Fouzia **prochainement l'anniversaire** tafifia
      PERF-tell-to-3F Fouzia soon   DEF- birthday of-3F
      "We told him soon Frouzia's birthday."

(414) zaʕma   tsətfi   **les   idées** ttaːwʕek llʊwla
      EPISTEMIC IMPERF-explain-2F DEF-PL ideas of-2S   first
      "First, you supposedly explain your ideas."

(415) beṣṣafi matimposiʃ   **l'opinion**   ttafifia
      but   NEG-IMPERF-imopose-3F-NEG DEF-opinion of-3F
      "But she does not impose her opinion."

The 4-M model is considered as a supportive model because it contributes to refining the MLF model. Several problematic issues have been treated in the light of the 4-M predictions like cases of double morphology. According to Myers-Scotton, the SMP only identifies the types of EL SMs which are prohibited to appear in mixed Islands *(late system morphemes)*. Some early system morphemes, however, occur in mixed constituents with their content morphemes *(i.e. their heads)* resulting in the so-called *"double morphology"*. Myers-Scotton posits that this problem is due to *"mistiming"*. The reason behind this mistiming is that early system morphemes occur in the same maximal projection as their content morphemes. Myers-Scotton and Jake (2000) relate mistiming to three major reasons: firstly, the content morpheme and its early system morpheme are characterized by the feature [+conceptually activated]. Secondly, the system morpheme provides the information needed to complete the speaker's intention conveyed by the content morpheme. Finally, both morphemes occur in the same maximal projection.

After this detailed presentation of the main principles of Myers-Scotton's models which constitute the frame of reference in this research, we shall apply these principles on the data gathered among our informants to analyse them and interpret the bilingual speech processing that underlies the insertion of major syntactic categories and larger constituents within ML-framed CPs.

4.7 Testing the MLF model and its sub-models against the data

Since the aim of the current research is to test the MLF model and its supportive models against data mainly from OrA/Fr and Fr/OrA code-switched utterances. The first point is to analyze the bilingual ML patterns in the light of Myers-Scotton's insertional models. We try to identify the ML in bilingual clauses according to two criteria: word order and the source of SMs. Then, we shall follow two lines in this analysis: single word insertions comprising (nouns, verbs, adjectives, prepositions and adverbs) and multiple word insertions which include (noun phrases, verbal, prepositional and adverbial phrases). Finally, we shall analyze instances of OrA constructions inserted within French matrices following the same steps adopted in the analysis of Fr constructions embedded in OrA matrices.

4.7.1 French single words in Oran Arabic matrices

The single word insertions are classified according to their grammatical word categories. The Matrix Language is identified on the basis of the predictions of the MLF model and the 4-M and Abstract Level models. The structural analyses of single word insertions focus mainly on nouns, adjectives, verbs, adverbs, conjunctions and discourse markers.

4.7.1.1 The insertion of French nouns in OrA matrices

Nouns are content morphemes and therefore can come from either ML or EL in bilingual CPs. When inserted, these nouns follow the ML word order and can take different shapes. They can be either morphologically or phonetically adapted into ML rules or appear in their bare surface forms. French nouns inserted into OrA framed-CPs in our corpus follow OrA word order, they are post-modified. In these cases, OrA participates in the frame-building of the entire CPs and provides late outsider system morphemes. Consider the following examples from our corpus to illustrate the different patterns of CS observed when French nouns are inserted within OrA-framed CPs:

(416) lluwla ki jkuːn   ʕandək fə lbrouillon ddiːrih
DEF-first-F when IMPERF-EXIST have-2s   in DEF-draft IMPER-do-2F-3S
"The first (point), you do it when you have it in the draft."

In the above example, the French noun "brouillon" is marked for definiteness by the definite article {l-} from OrA. In fact, the entire CP is bilingual and consists of a mixed constituent in which the grammars of French and OrA are intermingled. Indeed, OrA is ML because the morpheme order followed in this CP is that of OrA. The object clitic {-h} is attached to the verb while its French correspondent object clitic "le" which is a late outsider system morpheme must appear before the verb, as in "tu le mets". The definite article {l-} which is an early system morpheme, is also sourced from OrA besides subject-verb agreement markers which are outsiders. Moreover, the verb "diːri" follows the complement "lbrouillon", a word order which is not allowed in French.

The prefix {l-}, either as a definite article or as a part of the indefinite composite determiner {waħid əl-} assimilates to the initial consonant of the noun or the adjective

if it is a coronal. This assimilation results in the formation of geminate consonants. Consider the following example to illustrate this point:

(417) ṣɑ:fi majli:qʃ   jdi:r   **s-style** tta:ʕah
meaning NEG-should-3M-NEG IMPERF-do-3M DEF-style of-3M
"That means he shouldn't do his own style."

In other cases, the French nouns appear as bare forms without an overt article. In fact, the French nouns with the Ø constitute a nominal constituent and hence submit to the internal make-up of the OrA structure. The followings examples which include the Fr nouns with the missing articles "le", "une", and "un" are taken from our corpus:

(418) kʊnna   nahhadrʊ   ʕla Ø **mariage**
PERF-be-1PL IMPERF-speak-1PL on   marriage
"We were talking on (a) marriage."

(419) təʃʃabhi   lwaħida ddi:r   Ø **tennis** fifransa Ø **championne**
IMPERF-resemble-2F to-one   IMPERF-do-3F tennis   in France champion
"You resemble someone who plays tennis in France, (a) champion."

(420) **tout simplement** mandirʃ   Ø **rattrapage** ʔana:ja
all   simply   NEG-IMPERF-do-1S-NEG   make-up exam me
"I simply do not do a make-up exam."

Owens (2005) suggests a processing-based approach to examine cases of English inserted bare forms within Nigerian Arabic-framed CPs (NA). He explains the occurrence of instances of NA/ENG CS like cases illustrated below through an axiom which consists of two assumptions. The first states that processing time increases with deceasing lexical frequency whereas the second states that processing of inflectional morphology is more demanding than processing whole words, as measured by reaction time to a given stimulus (Owens, ibid: 30).

(421) **steet**-Ø   wadaat   qassad-an
state-   some-PL.F agreed.PL.F
"Some states agreed."

(422) al-miin-z   *hinee*-k
ART-means hana. PL-your.M
"Your means."
(Nigerian Arabic/English, Owens ibid: 27)

In this sense, the processing of English inserted nouns in inflected constructions in language matrices will be doubly slow. This slow rate of English constructions is due to

the lower frequency of the activated and accessed English lexemes. They will be slower because of latencies involved when inflectional processing occurs, and morphological attachment will be dispensed with to continue the bilingual speech. The result would be a bare form. In the same token, French bare nouns embedded within OrA matrices are numerous in our corpus and therefore language processing time increases.

Boumans and Caubet's (2000: 154) findings suggest a low frequency of the French inserted bare forms in AA-framed CPs. Our corpus, however, shows an important amount of Fr embedded nouns either as singly-occurring items or in their bare forms with a percentage of 14.39%. Nonetheless, other corpora distinguishing CS between MA and other languages mainly Dutch and French have revealed a tendency to switch abundantly this type of structures. Here are some illustrative examples from Boumans (1998) and Ziamari (2008).

(423) ʕla l-ʔamal ʔanna-ni n-welli *lerares* f l-mustaqbal
on DEF-hope CONJ-1SG 1-become woman teacher in DEF-future
"In the hope that I will be a teacher in the future."
(Moroccan Arabic/Dutch, Boumans 1998: 186)

(424) ṣewwer **boulon**
dessine boulon
"Draw a bolt."
(Moroccan Arabic/French, Ziamari 2008: 97)

Boumans (ibid.) argues that zero article must not be confused with those cases where the definite article fails to appear. Furthermore, he suggests that one of the contexts where the zero article is expected to occur is the predicate in copula constructions following Caubet's (1993: II: 260) steps. Consider the following example from our data:

(425) hadaːk wʊlla **avocat des pauvres**⁄
that become-3M
"That (one) has become (the) poors' advocate?"
The French nouns are also embedded in the composite determiner {waħid əl-}

and in demonstrative forms {had əl-} and {dak, dik, dʊk əl-}, as can be shown in

the following examples taken from our corpus:

(426) zaʕma illa wajkuːn ʕandək nʊqs waħid
EPISTEMIC only and IMPERF-exist-3S have-2S drawback INDEF
lmanque f waħida mən haduːk
DEF-shortcoming in one of those

"Supposedly you would have a drawback, a shortcoming in one of those (laws)."

(427) maʕandi:ʃ   hæ:d **lpolycope**
NEG-have-1S-NEG   this   DEF-hand-out
"I don't have this hand-out."

Boumans and Caubet (2000: 153) argue that the occurrence of Arabic definite articles within mixed constituents may be due to the congruence between Arabic and French articles. The authors state "The French definite articles express exactly the same grammatical features and have the same distribution as Algerian Arabic {əl-}. The article {əl-} does not only mark definiteness but has numerous uses".

The authors (ibid: 154) further acknowledge that "modal uses prevail when the composite determiner {waħed əl-} is used with French nouns". Nevertheless, cases where the determiner complex marks definiteness are less frequent within Algerian Arabic/French data set.

It is worth mentioning that even English nouns receive the definite article from Arabic when inserted in an Arabic-framed CP. Here are illustrative examples from other corpora:

(428) howi raħ yiʕmal **specification** li   **lfoundation** wa el **insulation**
He   FUT (go) 3MS/PRES/do for/the   and the
"He will do the specifications for the foundation and the insulation."
(Palestinian Arabic/English, Okasha 1995: 2.45)

(429) **it seems** innu fi **shortage** fi el **men** ħatta hiyya warah
that there   in the   so/that she after/3MS
"It seems that there is a shortage in the men so chat she (is) after him."
(Palestinian Arabic/English, Okasha ibid: 4.25)

Conversely, in other corpora the definite article is omitted in both constructions. Data come from Boumans (1998), Nortier (1990) and Ziamari (2008). Observe the example below:

(430) waħed   *Ø-bejaardencentrum*

one   old people's home
"An old people's home."
(Moroccan Arabic/Dutch, Nortier 1990: 199)

Yet, this type of structure occur rarely or never in our corpus. Most of the attested constructions in our data contain the entire determiner complex without omitting the definite article.

French nouns also appear to be inserted in possessive constructions. Recall that possessives in OrA and other varieties of Arabic like MA and NA take two construction-types, namely synthetic and analytic. Synthetic constructions consist of the juxtaposition of the possessed and the possessor, as illustrated in the following example:

(431) bənt lmʊdiːr   sɣiːra   bəzzaːf
daughter   DEF-headmaster young very
"The headmaster's daughter is very young."

However, analytic constructions use genitive exponents to express the relation between the head and its complement such as "ntaːʕ" or "taːʕ" (of). In analytic constructions, the noun is marked for definiteness by the prefix {l-} while this prefix cannot precede the noun it modifies in synthetic constructions. Here is an example from our data:

(432) lloto taːʕ χaːli
DEF-car of uncle-1S
"My uncle's car."

Besides, both constructions may be marked for indefiniteness through the use of the indefinite article {waːħed-}, as in the following example:

(433) waːħed   ṣaħbi
INDEF   friend-1S
"A friend of mine."

Some corpora illustrated certain instances of inserted French nouns within synthetic constructions. For instance, Ziamari (2008) provides the following example:

(434) ā **binôm-i**
Eh binôme moi
"Eh! My binomial."
(Moroccan Arabic/French, Ziamari 2008: 100)

This type of constructions is less attested in our corpus whereas analytic constructions are abundant. Yet, some examples have been gathered among some students who have not participated in our study. Here are some instances of both types:

(435) ga:llʊ   ha:di **madam**eti
      PERF-tell-3M-to-3M this   madam-1S
      "He told him this is my girl-friend."

(436) ʕʈe:ni   **livr**ijja
      IMPER-give-2S-1S book-1S
      "Give me my book."

(437) fə l**projet** tta:ʕah
      in DEF-project of-3M
      "In his project."

(438) ha:di **la copie**   ta:ʕ l **cours** ta:ʕ ljʊ:m
      this   DEF-F copy of   DEF-lecture of DEF-day
      "This is the copy of today's lecture."
Consider the following example from our data to illustrate bilingual speech processing in OrA-framed CPs:

(439) hijja ga:ʕ l**pourcentage** ga:ʕ lkbi:r lli saqsina:h
      she   all   DEF-percentage whole DEF-big that PERF-ask-1PL-3M
      "All the whole big percentage that we asked."

The above sentence comprises one bilingual CP with an interesting mixed constituent that we try to allocate morpheme statuses to its syntactic categories. ML is OrA in which French fills the slot with the noun "pourcentage". OrA supplies all system morphemes (the quantifier "ga:ʕ" and the definite article {l-} as early SMs, and the perfective marker {-a} and the object clitic {-h} as late outsiders. It also frames the word order in this CP since the determined adjective "lkbi:r" is in postposition contrary to French word order. The French equivalent of the above utterance would be "le grand pourcentage qu'on a intérrogé", displaying a different word order. Besides, the French lexical item "pourcentage" in the nominal constituent "l*pourcentage*" is affixed with the definite article {l-}. This mixed constituent is well-formed with OrA morpheme order and system morphemes being sourced from ML. The French pattern does not allow the adjectives "kbi:r" and "ga:ʕ" with the intended meaning of "ka:məl" (whole) to be in postposition. Moreover, adjectives are not determined in French. Therefore the surface form realized in the above CP does not comply with the French structure while OrA permits this scheme.

At the conceptual level of speech production, the intended meaning of the speaker is formed at the early stage of lexical-abstract structure. OrA is chosen to be the Matrix Language. Then, the congruence matching procedure begins at the lemma level. Language specific semantic/pragmatic bundles are activated: OrA elements are in competition with their Fr counterparts. The inserted French noun "pourcentage" elects indirectly the early system morpheme {l-} to express definiteness. At the predicate-argument structure larger constituents are constructed to produce the mixed constituent. The Fr EL noun is preferred to its OrA equivalent "nisba" and the ML determiner l- appears without violating the predictions of the SMP.

4.7.1.2 The insertion of French adjectives within OrA matrices

Algerian Arabic and French have different sub-categorization frames for adjectives. French adjectives must come before the noun that they modify while adjectives from AA must take a postposition. These adjectives may take the agreement affixes of the noun on which they depend (the lexical head).

According to the ML predictions, adjectives are classified as content morphemes. Accordingly, they can be switched as EL tokens. OrA shares the same rules regarding the position of adjectives like the other varieties of Algerian Arabic and therefore attributive adjectives can be embedded within OrA matrices provided they submit to the rules of OrA as a ML. The following examples taken from our corpus illustrate the insertion of French attributive adjectives.

(440) ka:li   di:k **complet**
     PART-eat-3M cock complete
     "He has eaten a whole cock."

(441) ʒa:ja   ħa:ʒa **linguistique**
     PART-go-3F   something linguistic
     "It is a linguistic thing."

(442) lʔaħda:θ   ta:ʕ mɑsˤr **complet**
     DEF-event-PL of   Egypt   complete
     "The entire events of Egypt."

However, attributive adjectives are less frequent than predicative ones and sometimes occur rarely in our corpus. In fact, this is not a particularity of our data since other corpora have arrived at the same finding like Boumans (1998) Nortier (1990),

Boumans and Caubet (2000), and Ziamari (2008). For instance, many restrictions have been noted by Boumans (1998: 295) on his Moroccan Arabic/Dutch CS with regard to embedded adjectives in MA matrices "the insertion of attributive adjectives as modifiers of matrix language nouns is highly limited". Moreover, Boumans and Caubet (2001) give a number of examples of embedded French attributive adjective within AA matrices despite their low frequency of occurrence.

