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FOREWORD

The Department of Linguistics of the University of Victoria is pleased to present Volume 18 of the *Working Papers of the Linguistics Circle of the University of Victoria (WPLC)*. The articles in this issue represent current research on language and linguistics at the University of Victoria.

All of the articles published in *WPLC* are considered working papers and their appearance here does not preclude subsequent publication elsewhere by the authors. As working papers, they are subject to reconsideration and revision, and comments regarding their form and content are welcome.

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TEACHERS' PERCEPTIONS, ATTITUDES, AND EXPECTATIONS ABOUT COMMUNICATIVE LANGUAGE TEACHING (CLT) IN POST SECONDARY EDUCATION IN BANGLADESH

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1. INTRODUCTION

This research investigated the expectations and beliefs of 36 English as a Second Language (ESL) teachers in Bangladesh regarding beliefs, attitudes and language instruction practices. Such research is fundamental to implementing alternative approaches to curriculum and instruction of English as a Foreign Language (EFL) in Bangladesh because, in order for an implementation strategy to be effective, it is first necessary to identify those issues, which will facilitate or possibly inhibit change.

The broad framework of communicative language teaching (CLT) is the most common basis within which to investigate language teaching practices. It is a framework which is widely referred to in policy statements and curricular goals. However, as previous research (Burnaby & Sun, 1989; Ellis, 1994; Fox, 1993; Gamal & Debra, 2001; Karavas-Doukas, 1996; Li, 1998; Mustafa, 2001; Penner, 1995; Rollman, 1994; Sato & Kleinsasser, 1999; Thompson, 1996) has shown, teachers have widely differing perceptions of the features of CLT for curriculum and instruction. It has also been shown that the issues which facilitate or inhibit change are quite distinct from one national context to another (Aleixo, 2003). While the principles and theories of CLT may be well documented, beliefs and attitudes about the theory are not consistent. Therefore, it was vital to survey the experiences, attitudes and expectations of teachers. The research would identify probable causes and situations for the current deficiencies in English education in Bangladesh and reveal ways to implement communicative language education successfully.

This research investigated English as a Second Language teachers' perception and expectations regarding Communicative Language Teaching (CLT) in post secondary education in Bangladesh. The main goal of the research was to identify factors which will facilitate or inhibit the implementation of communicative teaching of English at the post secondary level in Bangladesh.

The basic research questions for the study are:

1. What are the perceptions of the participating post secondary EFL teachers about the principles of Communicative Language Teaching (CLT)?
2. What do these teachers believe are the practices that explain communicative activities?
3. Which activities do these teachers use in their classrooms?
4. What do teachers think are the main barriers in implementing CLT method in Bangladesh?
5. What do they think are the areas of successes and difficulties in current English teaching in Bangladesh?
6. What do they identify as training needs for the successful implementation of CLT in Bangladesh?

2. RESEARCH DESIGN

As the study relies mostly on teachers' self reported feelings, personal perspectives, and experiences about the use of CLT in Bangladeshi classrooms, a survey research design was chosen and a descriptive and interpretive analysis of the results was done. Qualitative research has been well established in most academic fields of study. According to Aleixo (2003), it has a unique approach to research that draws mostly on multiple sources and on people's views and opinions of specific experiences. In this study, multiple sources are data from 36 teachers, survey instrument that asks for opinions and judgments as well as open-ended responses, related research, and personal experience. It was important to use a qualitative research approach because of the dependence on individual perceptions of a particular language teaching situation. Furthermore, according to Marshall and Rossman

(1999), one of the significant reasons for selecting qualitative research is "to stress the unique strengths of the genre for research that is exploratory or descriptive" (p. 60).

2.1 Participants and Setting

The participants in this study are university-level EFL teachers most of whom are highly experienced. A total of 36 ESL teachers participated in the study. All the participants are between 24 and 58 years of age. Each works at one of three private English medium universities located in Dhaka, Bangladesh. Invitation letters to participate in the study were distributed to the teachers through the English Department Chairs of three private universities and teacher participation in the study was voluntary.

2.2 Data Collection Procedure

Data collection for this study consists of written survey questionnaires distributed between August, 2003 and November, 2003. According to Wiersma (1995), as cited by Scott (2001), survey research "measures opinions and is probably the single most widely used research type in educational research" (p. 169). Four universities in Bangladesh were contacted by E-mail for authorization to collect data and three responded positively. The fourth university did not respond to the request for participation in the study. Once the authorization was received, a total of 50 questionnaires were mailed by post in the first week of August, 2003 to the three universities (25 questionnaires to IUB, 10 to NSU and 15 to BRAC University, taking into consideration the number of English teachers at those institutions). Each package contained a cover letter requesting the English Department Chairs of the three universities to distribute the questionnaires to the English teachers. An invitation letter to participate in the study was attached to each questionnaire. To make sure of maximum return of the questionnaires, follow-ups were conducted by E-mails to each participant institution almost every week between August and September, 2003.

Out of 50, a total of 36 questionnaires were returned (20 from IUB, 10 from BRAC and 6 from NSU); that represents a response rate of 72%. Out of 36 returned questionnaires, 55.56% represent IUB, 27.78% represent BRAC, and 16.67% represent NSU. The researcher started receiving the questionnaires by the end