According to the rules of Arabic, the French adjective should be determined if the noun it modifies is determined. The following example drawn from Ziamari (2008) reveals this point:

(443) u f la totalité nnaxdu d-**décision l-kbira**
   et dans la totalité nous prendrons la décision la grande
   "And totally, we take the large decision."
   (Moroccan Arabic/French, Ziamari ibid: 108)

Similarly, the following example drawn from data gathered among some students who have not participated in our study, illustrates this type of switching.

(444) lmɾa   **l'idéale** lli ɾaːk   tħawwʊs
   DEF-woman DEF-ideal that PRESENTATIVE-2M IMPERF-look for-2M
   ʕliːha məkkaːnʃ
   on-3F NEG-exist-NEG
   "The ideal woman that you are looking for doesn't exist."

However, Boumans and Caubet (2000) note the occurrence of French adjectives as bare form when AA is the Matrix Language. Here is an illustrative example.

(445) ən-nsa   y-ṭəyyb-u waħed əl-ħwayej **diaboliques**!
   DET-woman-PL 3-cook-PL INDEF DEF-thing-PL diabolical
   "The women cook the most diabolical dishes!"
   (Algerian Arabic/French, Boumans and Caubet 2000: 157)

Many examples which consist of such construction are submitted to some participants in our study. The respondents estimate a high frequency of French embedded attributive adjectives as bare forms. Consider the following examples gathered among those students:

(446) lprof ttaʕna ʕandha waħd ṭṭɑɾeqa **provocatrice**
   DEF-teacher DEF-of-1PL have-3F INDEF DEF-way -3F provocative
   "Our teacher has a provocative way (of teaching)."

(447) ddiːr ʃi ʂwɑːleħ **incroyables**
   IMPERF-do-3F INDEF thing-PL unbelievable

"She makes some unbelievable things."

(448) ʒaːbʊ   mʊdiːr **lunatique** j-**sign**-i   waqt lli
PERF-bring-3PL head-master capricious IMPERF-sign-3S time   that
bɤa   w jestqbəl   waqt lli bɤa
PERF-wifh-3M and IMPERF-receive-3M time that   PERF-whish-3M
"They brought a capricious head-master. He signs when wishes and receives when he wishes."

French predicative adjectives, however, are frequently attested in Arabic matrices. In fact, these predicative constructions appear when the verb "kaːn" functions as a copula. Besides, there are other constructions where French predicative adjectives occur, such as the zero copula, auxiliaries "bqa", "gʕad" and "wʊlla". Consider the following examples from our corpus which illustrate these syntactic environments:

(449) ma ʒitiːʃ   ntijja kʊnti   **absente**
NEG-PERF-come-2F-NEG you   PERF-be-2F absent
"You didn't come, you were absent."

(450) lla ndiːrha   **gras** baːʃ tnəʒmi   ddiːri
no IMPERF-do-1S-3F bold in order to IMPERF-can-2F IMPERF-do-2F
photocopie
photocopy
"I make it bold to allow you to make photocopy."

(451) gʕatt   **choquée** miːn ʃuftha   f daːk **l'état**
PERF-remain-1S shocked when PERF-see-1S-3F in that   DEF-state
"I remained shocked when I saw her in that state."

A look at the previously-mentioned examples on embedded French adjectives within Arabic matrices, be they attributive or predicative, shows that Arabic is the Matrix Language in all constructions and the different insertions are submitted to the grammar rules of Arabic. Therefore, the predictions of the MOP and SMP are respected in these syntactic environments.

We end up with an example from our data to illustrate language processing when a French adjective is inserted within an OrA-framed utterance. Here is the example:

(452) **52 ans** texécuta   **lprogramme** ttaħħum wʊll-
52 years PART-achieve-3S DEF-program DEF-of-3PL PERF-become-
a **complet**
3S complete
"Their program was achieved in 52 years, it became complete."

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The two CPs in the above example are under OrA control as ML while Fr provides content morphemes (the noun, the verbal radicals and the adjective). The inserted French adjective "complet" follows OrA word order since it follows the verb "wʊlla" despite the fact that French also has the same order when the adjective is used predicatively. Besides, the morpho-syntactic patterns in both CPs are well-formed and conform to OrA grammar. The choice of OrA as the ML is elaborated at the lexical-abstract level when the intention to produce the above CP activates semantic bundles. Then processing moves on to the lemma level where the activation of lemmas underlying the French content morphemes such as the radicals of the French verb stem "exécut-", the noun "programme" and the adjective "complet"; and their OrA equivalents "ndaːr", "teχtaːṭ" and "kaːməl", take place. These lemmas underlying the French forms are selected on the expense of their OrA counterparts. Accordingly, French constructions better convey the speaker's intended meaning, and the motivation behind such a choice remains pragmatic and not structural. From a structural perspective, French shares the syntactic distributions with OrA for these categories within this utterance, and the equivalent would be "tniːn wχamsiːn sna tteχtaːṭ ttafiñʊm wʊlla kaːməl". In contrast, the French items are more appropriate from a pragmatic point of view.

4.7.1.3 The insertion of French verbs within OrA matrices

Verbs are the second category which will be treated as French insertions in bilingual CPs. Though single French verbs inserted into OrA-based CPs appear frequently in our previous studies, their occurrence seems to be restricted in the data of the informants in this study. Subsequently, the late outsider system morphemes appear as a determining criterion for the identification of the Matrix Language. For French verbs, there is no case where a verb stem is affixed a French inflection or an inflected verb appears as a single insertion within an OrA-framed CP. The only way is to incorporate French verbs into OrA morphology. Thus, we follow Myers-Scotton's criteria for distinguishing borrowing from code-switching, assimilated verbs into OrA system are considered as CS instances[68].

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[68] Myers-Scotton has considered any single guest-language morpheme inserted within a host-language discourse as an instance of CS, be it assimilated or unassimilated morpho-syntactically but not phonologically.

It has been noticed in many studies on Code-Switching involving different language pairs that verbs are hardly ever embedded, as opposed to nouns and adverbs, and even adjectives. Yet, attributive adjectives are seldom inserted compared to predicative adjectives. These restrictions on embedded verbs may be explained by structural divergences in the verbal paradigms characterizing the languages involved in CS and henceforth the problem of combining an ML inflection into an EL verbal construction is due to insufficient congruence between the two verbal systems.

In other contexts, the insertion of non-finite verbs which show sufficient congruence with their ML correspondents is less constrained. Several examples have been provided in the literature to illustrate this type of switching like embedded English infinitives and past and progressive participles in Spanish-framed utterances (Pfaff 1979: 299-300), English past participles in Swedish as a ML (Hasselmo, 1969), French infinitives and past participles in Alsatian German (Gardner-Chloros, 1991), and Dutch infinitives in Brussels French (Treffers-Daller, 1994). These verbal constructions are allowed in mixed utterances because the grammar system of those languages shares the categories of infinitives, past participle, and progressive participle. Nonetheless, OrA and Fr do not share these categories and subsequently neither French past participles nor infinitives can be embedded within OrA-framed CPs.

Consider the following example to illustrate the insertion of some of verbal categories:

(453) le   estaba   poniendo atención qué estaba *recorded*
      3•IO was 3•SG   putting attention what was•3S recorded
      "He was paying attention to what was recorded."
      (Spanish/English, Pfaff 1979: 300)

As far as the integration of alien verbs is concerned, three major ways to incorporate them into the Matrix Language have been identified. The first one is to integrate verbs morphologically to meet the requirements of the ML, basically with the verb stem as a basic form to be incorporated. The second common strategy which shows a high preponderance in various corpora is the periphrastic construction. By the same token, this strategy is commonly used in different settings and can be illustrated with an instance from MA in contact with Dutch, as stated by Boumans. Nevertheless, this strategy is not prototypical of AA/Fr Code-Switching, and particularly when OrA is in contact with Fr.

(454) bġa y-dir   li-h   *aanvall-en*
     want 3-do   to-3SG   attack-INF
     "It [the bird] wanted to attack him."
     (Moroccan Arabic/Dutch, Boumans 2007: 293)

In our corpus, it is rather the verb-object collocations which are prevailing among OrA speakers. In fact, this type of switching motivates the insertion of EL Islands. Instances of verb-object collocations appear with some verbs like daːr "to do", dda "to take", ʕtɑ "to give", and ʒaːb "to bring"; among others. Observe the following examples from our data:

(455) ndiːr   **les   droits de l'enfant**
     IMPERF-do-1S DEF-PL rights of DEF-child
     "I prepare the rights of the child."

(456) sˤaħbətti ʒaːbtənna   **un   poème**
     friend-3F   PERF-bring-3F-to-1PL INDEF-M poem
     "My friend brought us a poem."

(457) ʕteːha   **au moins le   lien**
     IMPER-give-to-3F at least   DEF-M link
     "Give her at least the link."

Likewise, in other contexts where Arabic is in contact with French the collocations verb-object meet the requirements of the Matrix Language which is most of the time Arabic. Consider the following examples taken from Abou (1962):

(458) Simone keenit leebse fustaan waaseʕ maʕ *jupon*, ma feetit bi-l-
     Simone was wearing dress wide with skirt, not come•over to-DEF-
     banc, xaaf-it la ta-ʕmel *chiffonner*
     pew fear-PERF-3SGF NEG 3SGF-do crease-INFL
     "Simone wore a wide dress with a skin. She didn't come over to the pew, as
     she was afraid to crease it"
     (Lebanese Arabic/French, Abou 1962: 65)

Conversely, the contact between Moroccan Arabic and Dutch illustrates an interesting strategy at use among Moroccan speakers. Verb-object collocations in this particular context submit to Dutch grammar rules. Consequently, word order of embedded verbs and arguments is OV, a well-formed construction in Dutch which is called "verb second language". Boumans (1996) illustrates this point by the following example:

(459) ṛuħ-na   xetra, ʕebd el-krim y-diir   *wedstrijd verball-en*
go•PERF-1PL once Abdelkrim   3-do•IMPF match   play•soccer-INF
u   ṛuħ-na   xetra mʕa ḅḅa
and go•PERF-1PL once with dad
"One day we went, Abdelkrim was going to play a match, and we went with dad."
(Moroccan Arabic/Dutch, Boumans 1996: 62)

According to Boumans (ibid: 294), which of these three analyses is most appropriate is not only a matter of the language pair involved. He confines rather intra- and inter-locutors' variability to the speakers' varying levels of competence in both languages.

The third less common strategy for the incorporation of foreign verbs deserves mentioning here for the sake of completeness. This strategy consists in inserting inflected verb forms rather than verb stems. The inflected foreign forms are mapped into the Matrix Language paradigm and express ML verbal categories.

In different varieties of Arabic in the Maghreb, there are several strategies to insert EL verb forms. For instance, Spanish verbs are not borrowed in their verbal stems but the infinitive marker is rather conspicuous in such constructions as indicated by Vicente[69] (2005). The following example illustrates the integration of Spanish verbs into Arabic.

(460) apacaru   ṭ-ṭōnōbīr   təmma
ils ont garé   la voiture là-bas
"They parked the car there."
(Moroccan Arabic/Spanish, Vicente 2005: 181)

Most of the embedded French verbs in our corpus are adapted into OrA system via the OrA flectional markers attached to French verb stems. According to Caubet (1998), the French verbs in {-er} are frequently attested in AA/Fr corpora and they submit to the morpho-syntactic rules of the ML (AA). Nonetheless, the other verbal categories appear to be significant in our data. Here are some significant examples from our data where the French verb stems "control-", "cotis-", souffr-; and "transmet-" are respectively affixed OrA markers:

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[69] Vicente (2005: 181) states that : "Le prototype habituel d'enchâssement des verbes de la langue Espagnole dans une matrice marocaine est la forme à l'infinitif. C`est-à-dire, les terminaisons –ar/-er/_ir (-er/-ir peuvent se confondre en –ir). (-er/-ir peuvent se confondre en –ir). L'infinitif peut s'introduire tout seul dans la phrase".

(461) χuʂʂ kuʃʃi nʃuːfah   kuʃʃi ncontroliː-h

must everything IMPERF-see-1S-3M everything IMPERF-control-1S-3M

"I should see everything, I should control it."

(462) waħda fiːkʊm taʕrɑd   fə ddaːɾ wʊ tcotizʊ

one of-2PL IMPERF-invite-3F in DEF-house and IMPERF-chip in -2PL

binaːtkʊm **cent dinars**

between-2PL one hundred dinars

"One of you makes an invitation at home and you chip in one hundred dinars for each."

(463) **les étudiants** taːʕ **lclassique** ɾaːhʊm   j-

DEF-PL students of DEF-classic PRESENTATIVE-3PL IMPERF-

souffrʊ   fə d**département d'anglais**

suffer-3PL in DEF-department of English

"The students at the classic (system) are suffering in the English department."

(464) liːq hadaːk **lmessage** ki tətransmitiːh   jliːq

must that   DEF-message when IMPERF-transmit-2S-3M must

taʕʕarfi   lammən ɾaːki ɾaːjħa

IMPERF-know-2F to whom   PRESENTATIVE-2F PART-go-2F

tməddiːh

IMPERF-give-2F-3M

"When you transmit that message you must know to whom you are going to deliver."

Ziamari (2008) claims that MA/Fr CS is characterized by a disparity in the embedded verbs in both directions. The author (ibid: 225) questions the directionality of code-switched utterances in her corpora, and concludes that when MA is the Matrix Language the embedded French verbs are frequently attested whereas Arabic verbal insertions rarely occur in French matrices. On the other hand, Myers-Scotton et al. (1997) note the scarcity of English embedded verbs in mixed constituents, as illustrated in the following construction exemplified in the following example drawn from Myers-Scotton's et al's corpus:

(465) kan ʕend-i mawʕid maʕa el-doctor bas **canceltu-h**

j'avais un rendez-vous chez le médecin mais je l'ai annulé

"I had an appointment with the doctor but I cancelled it."

(Arabic/English, Jake et al. ibid: 31)

Since it is hard to attach Arabic markers to English verbs, Myers-Scotton and her associates have remarked the use of two strategies among Arabic speakers. In the first

case, a bare form appears as a solution to incongruence in the verbal systems of Arabic and English. Here is an example which shows the insertion of an English verb in its bare form since it lacks "to".

(466) howi ʕam biħawel   Ø **get early retirement**
       he PROGR 3MS/PRES/try   get early retirement
       "He is trying to get early retirement."
       (Arabic/English, Okasha 1995: 2.33)

Myers-Scotton et al. (1996) explain the appearance of bare forms when English verbs are inserted within Arabic-framed CPs. The authors (ibid: 38-39) argue that this mismatch is related to the realization of the infinitive which is more abstract of ML control. The equivalent of the Arabic infinitive is inflected for subject while the English infinitive is uninflected. Nonetheless, the authors reveal two classes of English infinitives at the abstract level and subsequently the PRO subject to the infinitive can be controlled or free. For instance, in the English construction *Mary wanted to show him something*, the PRO or the reference for the missing subject of 'to show' is controlled whereas the subjects of the infinitive in the construction "to get it is to leave it" are not controlled.

In contrast, the Arabic equivalent of a controlled infinitive is a base form of the verb inflected for subject. Consider the following example to understand the notion of PRO:

(467) halaʔ ma biyiʔdar   yaxud el **stress** illi
       now no 3MS/PRES/can3MS/PRES-take the stress which
       kaan   yaaxdu
       3MS/was 3MS/PRES/take/3MS
       "Now he can't take the stress that he used to take."
       (Arabic/English Okasha 1995: 2.34)

In fact, the appearance of an English infinitive in Arabic/English CS is mainly determined by this abstract notion of Control. Put otherwise, the 'to' of the infinitive is omitted in EL Islands where the PRO is controlled, as revealed in (467). In contrast, when the infinitive is not controlled "to" occurs, as can be shown in (468).

(468) yimkin elwaħid yiʕmal diraasa tanya   **to support it**
       may   the someone 3MS/PRES/do study another
       "One may do another study in order to support it."
       (Arabic/English, ibid: 2.21)

On the basis of these findings, Myers-Scotton and her associates conclude that though the abstract notion of Control is not realized in Arabic verbal morphology, it can

have an effect on the form of the English infinitive in an EL Island. In fact, when the infinitive is controlled it makes the English verb form more congruent in its morphological realization pattern to its Arabic equivalent, that is, controlled verbs in Arabic.

At the language processing level, the scenario provided by these authors is that the restrictions imposed on the insertion of singly-occurring English verbs within Arabic-framed CPs are due to a mismatch in the verbal paradigms in the two systems. Besides, this incongruence between Arabic and English lexical structures is reflected in their agreement system and therefore the more appropriate way to access the English verb is to introduce an EL Island.

Myers-Scotton and Jake (1998: 218-220) note the prevalence of EL Islands in Arabic/English data-sets but they realize that these embedded Islands are peripheral to the central argument structure. The explanation the authors provide to explain the scarcity of English verbs is that of insufficient congruence in the two systems and hence English verbs are blocked because of the congruence filter.

Indeed, this explanation depends on the identification of complex lexical structure and the levels of morpheme access. The authors suggest that in Arabic verbs, the indirectly-elected system morphemes which signal tense/aspect must be activated at the lexical-conceptual level along with the semantic/pragmatic feature bundles underlying the Arabic verbs themselves. This is understandable because there is no base form of Arabic verbs without their aspectual morphemes. Arabic verbs are either perfective or imperfective and lemmas underlying them consist of this required information. In order to spell out directions about subject/verb agreement or simply to select the relevant structurally-assigned system morphemes activated at the level of the formulator, the formulator should recognize the appropriate Arabic verb stems as either perfective or imperfective. In the case of English verbs, however, tense and aspect system morphemes are structurally-assigned or simply spelled out at the positional level.

Contrary to the lemmas underlying English verbs which do not include information for tense/aspect at the mental lexicon, lemmas underlying Arabic and French include this information at the conceptual level of the lexical structure. Thus, English verb stems cannot occur in Arabic-framed constructions while French verbs do. In fact, English verbs are activated at the predicate-argument structure and their morphological patterns are realized at the positional level. Conversely, Arabic verbs are activated at the conceptual level and lemmas underlying these verbs include tense/

aspect specifications. Myers-Scotton and Jake (2001: 24) put this explanation as in "An Arabic verb does not exist as a verb, even at the conceptual level without this specification for tense/aspect". By the same token, French verbs are activated at the conceptual level and share the same lemmas as their infinitives. In contrast, there exist two lemmas underlying English verbs: one for the verb and the other for the infinitive marker "to", with the latter as being activated at the morphological realization level.

According to Myers-Scotton and her associates, compromise strategies appear to allow English verbs to access Arabic frames as bare forms or EL Islands. Yet, The EL Island strategy is frequently attested in Arabic/English CS data base. In other language pair in which Arabic is the ML, the disparity regarding the organisation and access of alien verbs at the mental lexicon may promote the use of "do constructions" as a strategy, as is the case for Dutch in Moroccan Arabic/Dutch Code-Switching.

This disparity between Arabic, French and English in terms of the organisation and access of indirectly-elected system morphemes promotes the frequent use of the required strategies. Arabic in contact with English triggers the frequency of EL Islands, namely IPs. Myers-Scotton claims that IPs remain the most appropriate compromise strategy in order to solve the problem of incongruence between Arabic and English at the lemma level. Similarly, incongruence may explain the low frequency of English verbs in mixed constructions.

Nonetheless, the explanation provided by Myers-Scotton and her associates could not help to understand the occurrence of embedded English verbs within Arabic matrices. We agree with Boumans (2007) who argues that Spanish and English verbs are incorporated into Arabic in the same way as French verbs. The author (ibid: 296) states that "the vocalic ending in French verbs cannot be decisive, since Spanish, Italian and English verbs are morphologically integrated in North African varieties of Arabic in the same way as French verbs".

Various examples have been shown to occur frequently in many studies on Arabic /English CS. Here are some illustrating examples elicited from different corpora:

(469) ana bidd-i ʔa-**think** bi-n-**number** ʕašaan ma-ʔa-**cheat**-iš
    I want-I I-think with the number so that NEG-I-cheat-NEG
    "I want to think about the number so that I don't cheat."
    (Arabic/English, Atawneh 1992: 237)

(470) **understandit** šnu gal
    j'ai compris quoi il a dit
    "I understood what he said."

In other cases, the English verbs are integrated completely into ML system, as can be shown in the Arabic-English CS instances which illustrate morphological and phonological incorporations of the English verbs "to telephone" and "to park", respectively.

(471) biddi *ʔatalfin*

I want to make a telephone call."
(Arabic/English, Hussein and Chorrab 1993: 238)

(472) biddi *ʔabarrik* sayyarti

"I want to park my car."
(Arabic/English, ibid)

Although English and even French verbs are not frequently attested in our corpus, many interesting cases have been recorded in the speech of university students in Oran (participants and non-participants in our study). Consider the following instances to illustrate the insertion of this syntactic category:

(473) ki   j**product**i   ɾaːh   **j**receiv-
when IMPERF-produce-3M PRESENTATIVE-3M IMPERF-receive-
i
3M
"When he produces he is receiving."

(474) χɑṣṣek   t-*boot*-i   lPC   ntaːʕek **avant**
PERF-need-2S IMPERF-boot-2F DEF-PC of-2S   before
"You need to boot your computer before."

(475) **je suis persuadé** bəlli **les   profs**   j-*schem*-ʊ   **bark**
I'm convinced   that   DEF-PL teachers IMPERF-scheme-3PL solely
les thèses jeqrʊ ɣi **en diagonal**
DEF-PL theses IMPERF-read-3PL in diagonal
"I'm convinced that teachers solely scheme theses, they only read diagonally."

(476) gaːʕ ddənja ɾaːhi   t-*cheat*-i   məkkaːn-
all DEF-world PRESENTATIVE-3F IMPERF-cheat-3F NEG-exist-
ʃ   lli ɾaːh   j-*pick-up* ʃa
NEG   that PRESENTTATIVE-3M IMPERF-pick-up-3M what
ɾaː-hʊm jqarrʊ   **les   profs**↗
PRESENTATIVE-3PL   IMPERF-teach-3PL DEF-PL teachers

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"All people (students) are cheating, nobody picks-up. What do teachers teach?"

As far as French verbs are concerned, Boumans and Caubet (2000) note that the insertion of French verbs is very productive in Algerian Arabic/French. They (ibid: 159) argue that French verb stems are augmented with a stem-final vowel that is subject to the ablaut pattern -i-a-, and that the conjugation is that of the so-called weak conjugation, as in the Arabic verb wella-ywelli signifying "to return, to become".

Other remarks are worth mentioning here since Boumans and Caubet (ibid.) adopted a contrastive type of analysis. In this vein, cases illustrated in the data from Algeria Arabic/French CS are compared with Moroccan Arabic/Dutch CS. One of the differences noted is the adaptation routines of French reflexive verbs. In MA, these verbs "are usually marked by medio-passive prefix {t-} ~ {tt-} along with the so-called stem V conjugation in analogy with tmenna-ytemenna 'to wish'". Thus, the French verb "se comporter" 'to behave' becomes "t-comporta- ye-t-comporta" in MA/Fr. In contrast, in AA/Fr "French transitive, intransitive and reflexive verbs are often assigned to the same conjugation paradigm and the medio-passive prefix is scarcely used. The reflexive verb "se venger" (to take one's revenge), for instance, is integrated as "venga-yvengi". However, one can also find the medio-passive prefix {t-} like in //t-brancha//, //ye-t-brancha// from French "se brancher" (to get connected).

Indeed, both strategies of French pronominal verb integration stated by Boumans and Caubet are attested in our data. The participants appeal either to the medio-passive prefix or the conjugation paradigm used for other French verbs. Here are some examples illustrating this point where the French pronominal verbs "s'executer, s'influencer, and "se soigner" are integrated into OrA system.

(477) texécuta lprogramme   ttafiɦum wʋlla   complet
PASS-relaize-3M DEF-program of-3PL   PERF-become-3M complete
jətapplika normal
IMPERF-PASS-apply-3M normally
"Their program was realized; it became achieved and applied normally."

(478) majetinfluensaːʃ   mʕa ddifonsaraːt
NEG-IMPERF-PASS-influence-3M-NEG with DEF-defenders
"They have not been influenced by defenders."

(479) t-soign-i   ʕand docteur Kara
IMPERF-heal-3F with Dr Kara

"She healed with Dr Kara."

However, Ziamari (2008) has remarked a new strategy in the conversion routines adopted by Moroccan students which facilitates the insertions of French pronominal verbs within MA-framed utterances. Indeed, the pronominal verb does not submit the rules of MA in the following instance of CS. Nonetheless, such an example has been judged as ill-formed by our informants.

> **(480)** bġa **y-se marier** avec toi
> Il veut se marier avec toi
> "He wants to mary you."
> (Moroccan Arabic/French, Ziamari 2008: 116)

In our corpus, however, many French pronominal verbs are assigned the same conjugational paradigm as the other verbs in -er and -ir. Yet, the verb "défouler" is followed by the PP "ʕla ʕla rufiña". Consider the following illustrative example:

> **(481)** bɣaːt   ddifuːli   ʕla rufiña **puis elle**
> PERF-like-3F IMPERF-let release-3F on   self-3F then   she
> **a changé   d'avis**
> PAST-change of mind
> "She wanted to let off steam then she changed her mind."

This sentence comprises two CPs, one bilingual and the other is monolingual. The first CP has OrA as the Matrix Language and French as the Embedded Language. OrA morpheme order dictates that the pronominal verb is expressed by a verb and the reflexive pronoun which varies for gender and number is here /rufiña/ 'herself'. Thus, OrA word order is respected since the pronominal verb in French, expressed by the pronominal clitic 'se' that precedes the verb, is not selected. The switched French verb *"se défouler"* (let off steam) is inflected for gender and tense with OrA affixes {-t} and {-i}. At the conceptual level, the speaker is in the OrA language processing mode[70] since the whole CP is syntactically framed by OrA. The pronoun 'se' is a late outsider system morpheme according to the 4-M classification of morphemes. This morpheme should be activated from OrA as ML. This holds true since the PP "ʕla rufiña" is selected to fulfil the desired effect. Lemmas underlying the French verb "se défouler"

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[70] Grossjean (1997: 136) defines mode as "a state of activation of the bilingual's language and language processing mechanisms".

are checked for congruence with their OrA equivalents.

The morphosyntactic realization patterns show distinct syntactic forms and positions since some assimilation processes have taken place. The intended meaning, however, can be expressed by either ML or EL elements and the selected morphemes appear as in (481). Thus, the only way to have inserted French verbs in an OrA-framed CP is the integration of the French verb to OrA morphological patterns.

At the lexical-abstract level, the intention to produce the bilingual CP in (481) is made and OrA is selected as the Matrix Language. When speech processing moves to the next stage, lemmas underlying the content morpheme "let off steam" are activated. This act is expressed by the French pronominal verb "se défouler". Its OrA equivalent is not so clear, so the speaker selects the French item.

In fact, the OrA equivalent does not really express this action with a specific verb, may be a whole phrase can explain this state of mood. This means that the structural mapping between the two languages is not enough to construct well-formed utterances, but there are other socio-pragmatic mechanisms that underlie language processing. When producing the above utterance, the bilingual speaker does not have only a tacit prior knowledge about the abstract structure of the participating languages, he is also aware of the psycho-linguistic adaptation routines *(the conversion routines)* that allow him to insert the inflected verb stem "difuuli" in the appropriate slot within the OrA-patterned CP.

Muysken (2000) discusses in detail similar cases and other strategies of complex verbs formation. He recognizes four types of verb compounding strategies and identifies some problematic issues with regard to the outcome of bilingual complex verbs. He raises the problem of a third grammar for CS sentences. The author (ibid: 219) states that "Is there such a thing as a special bilingual grammar needed, or is the collaboration of the two contributing grammars in accordance with general principles or constraints of mixing sufficient to account for the patterns found?"

The answer of this question is not clearly evident but the reason behind such a questioning is how to account for bilingual outcomes, especially at the verb system level. Typological dissimilarities between OrA and Fr reveal certain morpho-syntactic adaptations and semantic adjustment operating on the two verb systems. OrA is a variety of Arabic which cannot receive alien inflected verbs in its system. The formation of integrated verbs neutralizes the incongruency in verb paradigms.

Furthermore, the OrA verb paradigm is very rich with regard to inflectional morphology compared to its French counterpart. At the semantic level, a French verb stem directly affixed with OrA inflection cannot express the same concept used in OrA, simply because the inserted French item operates as a sole component in the lexical structure that patterns semantic and pragmatic bundles associated to the mental lexicon. The semantic connection between the two lexes, those of OrA and Fr, is made through a process of analogy. Weinreich (1968) calls this connection *inter-lingual identification*.

The bilingual speaker is endowed with an innate capacity to link the system-internal elements of two languages by virtue of their external properties, i.e., semantic/ functional in the case of grammatical/lexical units. Croft (2000: 146) argues that inter-lingual identification is the establishment of a cognitive link between the corresponding lemmas of the two languages with respect to their identity in substance. In other words, inter-lingual identification constructs connections between forms in the two linguistic systems in the speaker's mind via a common external substance (external properties). In the case of the OrA-framed CP, the insertion of the incorporated French verb creates a connection in the mental representation between the two systems. Verbal paradigms exhibit differences at the morpho-syntactic realization patterns and some adjustments take place since the language pair does not share verbal inflections.

In a number of CS data from different language pairs discussed in the literature, the "do-verb"[71] is the only strategy to integrate EL verbs into Matrix Languages. These language pairs are often pro-drop languages. Arabic is an exception, it is a pro-drop language but it prohibits Arabic inflectional markers on English verbs. It does not allow do constructions as supporting verbs to incorporate EL Islands in the entire CP. Myers-Scotton and Jake (1999) illustrates this case from Arabic/English data. According to Jake, English verbs cannot be inflected with Arabic verbal morphological markers within an Arabic-framed CP in which Arabic supplies system morphemes. In this case, a strategy will be adopted where an English IP will follow an Arabic item.

Myers-Scotton and Jake (ibid.) states that the lack of congruence at the level of the morphological realization patterns explains this type of EL Islands. This means that in a

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[71] According to Thomason and Kaufman (1988), some languages do not borrow verbs because their inflectional morphology makes assimilation difficult. But, with do-constructions, this problem is solved. For instance, Mayan can borrow a Spanish infinitive used with a Mayan auxiliary 'do'. This combination creates a syntactic verb functioning as a lexeme. Romaine (1989) has also noticed the same strategy in Punjabi/English CS, the verbs kərna and hona "to do" are used in new constructions to form complex verbs, as in: məapnilanguage **learn** <u>kərni</u> "I want to learn my language".

bilingual CP, having Arabic as ML and English as EL, the system morphemes under inflection INFL should be sourced from English. Hence, the English IP Island follows an Arabic element in an Arabic-framed CP. Similar cases are frequently attested in our data which come from OrA/Fr and OrA/Eng Code-Switching:

(482) **ʔana je voulais prendre un   bain**
EMPH I wanted to take   INDEF-M bath
"Me I wanted to take a bath."

(483) **ʔana w Rachida   on s'est caché au salon**
EMPH and Rachida we REFL-hid in living room
"I and Rachida We have hidden in the living room."

(484) **ʔana j'ai vingt ans de service**
EMPH I have twenty years of service
"Me I have twenty year of experience."

(485) **hʊwwa** *he added a new law*
EMPH he added DEF new law
"Him he added a new law.

In other mixed constructions, French verbs occur as participles integrated into OrA system. Here are some examples from my corpus to illustrate the forms of French participles when embedded within OrA-framed matrices.

(486) **liːq tʊgguʕdi   mgard**jathʊm
must   IMPERF-reamain-2F   PART-keep-2F-3PL
"You should remain keeping them."

(487) **haːdi toujours** *centred* ʕla ʃa ɾaːhʊm   **mconcentre**ːn
this always centred on what PRESENTATIVE-3PL PART-focus-3PL
s-centre tafifiʊm
DEF-center of- 3PL
"This is always centred on what they are focusing."

(488) **billaːh la   kʊllʃi mprogram**i
with-God   really eveything PART-program-3S
"I swear that everything is really programmed."

French participles are not inserted within OrA matrices unless French radicals receive the prefix m- and the suffixes {-i}, {- ya}, {- yin}. Moreover, they behave as participles of quadrilateral defective verbs, schemed as mfeɛli (Caubet 1993: 55). Even English participles behave in the same way within Arabic-framed utterances. For

instance, Rouchdy (1992) provides instances of Arabic/English CS which consist of English participles integrated into Arabic with *mi-farnish* derived from the English verb "to furnish" and *mi-hayyat* derived from the verb "to heat".

(489) id-dār   *mi-farnish*
"The house [is] furnished."

(490) id-dār *mi-hayyat*
"The house [is] heated."
(Rouchdy 1992: 46)

On the basis of the findings of some studies developed in the literature and our results, we truly believe that the insertion of some alien syntactic categories like verbs (Spanish, English or French) is basically determined by the bilingual speaker's degree of competence in the languages involved in CS, their linguistic preferences, and their perception of context when the act of switching takes place. Subsequently, they select certain strategies rather than others. Besides, contextual elements are in constant change because the speaker co-constructs a particular context even though the speech situation requires the choice of another code. Evidence comes from our data and other corpora where the same individual speaker appeals sometimes to bare forms, sometimes to the insertion of IPs and at other times to integrated constructions.

4.7.1.4 The insertion of French adverbs within OrA matrices

Adverbs occur less frequently than adjectives. They can take pre-or post-positions when modifying other elements, they can modify a verb, an adjective or even another adverb. The status of adverbs is heterogeneous according to the classification of the 4-M model: degree adverbs are system morphemes while adverbs of time, manner and location are content morphemes.

Our corpus shows a number of inserted adverbs within noun and verb phrases. The types of adverbs recurrent in the data concern general adverbs (adverbs of time, location, manner, etc.), and degree adverbs. The set of prevalent inserted adverbs is presented below in the following examples drawn from our data:

(491) hijja **normalement** ka:jen fəl f **le titre**
she   normally   EXIST   in DEF in DEF-M title
"It exists normally in the title."

(492) **normalement la première année** ta:ʕ **l'université** hija lli
normally   DEF-F first year   of DEF-university it   that
33i   sʕe:ba
IMPERF-come-3F difficult
"Normally, the first year at university is difficult."

The two above examples show that the French adverb "normalement" occurs freely in OrA-framed utterances. It can take the initial or the medial positions in mixed-utterances. Subsequently, this flexibility in adverbs placements within mixed-utterances has led some researchers to give this syntactic category an ambiguous status. For instance, Boumans (1998: 111) considers the French adverb "automatiquement" in the following example drawn from Treffers-Daller (1994) as an ambiguous case. It can be interpreted as a sequencing adverb and therefore constitutes an exception to the "verb second rule" in that French sequencing adverbs do not trigger this rule. It can also be interpreted as a manner adverb modifying the implied meaning "to switch to Standard Flemish" and hence the last interpretation can justify the verb second rule in this instance of Brussels Dutch/French CS.

(493) en *automatiquement* klapte   gij   ook shoon   vlaams
and automatically   spoke   you   also standard Flemish
"And automatically you would switch to Standard Flemish."
(Brussels Dutch/French, Treffers-Daller, 1994: 178)

Boumans (ibid: 116) claims that ML as defined on the finite clause level does not necessarily control the frame of the clause regarding word order or selectional criteria on aspectual adverbs. He (ibid.) states then that "Rather, these elements seem to have their own placement rules that apply independently of the language of the rest of the clause, so the idea of embedding is less applicable here".

Nevertheless, Myers-Scotton's insertional models are based on asymmetry and therefore the high frequency of certain syntactic categories compared to others can be explained by their status as content or system morphemes. Content morphemes can be embedded freely from either language while system morphemes are more or less restricted.

French adverbs, mainly of time and direction, do not receive much restriction and hence they occur freely in our corpus. Here are some illustrative examples:

(494) **maintenant perfection**i   **n-niveau** tta:ʕek wʊ ddʊχli
now   IMPER-improve-2F DEF-level DEF-of-2S and IMER-enter-2F
"Now, improve you level and enter."

(495) **premièrement** jli:q jra:ʕi   ttarʒama

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firstly   must IMPERF-take into account DEF-translation

ħarf b ħarf

word by word

"Firstly, he must take into account word by word translation."

(496) troisièment kajen *r-reader-centred translator*

 thirdly EXIST DEF-reader-centred translator
 "Thirdly, there exists the reader-centred translator."

(497) rʊːħ   **tout droit**

 IMPER-go-2M thorouly
 "Go thoroughly."

French adverbs of manner occur also in my data. Consider the following examples in which the French adverbs "administrativement" and "direct" with the implied meaning "directement" are embedded within OrA matrices:

(498) ddirʊːh   **administrativement**

 IMPERF-2PL-3M administratively
 "You do it in an administrative way."

(499) tɑɾʈɡɑh   **direct**

 PERF-spark-3S-3M directly
 "He sparkled it directly."

(500) ʕla-baːlək **tellement** masħaqqinaːʃ   dɾaːhem f

 on mind-2S so NEG-PERF-need-1PL-NED money in

 lijjamaːt llwaːla nzˤlɑʈnɑ lliːla ttaːlja

 DEF-day-PL DEF-first PERF-flat-1PL DEF-day DEF-last
 "While we didn't so need money in the first days, we were flat the last night."

Other French adverbs form a sort of collocations with verbs, as illustrated in the following example:

(501) taʕʕarfi   **à peu près** waʃ ɾaːħ jdiːr

 IMEPERF-know-2F approximatively what PART-go-3M IMPERF-do-lək

 to-2S
 "You know approximatively what he is doing to you."

(502) dχanna   **ensemble lə lrattrapage**

 PERF-enter-1PL together to DEF-make-up exam
 "We took together the make-up exam."

The adverb "together" (samen) also occurs in Moroccan Arabic/Dutch code-switching, as indicated in the following example:

(503) nee, n-dir-u-h *samen*, maši t-dir-u nta, n-dir-u-h *samen*,
no1-do-PL together NEG 2-do-3M 2M1-do-PL-3M together

snap je,
understand you

n-dir-u waḥed *samen* b l-ʕaṛbiya
1-do-PL one together with DEF-Arabic

"No, we will do it together. It's not you who'll do it; we'll do it together, you understand? We'll do one [presentation] together in Arabic."
(Moroccan Arabic/Dutch, Boumans ibid: 284)

Consider the following example from our corpus to explain language processing when a French adverb is inserted within an OrA-framed CP:

(504) hijja **normalement** d-**défend**i ʕla ḥaqqha
she normally IMPERF-denfend-3F on right-3F
"She normally defends her right."

The above CP is OrA-framed since the morpheme order of OrA is respected syntactically. Indeed, OrA as ML satisfies the conditions of the MOP and SMP. French contributes only with the adverb "normalement" (normally) while OrA supplies the frame with word order and system morphemes. The adverb pre-modifies the verb as required in OrA syntax. The late outsider morpheme, the prefix {-t}, realized here as d- by assimilation for subject-verb agreement complies with the predictions of Matrix Language models since it is sourced from OrA. The content morphemes and system morphemes are checked for congruence at the lemma level of speech processing. The surface realization of the whole CP supports the selection of OrA as a frame-building language. The French adverb can appear either in initial or in final position because it functions as an adjunct. In this CP, it occurs between the disjunctive pronoun and the verb and therefore complies with OrA morphosyntax. Yet, the French syntax does not allow such a distribution within the sentence *Elle *normalement* défend son droit.

6.1.5 The insertion of French conjunctions and discourse markers

The insertion of French conjunctions and discourse markers appears to be problematic due to their classificatory status in accordance to the 4-M model's criteria. Contrary to adverbs, conjunctions and discourse markers trigger controversies among scholars who consider them either as connectives or as markers used for conversational

purposes. For instance, Crystal (2008) raises this issue and claims that it is difficult to consider a particular category as a discourse marker or not. He (2008: 59) defines discourse markers as follows:

> A word or phrase that marks a boundary in discourse typically as part of a dialogue. Discourse markers do not belong to the syntactic or semantic structure of the sentence. Discourse markers are often poly-functional elements. Discourse markers can be understood in two ways. Firstly as elements which serve to the union of utterances (in this sense they are equivalent to the term connective). Secondly, as elements which serve to a variety of conversational purposes.

For instance, the French discourse marker "bon" (well) is used in most utterances for conversational purposes. Here is an example from our corpus:

(505) **bon** ʂɑﬁbətti ʒaːbtənna **un** **poème**
well friend-1S   PERF-bring-3F-to-1PL INDEF-M poem
"Well, my friend brought us a poem."

However, Myers Scotton classifies subordinators, complementizers, and other types of discourse markers as system morphemes in her earlier MLF model (1993, 1997). In recent articles, Myers Scotton and Jake (2001a: 93) redefine them as content morphemes. The authors (ibid.) claim that discourse markers are thematic role assigners and hence they assign thematic roles to CPs and conjoin them at the discourse level, as they (2001a: 93) argue:

> Under a revision of the MLF model, the notion of thematic role has been extended. At the discourse level, discourse particles and some subordinators are content morphemes because they have thematic structure in the sense that they determine thematic roles.

Nonetheless, some scholars have regarded this classification as problematic basing their arguments on a number of grounds. Discourse markers have been considered by Myers-Scotton (1997) as extra-sentential or inter-sentential CS. Accordingly, they cannot be treated under the MLF model and its supportive models since they are beyond their scope of inquiry which is restricted to cases of code-switching within bilingual CPs.

Boumans (1998) realizes the difficulty in classifying conjunctions, connectors and discourse markers. The author (ibid: 136) considers that the CP as a unit of analysis is an elegant way to dismiss instances of code-switching consisting of these categories because of the difficulty in interpreting them properly as he puts it: "while the 'CP

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analysis' thus offers an elegant way out for some intricate problems concerning the status of adverbs, discourse markers and conjunctions in a Matrix Language model, there are a number of considerations that call for some reserve".

Boumans (ibid: 117) claims that cases of EL conjunctions, whether subordinating or coordinating, which conjoin two ML clauses challenge the classical Matrix Language models because they are function morphemes which shouldn't appear there. He contends that his Monolingual Structure Approach would predict that the distribution of EL conjunctions is governed by the grammar of the ML. Other data, however, reinforce the difficulty of establishing conjunctions as embedded elements, as illustrated in the following example. In this case which is drawn from Treffers-Dallers' corpus, the insertion of the French conjunction "tandis que" fails to trigger verb-final word order.

(506) *tandis que* hier zijn 't stenen
    while   here are   it stones
    "Whereas, it is stone here."
    (Brussels Dutch/French, Treffers-Daller 1994: 190)

Other researchers like Caubet share Boumans' view. Indeed, Boumans and Caubet (2000) point out this difficulty when approaching corpora from Moroccan Arabic/ Dutch and Algerian Arabic/French code-switching, they state (2000: 117) in this respect that:

> The concept of Matrix language applies less well to various types of elements that function at the discourse level. Various complications emerge with respect to 'discourse markers', a heterogeneous group of particles, adverbs and expressions that either order the text into sequences (e.g. through, so, and), or express the speaker attitude toward what is being said or toward his/her interlocutor (already, really, you see).

As such, Boumans (1998: 157) does not consider coordinating conjunctions and connectives. Yet, he classifies discourse markers as system morphemes within his Monolingual Structure Approach like Muysken (2000: 162) who classifies them as functional elements. Yet, Boumans (ibid: 163) classifies complementizers as cases of system morphemes as most of the functional elements. He hypothesizes that: "the functional effect derives from the lack of equivalence of functional elements across different languages. Although the evidence is not conclusive, I think a fair case can be made for this hypothesis." (2000: 156)

Nevertheless, we consider conjunctions, connectives and discourse markers as content morphemes following Myers-Scotton's considerations. Here are some examples from our corpus including some discourse elements:

(507) ɾ§mi **par exemple** warqa
    IMER-2F for instance paper-F
    "Draw, for instance, a paper."

(508) **c'est-à-dire** ja   tafṭɑr   ja   tətʕaʃʃa
    this means whether IMPERF-lunch-2S whether IMPERF-dine-2S
    "This means either you take lunch or dinner."

(509) **comme quoi**   ʒiːt   nṭoll   ʔla Rachida
    to the effect that PERF-come-1S IMPERF-see-2S on Rachida
    "As if I came to see Rachida."

(510) taʕʕarfi **à peu près** waʃ ɾaːħ   jdiːrlək
    IMPERF-know-2F nearly what PERF-go-3M IMPERF-do-3M-to-2S
    "You know nearly what he is going to give you."

(511) **à mon avis**   ma ʁaːdi taχχesri waːlʊ
    in my opinion NEG FUT IMPERF-loose-2F nothing
    "In my opinion, you will lose nothing."

In the last example, the construction "à mon avis" cannot be considered as an Island although it is multimorphemic because Islands are maximal projections in ML. Therefore, conjunctions, connectives and discourse markers are treated as content morphemes in this research.

4.7.2 EL Islands, EL Internal Islands and mixed constituents

We have so far analyzed code-switched CPs consisting of only single EL words inserted within an ML-framed CP. This time, we shall deal with constituents where the EL insertions consist of larger constructions, such as NPs, VPs, PPs and Adv Ps.

4.7.2.1 Embedded French NP Islands

According to the 4-M classification of morphemes, NPs are also thematic role receivers. Testing the predictions of the MLF model and its sub-models requires identifying whether the structure of noun phrases conforms to the MOP and SMP.

In Boumans and Caubet (2000), Caubet argues that single nouns constitute a possible noun phrase type in French and Algerian Arabic in certain contexts because of the missing French determiners. This claim is illustrated in the following example:

(512) Kayen *bagarre* bin l'FLN [l ɛ f ɛ l ɛ n]
EXIST fight among DEF-FLN
"There is fight inside the FLN."
(Algerian Arabic/French, Boumans and Caubet 2000: 154)

Yet, nouns cannot function as full NPs in other contexts. This fact is illustrated in the following example:

(513) y-duṛ f əl-*virage* u yet-t-kesser-l-u əl-*cardan*
3-turn in DEF-bend and 3-MP-break-to-3M DEF-universal-joint
"One turns in the bend, and he breaks his universal-joint."
(Algerian Arabic/French, Boumans and Caubet ibid: 153)

Furthermore, other nominal insertion types consist of combinations of the type [(la, l', les) + noun] which are considered as EL Islands. Similarly, the same type of constructions is preceded by the determiners "waḥed, dak, gaʕ". By the same token, embedded noun-adjective combinations are treated as Algerian Arabic constructions rather than full French NPs, as can be shown in (514).

(514) ki y-ʃuf-u *un algérien* smin, (...)
when 2-see-PL INDEF-M Algerian fat
"Whenevr you see a fat Algerian, (...)"
(Algerian Arabic/French, Boumans and Caubet ibid: 155)

Though the same types of embedded constructions occur in our corpus, we will not follow the same procedures of analysis adopted by Caubet. Rather, we adopt Myers-Scotton's view when considering three types of constituents: EL Islands, Internal EL Islands and mixed constituents. Thus, (205) will be best described as a bare form for it misses the French determiner "une" while the other types of occurrences will be discussed under Myers-Scotton's way of reasoning.

Our corpus displays an important number of NP Islands in which the article being a system morpheme combines with a French noun. In fact, the French article appears in many instances of NPs whatever its form (definite, indefinite, masculine, feminine, singular or plural). The following examples illustrate these manifestations:

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(515) ʕandkʊm **le module de marketing**
have-2PL DEF unit of marketing
"You have marketing unit."

(516) wʊddi:rʊ   **une**   **fête surprise**
and IMPERF-do-3PL INDEF-F party   surprise
"And you prepare a surprise party."

(517) **les Algérois**   jaɦṣo:lha
DEF-PL Algiers IMPERF-discern-3PL -to-3F
"The Algiers are keen."

(518) lla ka:nʊ   mʕa:ja **les**   **filles**
non PERF-exist-3PL with-me DEF-PL girls
"The girls were with me."

In the above examples, the combination French articles + French nouns constitute French embedded Islands which submit to the grammar rules of French and the whole construction obeys the rules of OrA as a Matrix Language. These examples follow OrA word order since their French equivalents do not tolerate VS order ("Non, les filles ont été avec moi") and therefore conform to the MOP and SMP.

Besides these patterns, various other embedded French NP types occur in our corpus, which contain indefinite articles (un, une, des), partitive determiners (de la, du, des) used with mass nouns, nominal constructions determined by French numerals or quantifiers, and others appear as set expressions. Here are some illustrative examples:

(519) **mais** maʕandi:ʃ   **un**   **diplôme**
but NEG-have-1S-NEG INDEF-M degree
"But I don't have a certificate degree."

(520) ka:jen ʕfa:si ka:jen **des**   **fuites**
EXIST   trics   EXIST   INDEF-PL ropes
"There exist tricks, there exist some ropes."

(521) **notre capacité d'assimilation** ʈɑ:ɦet   bəzza:f
our capacity of assimilation PERF-decrease-3SF a lot
"Our capacity of assimilation decreased a lot."

(522) **ma mère** taχdem   **f maison de jeunes**
my mother IMPERF-work-3F in house of youth
"My mother works in a youth centre."

Again, the nominal construction in the last two examples complies with the French grammar rules. The French nouns "capacité d'assimilation" and "ma mère" are preceded by possessive determiners 'notre' (our) and 'ma' (my) which are early system morphemes activated at the same time as their heads (nouns).

Besides, French quantifiers appear as system morphemes in Island constructions when OrA is the ML provided that noms should be in French. These inserted constructions (French quantifiers + French nouns) constitute well-formed constructions since they respect the morphosyntactic rules of French.

(523) təmma tənqa:mlah   **cent-soixante euros**
there   IMPERF-cost-3F-to-3M one hundred sixty euro
"It costs him one hundred sixty euro there."

(524) ka:jen **quelques traducteurs**
EXIST   some   translators
"There exist some translators."

(525) **tous les étudiants**   ka:nʊ **d'accord** ba:ʃ maj**assist**ʊ:ʃ
all DEF-PL student-PL were all right to NEG-PERF-attend-3PL-NEG
"All the students agreed not to attend (the lecture)."

The internal make-up of some other NP Islands is based mainly on inserted French nouns modified by French adjectives. Here are some illustrative examples:

(526) **le jour** wi:n telqʊ   **les conditions réunies pour passer**
DEF day where IMPERF-find-2PL DEF-PL conditions met for to pass
un concours
INDEF-contest
"The day you realize that the conditions are met to spend a contest (...)"

(527) li:q təstʕamli **des expressions faciles**
must IMPERF-use-2F INDEF-PL expressions easy
"You must use easy expressions."

In all these cases, the NPs are syntactically well-formed and therefore conform to French grammar rules which in their turn comply with the rules of OrA considered to be the ML of these utterances. Thus, they satisfy the predictions of the MLF model. The French NPs "les conditions réunies, des expressions faciles" are headed by the nouns "conditions, expressions" which are content morphemes. The speakers' intentions are realized at the conceptual level, they select lemmas for the French article 'les' and the partitive article 'des' to provide the information needed to complete meaning. The

sequence of French Embedded Islands and the OrA verbal clauses follow OrA patterns since OrA allows also structures of the type [article + noun + adjective]. The 4-M and the Abstract Level models explain language processing at the three levels. The selected items are preferred to achieve the speaker's intentions. The activated lemmas for the content morphemes "conditions, expressions, réunies, faciles" and the articles "les, des" are checked for congruence matching. The outcome for these mental operations is realized in the previous sentences.

Despite the fact that the structural combination [noun+adjective] is allowed in OrA, the combination [adjective+noun] which is French-specific outnumbers the former with a percentage of 54, 54% in the entire corpus. Here are some illustrative examples of the second type of constructions:

(528) diːri **une petite formation** lli testħaqqiːha
IMPER-do-2SF INDEF-F little training that IMPERF-need-2SF-it
"You prepare a little training that you need."

(529) ʕtaːna **une seule question**
PERF-give-3SM-1PL INDEF-F unique question
"He gave us one question."

Another type of embedded NP Islands reveals the production of the construction [NP1+ de+ NP2]. Indeed, Myers-Scotton considers this type of constructions as an Embedded Island which is under the control of the Matrix Language (OrA in the case of my examples) in accordance to its emplacement in the CP. Such a construction appears in our corpus, as illustrated in the following examples:

(530) ndiːr **les droits de l'enfant**
IMPERD-do-1S DEF-PL rights of DEF-child
"I prepare the rights of the child."

(531) ʕandkʊm **le module de marketing**
have-2PL DEF-M unit of marketing
"You have the unit of marketing."

(532) **l'axe de temps** ttaːʕna məglʊːb
DEF-axis of time DEF-of-1PL reversed
"Our axis of time is reversed."

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Even though the appearance of NP Islands within OrA-framed CPs reveals sufficient congruence between the OrA and Fr systems, some other constructions such as NP mixed constituents appear in our corpus. In the following examples, the French NP structure appears with a zero article or with the definite article from OrA assimilated into the French noun. Subsequently, both constructions "agent de sécurité, lgouvernement" cannot be considered as NP Islands since they do not satisfy the requirements of the French Embedded Islands. It is a question of a missing article in the former and an assimilated article from OrA as ML in the latter.

(533) ħatta ʒa   **agent de sécurité** ʃaːfni maɤbuːna
     untill   PERF-come-3M   officer of security PERF-see-3M discomfited
     "Untill a security officer came, he saw me discomfited."

(534) ʕandhʊm **lgouvernement** ttaːʕhʊm
     have-3PL DEF-government DEF-of-3PL
     "They have their own government."

The question of word order should be checked when French Islands are embedded in OrA as a ML. Recall here that OrA is characterized by a free word order in the sense that both SVO and VSO orders are allowed while French permits only SVO order. Since EL Islands are under the control of ML, French NP Islands should satisfy the requirements of OrA with regard to their distribution within the entire CP (word order). Observe the following instances of CS:

(535) χaʈɾa ʒaːw   ʕandi **les collègues**
     once   PERF-come-3PL at-1S   DEF-PL colleagues
     "Once, the colleagues came at home."

(536) galʊːli   **les collègues**
     PERF-3PL-to-1S   DEF-PL colleagues
     "The colleagues told me."

(537) **les collègues**   brʊħħʊm jəbɤʊ   gaːʕ
     DEF-PL colleagues themselves IMPERF-like-3PL all
     jʒʊː   ʕandi
     IMPERF-come-3PL at-1S
     "The colleagues themselves like coming at home."

It can be noted from the above examples that VSO and SVO are used when French NP Islands are embedded within OrA-framed CPs. However, the quantification of our data has shown that structures following VSO order are more frequently attested.

This fact may be allotted to the congruence between Fr and OrA systems since the internal make-up of the French NP Islands satisfies the French grammar rules while the whole construction is under the control of OrA grammar in terms of their emplacement within the CP.

It seems important here to recall that French NP Islands embedded within OrA-based constructions are frequently attested in our corpus compared to French NP mixed constituents and internal Islands. The results obtained in our study show the first category with a percentage of 31, 36% of frequency, followed by the second category with 16, 81%, and then comes the last category with a percentage of 4, 05%. These different manifestations can be explained by the high level of the high degree of competence of the students participating in our study.

4.7.2.2 The insertion of French prepositional phrases (PP Islands)

The French prepositional Islands which are embedded in OrA-framed structures in our corpus fulfill the requirements of Embedded Islands, they are formed on the basis of the combination of a French preposition followed by a French nominal constituent. The following examples display these constructions:

(538) Rachida ɣa:di təngɾaɗ **dans une semaine**
Rachida will IMPERF-bill -3F in INDEF-F week
"Rachida will have a fracture in a week."

(539) beṣṣaɦ ʕla:ʃ da:ruhənna **en français**
but why PERF-do-3PL-1PL in French
"Why did they do it for us in French?"

(540) maka:jna:ʃ **à l'échelle nationale**
NEG-EXIST-NEG at DEF-scale national
"It doesn't exist at the national scale."

(541) ɦna kunna **entre de bonnes mains**
we PERF-be-1PL between of good hands
"We were in good hands."

(542) ɣa:di tʃu:fuh **d'une autre manière**
will IMPERF-see-2PL-3M of INDEF-F another manner
"You will see it in another way."

(543) zifṭoli w-ga:ʕ **par e-mail**
PERF-send-3PL-1S and all by e-mail
"They send me by e-mail."

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(544) ʤi   **avec sa spécialité**
        IMPERF-come-3M with his special field
        "He comes with his special field."

The quantified data reveal that 43, 55% of the French prepositional constituents are made of a preposition from the ML (OrA) and a nominal constituent from French. French prepositional Islands appear with a lower rate around 9, 03%, followed by a lower score concerning the prepositional mixed Islands about 3, 35%. These disparate realizations may be explained by a lack of congruency at the pragmatic and syntactic levels between the prepositional systems of OrA and Fr. Consider the following examples which illustrate respectively French prepositional constituents with a compound preposition, and a French prepositional Internal Island:

(545) wʊlla tkuːn   **carri** ʃ woʂṭ **la page**
      or   PERF-exist squarish in middle DEF-F page
     "Or a squarish in the middle of the page."

(546) **même** fə **l-licence** kaːjen **une**   **spécialité**
      even   in DEF-BA EXIST   DEF-F special field
     "Even in the BA, there exists a special field."

The prepositions which participate in the argument structure of the verb are realized in the same language, namely OrA. The following examples elucidate the relationship exhibited between the verb and the preposition. In the former, the verb "qriːt" *(j'ai lu)* subcategorizes for the preposition "ʕla" *(sur)* while the appropriate French preposition in this context would be "de" to generate the construction *(j'ai lu dans le journal d'un enseignant)*. In the latter, the verb trʊːfiʊ *(vous allez)* subcategorises for the preposition ʃ *(in)* which would be substituted by the appropriate French preposition *(vers)* to produce *(vous allez vers les grandes spécialisations)*.

(547) qriːt   fə **j-journal** ʕla **un prof**
      PERF-read-1S in DEF-newspaper on DEF-M teacher
     "I read in the newspaper about a teacher."

(548) trʊːfiʊ   ʃ **les grandes spécialisations**
      IMPER-go-2PL in DEF-PL big specialties
     "You go to the main special fields."

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The prepositions mentioned earlier are content morphemes and therefore their status allows them to appear in the EL which is French in our corpus. Thus, these findings seem to reinforce Myers-Scotton's argument about the motivations behind the formation of Embedded Language Islands. In fact, the author argues that there is a semantic or pragmatic mismatch between the languages involved in CS at the lexical-conceptual level and the speaker's intentions are better satisfied by producing El Islands.

4.7.2.3 The insertion of French Inflectional constructions (IP Islands)

The IP Islands are inherently constrained; they consist of a clause without a complementizer. When embedded within a ML, inflectional constructions are considered as EL Islands in which morphemes of the ML occur in the complementizer position. Myers-Scotton and Jake (1995) argue that many EL Islands must occur because of a semantic or pragmatic mismatch between the languages involved in CS. The authors advance that this mismatch arises at the lexical-conceptual level when the speaker's intentions are better satisfied if EL elements or EL Islands are produced.

Many studies undertaken by Myers-Scotton and her associates (Myers-Scotton, Jake and Okasha (1996), Jake and Myers-Scotton (1997a), Myers-Scotton and Jake (2001) to cite just a few) have shown that many large EL Islands, specifically full IPs occur in Palestinian Arabic/English Code-Switching. The authors put forward structural mismatches to be the main motivation behind the insertion of such structures. Here is an illustrative example from Okasha (1996) in which the IP "we get in the mood" is headed by the inflected subordinating conjunction "liʔann**u**" (because) occupying the complementizer position.

> **(549)** hunak biniħki aktar liʔannu *we get in the mood* bas hooni *it is difficult*
> 1P/IMP/speak more because/IP we get in the mood but here it is difficult
> "There we speak more because we get in the mood but here it is difficult."
> (Arabic/English; Okasha 1996 corpus, cited in Jake and Myers-Scotton 1997a: 30)

In most cases of Code-Switching involving Arabic and other languages such as French and English, an Arabic full-form pronoun is often followed by a pronoun from the Embedded Languages. Many of the examples which appear as embedded IPs in our corpus include "pronoun doubling". Here are some examples which illustrate this phenomenon:

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(550) ʔana taːni **je ne suis pas le genre** lli nɾʊdd ʕliːha
    I   also   I'm not the type   that IMPERF-answer-3S on -3F
    "I'm also not the kind of (girls) who respond her."

(551) ʔana **je voulais prendre un bain**
    I   I wanted to take a shower
    "I wanted to take a shower."

It is obvious that the topic pronoun ʔana (I), in the above examples, is followed immediately by the French pronoun "Je" which triggers an inflectional Island. Before explaining pronoun doubling in our corpus, it would be better to show the different explanations and interpretations developed in the literature about this subject.

When approaching this issue, Eid (1985, 1992, 1996) attributes pronoun doubling to the nature of subject verb agreement, admitting that Arabic pronouns behave as subjects whereas English pronouns as the equivalent of agreement features required on the Arabic verb. The author (1992: 28) advances that the doubling of pronominal subjects occurs only in case where the subject pronoun is in Arabic and the verb is in English. However, he notices that an English pronoun would not be followed by an Arabic pronoun and verb, and questions then the directionality of such switch. Here are two illustrative examples:

(552) Ya'ni (meaning) DEFINITLY 'ana (I) I PICKED UP A LOT OF THINGS
(553) * AND SHE hiyya btadit bisur'a (She started quickly)

Eid (ibid.) rejects the hypothesis underlying that a switch between subjects and verbs would not occur within Arabic-English code-switching since Arabic is a strong-inflection language in which all pronominal features are marked on the verb inflection. She rather provides an alternative explanation based essentially on differences between Arabic subject-verb agreements in the two systems. She suggests that doubled subject pronouns would likely to be a reflex of the Arabic subject-verb agreement system. The requirements of the Arabic system indicate that the verb should reflect gender, number, person and its subject. In this case, verb agreement may be seen as a doubled pronominal clitic. This mismatch between English and Arabic verbal systems triggers such constructions. English verbs do not mark gender, they mark solely number in the third-person singular and subsequently do not show the same pronominal features as Arabic.

Barhoum (1994:103) maintains the idea that discourse emphatic pronouns are subjects, and hence indicates subject shift. Nevertheless, the author (ibid.) talks about

the "doubling of the first-person subject pronoun" when the Arabic pronoun is co-referential with the English possessive determiner "our". Here is illustrative example:

(554) **iḥna**   *it is none of* **our** *business*
   1PL
   "It's none of our business."
   (Levantine Arabic/English, Barhoum 1994: 100)

Boumans (1998) suggests that the idea of co-indexation between discourse pronouns and subjects cannot be generalized since topic pronouns are not all the time co-referential to subjects. The author (ibid: 129) recognizes that most but not all free form pronouns are redundant and may be classified as discourse emphatics. Moreover, he considers the occurrence of Arabic topic pronouns a distinguishing feature of Arabic-framed CS. Slaoui (1986) provides similar examples from Moroccan Arabic/French CS:

(555) *Nous, quant on*   *est casés,*   *on*   *fabrique de*
   We when INDEFPRON is broken INDEFPRON produce PART
   l'os,   **huma,** *ils n'en fabriquent rien*
   DEF-bone 3PL they NEG-of-it produce NEG
   "We, if we have something broken, we produce bone tissue, but they don't produce any."
   (Moroccan Arabic/French, Slaoui 1986 Annexe 3: 11)

The mismatch between the pronominal systems between OrA and Fr favours the insertion of IPs in OrA-framed CPs. In fact, OrA provides the topic pronouns "ʔana, nta, huːma, ḥna" (moi, toi, nous) while Fr provides clitic pronouns (je, tu, ils, nous) to produce Inflectional Islands. Accordingly, this structural mismatch triggers pronoun doubling because the pronoun cannot occur independently of the verb in OrA and the appeal to the corresponding Fr verb requires the occurrence of clitic pronouns.

Although the French IPs embedded in OrA-framed CPs are less frequent than other syntactic categories and larger constructions with a 3.91% of the entire constructions, many instances of IPs occur in our corpus. The following examples illustrate not only pronoun doubling but also a demonstrative co-indexed to a French verb:

(556) ʔana raːni   ʕaːrfa **je ne vais pas réussir**
   I PRESENTATIVE-1S PART-know-3F I not will succeed
   "I'm aware I will not succeed."

(557) gaːlu   ṣaːji **on a vengé nos anciens juifs**
   PERF-say-3PL that's it we took revenge our ancient Jews
   "They said at last we took revenge for our Jewish ancestors."

(558) Meriem **elle nous a préparé des salés**
Meriem she us prepared some salty cakes
"Meriem prepared some salty cakes for us."

(559) haduːk **ils peuvent faire marketing linguistique**
those   they can   make marketing linguistic
"Those can prepare linguistic marketing."

Ziamari (2008) has also discussed the issue of pronoun doubling when analyzing French embedded IP Islands and listed a number of examples, mainly those including the particle "ṛa-" characterizing her corpus. Consider the two examples:

(560) ṛa-h **c'est rien**
voilà lui c'est rien
"It is really nothing."
(Moroccan Arabic/French, Ziamari 2008: 142)

(561) ṛa-h **c'est ton point de vue**
voilà c'est ton point de vue
"It is really your point of view."
(Moroccan Arabic/French, ibid: 146)

This type of construction does not occur in my corpus but rather demonstratives followed by French clitic pronouns. Subsequently, the occurrence of these instances may reinforce the fact that OrA as a pro-drop language does not allow clitic pronouns to be followed by finite verbs. Then, IPs appear as compromise strategies to handle the problem of incongruence between OrA and Fr systems in this specific syntactic environment.

4.7.2.4 Internal French Embedded Nominal Islands

Myers-Scotton (1993b) claims that EL Islands are clear evidence that EL is *'on'* in the bilingual CP. Yet, the author has supposed that some Islands require less grammatical proficiency than others. According to her, EL nouns + a plural affix may probably be the EL Islands requiring the least proficiency in EL. This type of Embedded Islands is a characteristic feature of Moroccan Arabic/Dutch Code-Switching. Consider the example below:

(562) Duk *artikel-en*   ila bġi-ti t-teržem-hŭm,   *is echt moeilijk*
DEM PL article-PL if want-2SG 2-translate-3PL is really difficult
"Those articles, if you want to translate them, that's really difficult?"
(Moroccan Arabic/Dutch, Boumans 1998: 37)

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Boumans (1998: 36) recognizes that EL plural nouns function as ML plurals. The author (ibid:37) claims that the system morpheme marking plurality in mixed contructions of the type duk *artikel-en* (those articles) challenges the SMP and the only solution to save the MLF model's predictions is to classify EL plural nouns as internal Islands. He (ibid.) argues that "these EL plurals, whether they occur as EL islands or within mixed constituents, typically trigger agreement where appropriate according to the ML grammar".

Myers-Scotton (2002: 122) argues that internal EL Islands (*artikel-en*) appear as such because they match a feature of plurality which is part of the abstract NP heading the maximal projection. The latter has been activated for pragmatic reasons. In this sense, the speaker wishes to use the Dutch noun in order to express plurality. Given that plurality in MA is expressed through ablaut procedures and insertion of vowels, the speaker decides to inflect the Dutch noun with a Dutch suffix. The author suggests that probably because of this incongruity with Dutch in terms of plurality, the speaker appeals to a compromise strategy which consists of projecting the Dutch plural suffix with the Dutch noun.

With regard to language processing, the following scenario expounded by Myers-Scotton, is followed to realize the speaker's intentions. Indeed, the speaker's intentions call for a plural complement of the verb "translate". The Dutch plural suffix on the verb satisfies best those intentions. The mixed construction *(duk artikel-en)* "those articles" occurs as a topicalized NP with Dutch noun + plural *(artikulen)* and functions as an EL Island in the entire CP which is under the control of ML (Moroccan Arabic). At the conceptual level, the Dutch plural satisfies better the speaker's intentions, and suits appropriately the requirements of the morphosyntactic frame for a noun to occur in the NP at the functional level *(PS level)*.

Contrariwise, our corpus shows another type of embedded constructions, namely French internal Nominal Islands. It is worth mentioning at this level that French internal Islands are not so varied and most often they are realized as nominal or prepositional constructions. Consider then the following example:

(563) ʝtabbqu   hæːd   **les trois étapes**
     IMPERF-apply-3PL DEM DEF-PL three steps
     "They apply these three steps."

The above example displays a mixed construction "hæːd *les trois étapes*" which comprises the demonstrative "hæːd" from OrA and the nominal phrase "les trois étapes" from Fr. The last structure is an internal Island since it is embedded within a maximal projection framed by OrA. Contrary to other corpora which have shown a considerable variation in the production in internal Islands (Ziamari: 2008), our data are limited to nominal and prepositional internal Islands. The internal Islands embedded within mixed nominal constructions can be governed by an article, a demonstrative or a quantifier from OrA. Consider the following illustrative examples which indicate the presence of the determiner (wafid), the demonstratives (hæːd, haːdi), and the quantifiers (gaːʕ, bəzzaːf).

(564) ʕandha   wafid **le**   **regard special**
      IMPERF-have-3SF   INDEF DEF-M look   special
      "She has a special look."

(565) wafid əl **manque** fə wafida mən haduːk
      INDEF DEF deficit in one   of   those
      "A deficit in one of those (laws)"

(566) **vous allez développer** hæːd **la culture**
      you will develop   DEM DEF-F culture
      "You will develop this culture."

(567) haːdi **la**   **copie** taːʕ l **cours** taːʕ ljuːm
      DEM   DEF-F copy of   DEF-lecture of DEF-day
      "This copy of todays' lecture."

(568) gaːʕ **les**   **filles ensemble**
      DET   DEF-PL girls together
      "All the girls together."

(569) kaːjen bəzzaːf **les profs**   jaʕʕaʒbuːni
      EXIST   DET   DEF-PL teachers IMPERF-please-3PL-1S
      "There are teachers who please me."

Myers-Scotton (2002) discusses similar cases in different corpora (Moroccan Arabic/Dutch, Algerian Arabic/French code-switching) and explains these occurrences under the USP. The author claims that these mixed constructions occur because there is a close match between some French and Arabic determiners. As a result, structures like

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"di:k *la fille*", and "waħed *les histoires*", are likely to appear as internal Embedded Islands. She adds that overall determiner complexes are sufficiently congruent between French and Arabic since French determiners (under DNG) display features that provide a sufficient match to those determiners in Arabic. The French elements under D (quantifiers, demonstratives) do not replace Arabic ones in mixed constituents.

Under her analysis, Myers-Scotton argues that determiner complex in French and Arabic has a D (determiner) node and a DNG node, with determiners themselves under DNG. Under D appear demonstratives in Arabic and demonstratives and quantifiers as well as partitives in French. Under DNG, French and Arabic have in common the obligatory marking of masculine or feminine gender on singular determiners. The author concludes then that since determiners are early system morphemes, the presence of French determiners does not violate SMP. The following figure illustrates the scheme provided by Myers-Scotton to explain the different configurations of EL Internal Islands in Arabic/French and Arabic/Dutch code-switching.
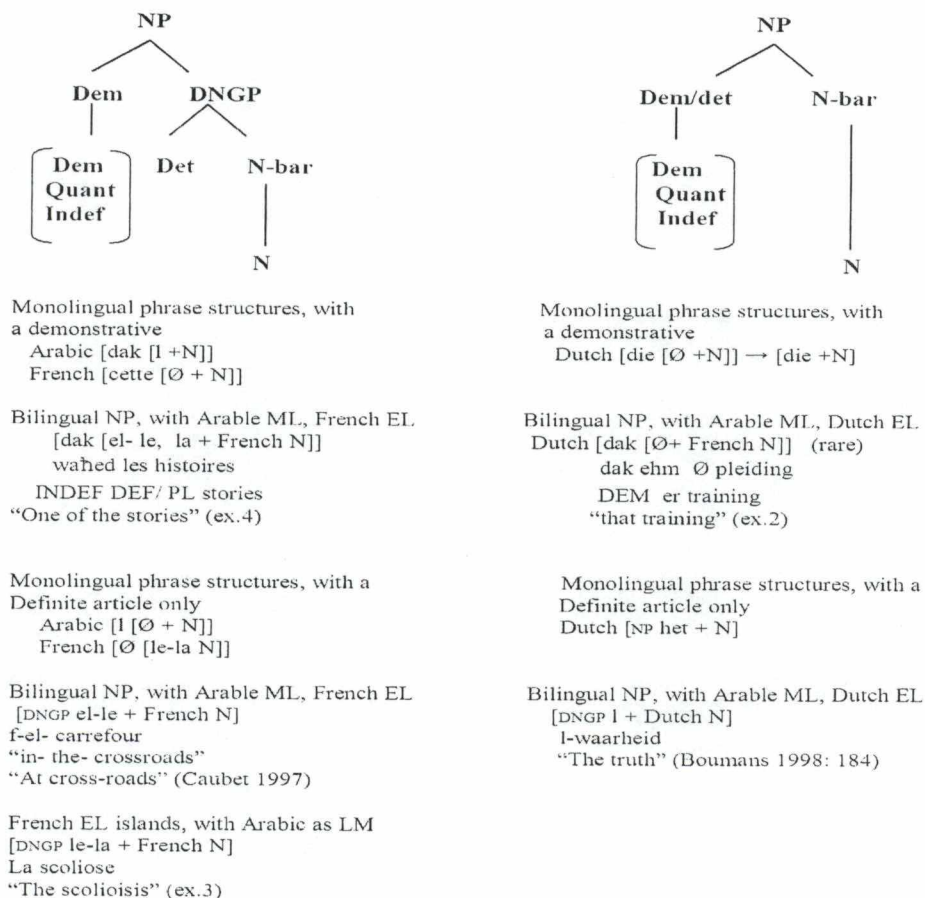

Monolingual phrase structures, with a demonstrative
  Arabic [dak [l +N]]
  French [cette [Ø + N]]

Bilingual NP, with Arable ML., French EL
  [dak [el- le, la + French N]]
    waħed les histoires
  INDEF DEF/ PL stories
  "One of the stories" (ex.4)

Monolingual phrase structures, with a Definite article only
  Arabic [l [Ø + N]]
  French [Ø [le-la N]]

Bilingual NP, with Arable ML, French EL
[DNGP el-le + French N]
f-el- carrefour
"in- the- crossroads"
"At cross-roads" (Caubet 1997)

French EL islands, with Arabic as LM
[DNGP le-la + French N]
La scoliose
"The scolioisis" (ex.3)

Monolingual phrase structures, with a demonstrative
  Dutch [die [Ø +N]] → [die +N]

Bilingual NP, with Arable ML., Dutch EL.
Dutch [dak [Ø+ French N]] (rare)
  dak ehm Ø pleiding
  DEM er training
  "that training" (ex.2)

Monolingual phrase structures, with a Definite article only
  Dutch [NP het + N]

Bilingual NP, with Arabic ML, Dutch EL
[DNGP l + Dutch N]
l-waarheid
"The truth" (Boumans 1998: 184)

Figure 4.1. The structure of Determiner complex in Arabic/French and Arabic/Dutch Code-Switching (Myers-Scotton 2002:123)

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Other mixed constructions are frequently attested in our corpus, they include the bridge system morpheme "taːʕ/ntaːʕ" which expresses the relation of possession. Here are some examples:

(570) ħassiːna ʕaːmna lluwwul taːʕ **l'université**
PERF-feel-1PL year-1PL DEF-first of DEF-university
"We felt that this is our first year at university."

(571) f hæːd **les polycopes** telquː ʒaːbtənna
In DEM DEF-PL hand-outs IMPERF-find-2PL PERF-bring-3F-to-1PL
zuːʒ taːʕ **les auteurs**
two of DEF-PL authors
"In these hand-outs you will find that she brought us two authors."

(572) **l'affaire** taːʕ **la Serbie**
DEF-affair of DEF-F Serbia
"Serbia's affair."

Another type of mixed constructions which exhibit a construct relation where two nouns are juxtaposed to form annexation are as also attested in our corpus with a less frequency of occurrence. The following examples illustrate this type of mixed constructions:

(573) ṣaħbet **ma mère** ʒaːt lbaːreħ məfransa
friend my mother PERF-come-3F DEF-yesterday from France
"My mother's friend came yesterday from France."

(574) bnaːt **la famille** ʒajjiːn ṭwalaːt kiːfi
girls DEF-F family PART-come-3PL tall-PL like-1S
"The family girls are tall like me."

Internal Islands as nominal constituents can be inserted within mixed prepositional constituents. These constructions are frequent in our corpus, as shown in the following examples:

(575) ħna maʕlabannaːʃ bəlli ɣaːdi jdiruːnna
we NEG-aware-NEG that will IMPERF-do-3PL-1PL
les examens bhæːd **la façon**
DEF-PL exams with DEM DEF-F way
"We were not aware that they would give us exams in this way."

(576) baːʃ jlazzaq biːn hæːd **les trois** *laws*
to IMPERF-link-3M between this DEF-PL three laws
"In order to link these three laws."

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4.7.2.5 Embedded nominal mixed constituents

Ziamari (2008: 134) has remarked that Embedded Islands differ from mixed constituents in the sense that they do not submit to ML rules in their structure and constituents. In mixed constituents, the morpheme order is that of ML and the system morphemes external to their head constituent come also from ML.

Embedded NP mixed constituents are recurrent in our corpus, they represent 16, 81% of the data. French nouns and constructions are either preceded by the definite article from OrA or missing the Fr article. The following examples illustrate embedded mixed constituents:

(577) l **mémoire** χalliːh fə ṣṣajf
      DEF-memoire IMPER-let-3M in DEF-summer
      "The memoire, you let it for summer."

(578) waːh ʕlaʒaːl l**volcan** beṣṣaːħ ʒaːw
      yes   because of DEF-volcano but PERF-come-3PL
      "Yes because of the volcano but they came."

(579) jʒi   mʊra l**couvert direct**
      IMPERF-come-3M behind DEF-cover page directly
      "It came behind the cover page."

(580) χdemt f **palais des congrès**
      PERF-work-1F in palace INDEF-PL congress
      "I worked in a convention centre."

The directionality of switches is an important point in the MLF and its supportive models. Even though OrA plays most often the role of ML in our corpus, some structures from OrA embedded in Fr matrices are sometimes attested in our data. Opposing other corpora, the embedded OrA elements within French constructions do not show considerable variation.

4.7.3 The insertion of OrA single words in French matrices
4.7.3.1 The insertion of OrA nouns in French matrices

Nouns from OrA occur rarely in French-framed CPs. The only attested example in our corpus illustrates the insertion of the noun "ħaːʒa" (something).

(581) **on a fait** ħaːʒa
      we made some thing
      "We made something."

Bentahila and Davies (1983) report instances of Moroccan Arabic/French code-switching which include nouns preceded by French determiners (system morphemes). The following examples illustrate this type of insertions:

(582) un ɛaşakŗi
"A soldier."
(Moroccan Arabic/French, Bentahila and Davies 1983: 316)

(583) cette **xubza**
"This loaf"
(Moroccan Arabic/French, ibid: 321)

These examples are not accepted by our informants and never occur in Algerian Arabic/French corpora.

4.7.3.2 The insertion of OrA adjectives in French matrices

Some adjectives from OrA are embedded in French matrices. The adjective "kaːməl" in the following examples submit the French grammar rules of French, they are postponed and agree in gender with the nouns they qualify.

(584) on n'a pas sur le   **territoire national** kaːməl
we not have on DEF-M territory national whole
"We don't have at the whole national territory."

(585) parce que les spécialistes kaːməl jeqrʊ **en français**
because   DEF-PL specialists entire IMPERF-study-3PL in French
"Because all the specialists study in French."

What can be observed in the last example is that the adjective "kaːməl" would be realized as "kaːmliːn" in Moroccan Arabic because in MA the adjectives that follow the quantified noun must agree in gender and number. For instance, "nnas kamlin" DEF- people entire-PL (all the people) (Boumans, 1998: 191) illustrates this construction. Conversely, the adjective "kaːməl" agrees only in gender with the quantified noun "spécialistes" (specialists) in the same way as in the construction "*les spécialistes* gaːʕ" (all specialists).

Sometimes, adjectives from OrA occur attributively within French-based matrices. The only attested example is our corpus is from Fr-MSA cases:

(586) c'est maşʊnijja
"It is freemasonry."

4.7.3.4 The insertion of OrA adverbs in French matrices

The adverbs from Arabic realized within French-framed CPs are frequently attested in other corpora when Arabic and French are in contact. Yet, adverbs sourced from OrA are not abundant in our corpus. This specificity in our corpus is not due to syntactic restrictions on this particular category; but it is rather a question of preference from the part of the bilingual speakers for switching certain categories than others. The observation of other students who do not participate in my study has shown a high frequency of occurrence of adverbs stemmed from OrA. Here are some elicited examples:

(587) təmma:k tu trouveras quelqu'un pour t'accueillir
   there you find FUT someone to you receive
   "You will find someone to receive you."

(588) darwuk j'ai décidé de mettre fin à notre relation
   now I decided to make end to our relation
   "Now, I decided to make end to our relation."

(589) nous avons pris des photos   hna
   we PAST- take INDEF-PL photos here
   "We took photos here."

4.7.3.5 The insertion of OrA conjunctions and discourse markers

Conjunctions and discourse markers are classified as content morphemes according to Myers-Scotton's classification and therefore little restrictions are established on these categories. In fact, conjunctions and discourse markers appear in our corpus but with less frequency of occurrence if compared with their French corresponding categories when OrA sets the morphosyntactic frame. With regard to discourse markers, the common filler word "zaʕma" which may have also an appreciative modal value is used in initial position. Our corpus provides varied realizations of this filler word and therefore we can pretend that this is not the only syntactic distribution where "zaʕma" can appear. Slaoui (1986) claims that this discourse marker which has generally a phatic function appears mostly in final positions while Ziamari (2008) advances that "zaʕma" occurs in all positions in her corpus which shows considerable variation. The particle "ja:k" in also embedded in some French constructions, it is realized with a rising tone which signifies interrogation in the

sense of the French expression *"n'est-ce pas?"* and subsequently calls for a confirmation. Besides, the discourse marker "ɾaːk faːhem" is also attested in our corpus while other markers which have been observed in the students' speech do not necessarily occur in our corpus. It concerns the causal conjunction ʕlaχaːʈeɾ/ χaːʈeɾ (because), the sequence-initial "lmʊhimm" (anyway) stemmed from MSA, and "gaːʕ" in the sense of the French expression 'du tout' (at all). The following examples illustrate the insertion of conjunctions and discourse markers from OrA in French-framed CPs attested in our corpus.

(590) beṣṣaħ ceux sont des obligations
      but   those are INDEF-PL obligations
      "But those are obligations."

(591) si : je me donne à fond beṣṣaħ il faut que je me repose
      if I REF give my all but   it must that I REFL take rest
      "If I give my all but I have to take a rest."

(592) zaʕma la frime
      supposedly DEF-F sham
      "It is supposedly sham."

(593) elle ne peut pas se déplacer jaːk↗
      she NEG can NEG REFL move that's it
      "She couldn't move, could she?"

(594) ʔajja chacune de nous a ramené quelque chose
      so   each   of us brought   some   thing
      "So, each of us brought something."

(595) sachant que Frings c'est un milieu défensif ɾaːk faːhemni
      knowing that Frings he is a midfielder defensive you understand me
      "Knowing that Frings is a defensive midfielder, you understand me?"

4.7.4 The insertion of Islands and constituents

4.7.4.1 The insertion of OrA noun phrases in Fr matrices

As singly-occurring items, OrA large constructions embedded in French matrices are not very much attested in our corpus. The following examples are the only instances of nominal phrases inserted when French is the Matrix Language. Otherwise, internal Islands and mixed constituents seem not to be favoured by our informants.

(596) tu sais lʕurs dont je t'ai parlée c'était le premier mariage que

you know DEF-wedding that I you talked it was the first wedding that
j'assiste
I attend
"You know the wedding about which I told you was the first wedding I
attend."

(597) j'étais obligée de rester lʕʃijja taːni le soir

I was obliged to stay   DEF-afternoon also DEF-evening
"I was obliged to stay afternoon and evening as well."

4.7.4.2 The insertion of OrA Adverbial phrases and clauses within French matrices

Adverbial phrases sourced from OrA occur in our corpus, they most often represent adverbial phrases of time. Some clauses from OrA are attested in our corpus as well. Consider the following illustrative examples:

(598) **si je réussis pas mon Magister je m'inscris en France** lʕaːm

if I succeed not my Magister I REFL subscribe in France DEF-year
lʒaːj
DEF-next
"If I don't succeed my Magister, I will subscribe in France next year."

(599) **j'ai failli le faire** hæːd lʕaːm

I was about it do this DEF-year
"I almost did it this year."

(600) **c'était pas Santa Cruz** hæːd lʕaːm

it was not Santa Cruz this DEF-year
"It was not Santa Cruz this year."

(601) **c'était pas aussi bien organisé que** lʕaːm lli faːt

it was not as well organized   as DEF-year that elapsed
"It was not as well organized as last year."

(602) **on n'a pas une spécialité marketing** qrenaːha

we not   a special field marketing PERF-study-1PL-3M
"We don't have a special field of Marketing that we have studied."

(603) **on ne voit pas** ʃaraːkʊm ddiːrʊ hna

we   not see what PERSENTATIVE-2PL IMPERF-do-2PL here
"We don't see what you are doing here."

Many criticisms have been made against Myers-Scotton's models on the basis of data observed in different language pairs involved in code-switching. One of the major shortcomings of the MLF model discussed in the literature is the inadequacy of the

notion of the CP as a unit of analysis. Reducing the ML to a property of a CP restricts the constraints on code-switching into purely structural limitations and therefore ignores other determining factors in shaping code-switched sentence patterns, be they socio-linguistic or psycholinguistic. Boussofara-Omar (2003: 35) claims that "The CP as a structural unit of analysis raises more issues than it solves in identifying the ML, especially in cases where both languages/varieties participating in switching supply system morphemes within the same CP".

Myers-Scotton has continuously revisited her models to solve certain problematic issues raised in regard to the predictions of the MLF model. For instance, she points out that the appearance of the MA preposition *"dyal"* within French-framed CPs as no longer problematic since this morpheme is a bridge late system morpheme under the predictions of the 4-M model. The same remark holds true for OrA/Fr instances in which the preposition "taːʕ/ntaːʕ" occurs freely with French NP structures.

Myers-Scotton admits in her revisited versions that EL early system morphemes and bridge late system morphemes can occur in mixed constituents. She introduces the Uniform Structure Principle to account for such cases. According to this principle, all constituents should satisfy the well-formedness requirements for the language from which they originate. Hereafter, the ML system morphemes are preferred in a bilingual CP because they ensure this uniformity of structure. The author has also proposed the notion of *"sufficient congruence"* to explain the occurrence of EL system morphemes in mixed constituents. In this sense, EL system morphemes can appear in mixed constituents provided that the languages involved in CS share similar formal properties. A case in point would be the occurrence of a sequence of an OrA determiner and a French nominal construction since the French determiner takes a distribution nearly identical to that of OrA.

Other shortcomings have been raised by Boussofara-Omar (2003) when she revisited Arabic diglossic switching in the light of the MLF and its sub-models, namely the 4-M and the abstract-level models. She has remarked several problematic cases, mainly problems of word order, sub-categorization clashes, and instances violating the system morpheme principle and the co-occurrence of system morphemes from F and TA (Fuṣḥa and Tunisian Arabic) within a single CP. She attempts to see how the 4-M model handles these cases and identifies the inadequacies when two inter-related languages co-occur within the same string of speech. Similar cases have been observed

in our previous work on AA/Fr Code-Switching. Here is an illustrative example:

(604) maʔadɔnneʃ   ʃaːrək   f muʔtamar
      NEG-IMPERF-think-1S   PART-participate in congress
      lmustaʃriqiːn
      DEF-orientalist-PL
      "I don't think (he) participated in the congress of orientalists."
      (Ouahmiche, 2008: 134)

In the above example, the verbal form "maʔadɔnneʃ" consists of the discontinuous affix marking negation "ma…ʃ" from OrA and the prefix {-ʔa} which expresses the 1st person singular imperfective from MSA. Both morphemes are attached to the verb stem "dɑnna" (he thought) but the sub-categorization frame is set by OrA.

The identification of the ML is not clear because the verb "dɑnna" cannot be considered as an MSA EL system morpheme since it does not satisfy the requirements of the sub-categorization principle. Following the predictions of the Blocking Hypothesis, when EL content morphemes are not congruent with ML morphemes in accordance to the sub-categorization rules, they are blocked. Both verbs have different sub-categorization rules. The OrA verb subcategorizes for a VP with a finite verb whereas its MSA equivalent calls for a complementizer "ʔanna-" to which is affixed a cliticized pronoun "-hu". Subsequently, the formal properties of the above utterance are ambiguous with respect to the MLF restrictions. Both OrA and MSA supply system morphemes and therefore the syntactic frame is doubly constructed: MSA provides system morphemes indicating tense, mood and subject agreement markers and OrA sets the sub-categorization frame and supplies the negation marker. When congruence does not match between elements from ML and EL, two compromise strategies takes place to neutralise these abstract clashes. None of these strategies occurs here to solve the problem.

Another crucial problem challenges the empirical evidence of the MLF predictions, it is the "double morphology". Myers-Scotton (1993b: 61) has used double morphology to mean that "a single head (from the EL, not the ML) has affixes from the ML and the EL marking a feature". She provides a number of examples from Shona/ English code-switched data, mainly double-plural affixes, in order to explain this issue. For instance, the noun "game" in the following example is attached with affixes from

both ML and EL, {-ma} which marks the classic pluralizing prefix comes from Shone whereas the pluralizing suffix-s comes from English.

(605) ....dzimwe dzenguwatinenge tichiita ma-*game*-s panze
"....Sometimes we will be doing games outside…"
(Shona/English, Myers-Scotton, 1993b: 132)

Double morphology has not been observed in any of the studies undertaken on Arabic/French or Fuṣħa/Colloquial Arabic Code-Switching. Yet, Boussofara-Omar (2003) has observed another phenomenon which raises problems to the MLF model, remarkably the co-occurrence of system morphemes from F and TA signalling different grammatical functions. She has called this phenomenon *"dual morphology"* in order to explain cases like "masaʔaqifʃ". In this case, the bound morpheme sa- is attached to the F verb stem "ʔaqif" instead of the free particle "sawfa" which should precede the verb as well as the discontinuous marker of negation "ma…ʃ". As a result, it would be difficult to identify the ML because of the co-occurrence of system morphemes of the two languages involved in diglossic Code-Switching.

Our prime objective being the discussion of the mechanisms of language processing when OrA and Fr are intermingled within bilingual CP, we will not talk about criticisms of the MLF model in detail. The predictions of the 4-M model and the Abstract Level model appear to explain clearly most of the cases identified in my corpus. Besides, congruence seems to provide clear insights about the occurrences of EL Islands and internal EL Islands both from structural and pragmatic perspectives. However, what is missing in Myers-Scotton's insertional models is the social correlates of the different structural configurations that would appear when two grammars are in contact. Accordingly, we suggest Clyne's model as a completive model to Myers-Scotton models in order to get a clear idea about the functioning of bilingual speech. Clyne has adopted the same mechanism of language production in bilingual/ plurilingual speech proposed by Myers-Scotton but integrated other parameters such as context, language use, identity, attitudes, and language modes (triggering elements). We truly believe that this model takes in charge the syntactic, psycholinguistic, and sociolinguitic components when two or more languages are in contact.
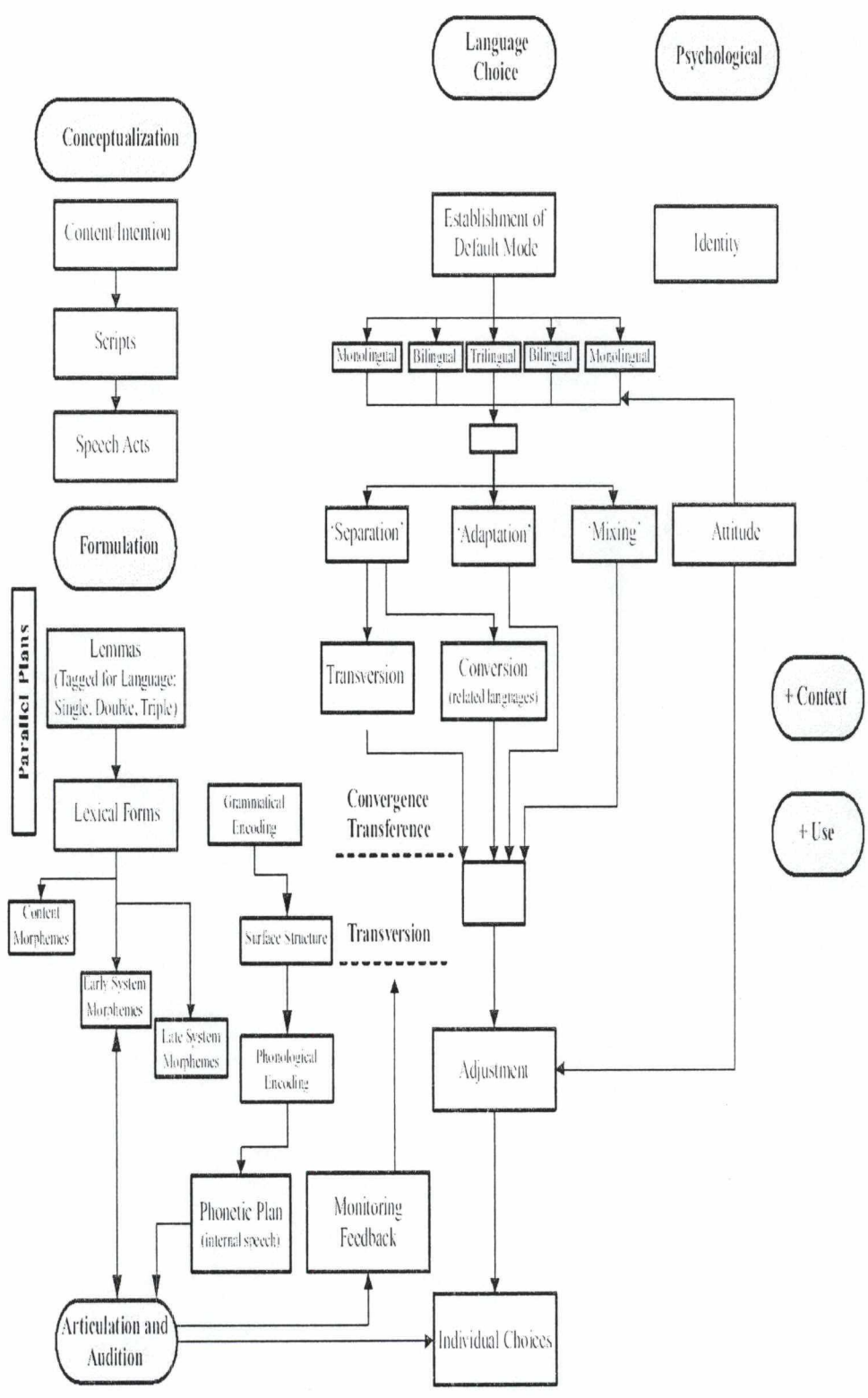
Figure 4.2. The plurilingual model of language processing (Clyne 2003:213)

4.8 Conclusion

This chapter provides a qualitative analysis of our data in the light of Myers-Scotton's insertional models. We attempt to explain the mechanisms of language processing when OrA and Fr are in contact. According to the predictions of the 4-M model and the Abstract Level model, the asymmetries realized in bilingual CPs are due to different procedures of lexical access by the different morphemes at the level of the mental lexicon.

The analysis of the data has shown considerable asymmetries in relation to the occurrence of OrA and Fr as participating languages in CS. Accordingly, the directionality of the code-switched data has revealed the speakers' tendencies to use OrA as ML in most CS instances in our corpus. On the other hand, Fr provides many single items and large constructions as EL elements and therefore it plays most often the role of EL.

The French nouns embedded within OrA-framed CPs appear as bare forms without an overt article in most of the attested cases. Some other instances have been integrated into OrA system to comply with its requirements. French nouns with zero articles also appear in our corpus provided that they occur in the context of the "do" construction. In mixed constituents, French nouns appear rather in the vicinity of the different manifestations of the determiner complex (waħid əl, haːd əl, daːk əl) because of a close match between Fr and OrA determiners. Nonetheless, cases which include determiner complex + French nouns are not frequently attested in our corpus. Thus, these results corroborate Caubet's findings. In terms of language processing, congruence matching procedures are activated at the lemma level and often French nouns are preferred instead of OrA equivalents as embedded elements without violating SMP.

Attributive adjectives compared to predicative adjectives appear to be highly limited in many corpora involving Arabic, French, English and Dutch. Similar results are obtained in my research: attributive adjectives are very restricted while predicative adjectives occur in the environment of the copula "kaːn", closer to the zero copula and the auxiliaries "bqa", "gʕad" and "wʊlla".

The disparity between Arabic, French and English verbal systems triggers the emergence of compromise strategies, namely bare forms and EL Islands. The French inserted verbs within OrA matrices receive conjugational paradigms in our corpus. In

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the same way, pronominal French verbs are integrated into OrA system either through the medio-passive prefix or by the conjugation paradigm used for French verbs. Nevertheless, the amount of embedded French verbs remains limited compared to other corpora. Similarly, adverbs and discourse markers are not frequently attested in my data despite their frequency in the observed non-recorded material.

French nominal phrases as Islands, nominal phrases as mixed constituents, clauses, prepositional mixed constituents, inflectional Islands, prepositional Islands, and nominal phrases as internal Islands appear in our corpus in this order. In fact, the abundance of NP Islands and NP mixed constituents in our data is probably due to the speakers' proficiency in the languages involved in CS as well as their preferences for certain categories.

The appearance of IPs in our corpus can also be explained by pragmatic motivations. The speakers prefer to use this compromise strategy because it satisfies their intentions in case where a mismatch exists between the verbal systems of OrA and Fr.

We think the notion of congruence is a powerful means which may explain most of the problematic cases raised in the literature on CS. Besides, the classification of morphemes as espoused in the 4-M model may explain different phenomena related to language acquisition or language production. However, Clyne's conception of plurilingual processing may add new insights into the understanding of CS occurrences.

In the present work, we have attempted to explain the different asymmetries attested in a corpus of OrA/Fr Code-Switching and other languages in contact (MSA, OrA, Fr, and Eng) by referring to the predictions of Myers-Scotton's insertional models. The MLF model is claimed to predict the possible and non-possible patterns of CS occurrences. It is an insertional model as it assumes that the Matrix Language constructs the syntactic frame into which elements from the Embedded Language are slotted. This means that this model is predictive in nature and therefore imposes certain structural constraints on code-switched data through a hierarchical framework. The primary distinction between content and system morphemes has undergone substantial changes. The 4-M model and the Abstract Level models may provide grammatical and psycholinguistic insights to explain bilingual speech production.

As opposed to earlier constraint-based approaches, these newly-established models supply explanations with regard to morpheme classification. In fact, these models insist principally on the distinction between content morphemes and early system morphemes, bridges and outsiders at the syntactic component. From a psycholinguistic perspective, a set of mental processes determine the differential levels of activation when several types of morphemes are put together within mixed constructions.

The data which constitute the corpus of our research have been recorded in 8 different speech situations among 27 students who show varying degrees of proficiency/competency in OrA, MSA, Fr and Eng. This corpus is characterized by a considerable variation in mixed constructions which reveal the grammar of OrA in contact with other grammars (OrA-Fr, Fr-OrA, OrA-MSA-Fr, OrA-Fr-Eng, OrA-Fr-MSA-Eng). However, we have analyzed qualitatively mostly instances of OrA/Fr and Fr/OrA code-switched data in order to approach the directionality of the switches. These varied configurations are basically attributed to differences in the speakers' proficiency/ competency in the languages involved in CS, their attitudes towards these languages, their linguistic preferences, and their sociopragmatic intentions.

The application of Myers-Scotton's models on our data has shown that OrA/Fr and Fr/OrA instances of CS are syntactically governed. The data have also revealed that CS occurrences in both directions are regulated by certain hierarchies. Embedded structures within OrA-framed CPs consist of small constituents (nouns, verbs,

adjectives, adverbs and prepositions) and larger constituents (phrases and clauses) sourced from French. On the other hand, structures embedded within French matrices are highly limited in my data.

This asymmetry appears quantitatively and qualitatively. From a quantitative point of view, OrA appears to be more likely the BL which frames the grammar of the largest number of mixed constructions. In this way, it supplies a considerable number of syntactic structures, mainly system morphemes (inflections, negation markers, affixes expressing tense, mood and aspect) and sets word order in the bilingual CPs. Conversely, Fr supplies mostly content morphemes to be slotted within ORA-framed CPs. From a qualitative point of view, OrA sets the morpho-syntactic frame in mixed constructions at different levels and therefore it organizes the different morphemes at the mental level and controls their access.

It has been argued in several structural approaches that switches are permitted only within structures which share similar surface configurations. Counter-examples from our corpus violate such restrictions. Instances of non-equivalent structures of OrA and Fr which participate in bilingual CPs are numerous. Myers-Scotton has proposed a congruence matching procedure which filters possible from non-possible switches with regard to the equivalence of surface structures. We conclude that mixed-codes cannot be explained by differential surface configurations but through a complex network of language processing that underlies the production of bilingual CPs. Everything begins at the conceptual level where mental processes build up formal frames and structure merged elements to be reshaped in structurally-governed clauses and sentences.

The distinction between Code-Switching and borrowing was subject to many controversies. There are two approaches that consider the relationship between CS and borrowing. Poplack and her associates suggest that single item insertions integrated morpho-syntactically into the rules of the receipt language are instances of borrowing. They propose the nonce-hypothesis in which nonce-borrowings are incorporated into the host system and place single lexical items on a continuum which ranges from established to nonce-borrowings. The second view postulated in Myers-Scotton's works and other studies considers in contrast both borrowing and code-switching as one single mechanism. We have followed in this research Myers-Scotton's interpretations and rejected Poplack et al.'s criterion of integration as a distinguishing feature between borrowing and Code-Switching to avoid structural problems generated by such a distinction.

Several important issues can be raised in relation to the psycholinguistic aspects of code-switched data. An interesting explanation of sentence planning in bilingual speech production is provided in Myers-Scotton's Abstract Level model. The idea is that a preverbal message activating intentions underlies sentence patterning of various linguistic constituents of different sizes at different levels. The construction of larger mixed constituents occurs at the lemma level where speakers' intentions activate semantic and pragmatic bundles. These units of thought are put together to form coherent mixed constituents to receive morphological realization patterns at the formulator level. The selected elements to be combined in larger constituents are checked before for congruency matching. Elements from the two languages involved in CS are checked for congruency. Various system and content morphemes co-occur at the conceptual level after the activation process takes place. These co-occurrent morphemes may display different realization patterns when the two languages are typologically divergent. In spite of these divergences, mixed constituents are formed. At this intermediary stage, syntactic constituency and morphological realization patterns may be checked for compatibility between the languages involved in CS. Moreover, mixed sentence production involves structural filters which block ill-formed constituents to be realized at the surface structure.

Myers-Scotton's models adopted in this research work undoubtedly provide insightful account about the functioning of OrA/Fr and Fr/OrA constructions, but several problematic issues have been raised in many studies to draw the shortcomings of the MLF model and its sub-models. The fundamental problem is related to the identification of the Matrix Language and the criteria used for its definition.

From a purely linguistic level, the MLF model is insertional in which ML is considered as a theoretical construct that provides the grammatical frame in the bilingual CP. This definition fails to restrict the roles attributed to ML, sometimes two languages are the source of system morphemes and consequently structural clashes occur.

At the psycho-linguistic level, ML is supposed to be the more activated at the conceptual level. The transition from an activated code into a grammatical structure which frames the mixed speech is, however, not so clear. How can we explain the relation between a code that is more activated and sentence planning? This question and other problematic issues related to the organisation of the mental lexicon and its translation into well-formed syntactic constructions remain unexplored in Myers-

Scotton's models.

At the social level, the ML is said to be *"the unmarked choice"* in any interaction. Again, the same problem appears as to what link is established between bilingual language processing and the markedness of the preferred code of interaction. As noted in this work, the notion of ML is ambiguous when more than two languages interact within the same CP. Subsequently, this issue needs further investigations.

The overall conclusion to be drawn from the present work is that a comprehensive framework of bilingual speech should take into consideration language typologies, discursive markers, social factors and pragmatic mechanisms to better understand and describe the multi-faceted nature of language processing. The complexity of issues related to cognitive operations at work when two codes are intermingled within the same utterance reveals the necessity of multi-disciplinary inquiries in CS studies.

The analysis of our data bears implications for other empirical applications. An interesting field of research would be the study of composite Code-Switching where trilingual codes are put into contact, namely MSA, AA and Fr. Myers-Scotton's models may provide effective accounts of what happens in the mind of the trilingual speakers engaged in interactive conversations. Unfortunately, less knowledge in new tendencies approaching morpho-syntactic structures is a hindrance for analyzing the mixed constructions which include data from OrA, MSA, Fr and Eng from quantitative and qualitative perspectives.

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Abstract

This research attempts to describe and analyze some linguistic practices among Algerian students resulting from contact between Oran Arabic and French. Indeed, this study is based mainly on a double orientation. The first approach appears to be descriptive/ analytic, and tries to apply the theoretical and empirical foundations of the insertional models proposed by Myers-Scotton on a corpus realized among university students recorded in different speech situations even if university remains the major context (formal setting). The second approach seems to be interpretive principally based on quantitative and qualitative methods in order to test the empirical validity and the explanatory power of Myers-Scotton's insertional models.

The main idea underlying this research seeks to establish a link between the asymmetry in the different patterns of Oran Arabic/French Code-Switching realized by bilingual students showing varying degrees of bilinguality, and the asymmetry with regard to the organization of the various system and content morphemes in the mental lexicon.

Key words: Oran Arabic/French Code-Switching, asymmetry, cognition, congruence, semantic and syntactic mismatch, Algerian bilingual students, Oran Arabic.

Résumé

Cette recherche vise à circonscrire certaines pratiques langagières parmi des étudiants Algériens résultant du contact entre le parler d'Oran et le Français. En effet, cette étude s'appuie essentiellement sur une double orientation. La première démarche se révèle descriptive/ analytique présentant les fondements théoriques et empiriques des modèles insertionnels proposés par Myers-Scotton dans un souci applicatif sur un corpus réalisé auprès des étudiants universitaires dans différentes situations linguistiques même si le contexte majeur demeure l'université (un contexte formel). La seconde se veut interprétative fondée sur une approche à la fois quantitative et qualitative dans le but de tester la validité expérimentale et la capacité explicative des modèles Scottoniens.

L'idée principale sur laquelle est fondée cette recherche cherche à établir un lien entre l'asymétrie dans les différents patterns du code-switching Arabe Oranais/Français réalisés par des étudiants bilingues montrant des degrés de bilingualité assez variés, et l'organisation asymétrique des différents morphèmes grammaticaux et des morphèmes de contenu au niveau du lexique mental.

Mots clés : l'Alternance Codique Arabe Oranais/Français, l'asymétrie, la cognition, la congruence, l'incompatibilité sémantico-syntaxiques, étudiants bilingues Algériens, Le parler d'Oran.

ملخص

هذه الدراسة هي محاولة لوصف وتحليل بعض الممارسات اللغوية بين طلاب جزائريين من وهران والناجمة عن الاتصال بين اللغة العامية المستخدمة من طرف هؤلاء المستخدمين واللغة الفرنسية.

في الواقع تستند هذه الدراسة الى توجه منهجي مزدوج. المنهج الأول المتبع في هذه الدراسة ذو طبيعة وصفية تحليلية يهدف الى تطبيق الاسس النظرية والتطبيقية للنماذج المقترحة من طرف مايورسكوتين على خطابات مسجلة بين الطلاب في ظروف مختلفة حتى ولوكان السياق الاساسي هو الجامعة. المنهج الثاني هو تحليلي في مجمله ويصبو اساسا الى التحاليل النوعية والكمية للخطابات المدروسة من اجل اختبار كافة الشروحات والتفاسير المعروضة في النماذج المعتمدة في هذه الدراسة.

الكلمات المفتاحية : التحول اللغوي عربي- فرنسي , عدم التماثل , الادراك , عدم التطابق النحوي والدلالي , الطلبة الجزائريين ثنائي اللغة , اللهجة الوهرانية المحلية.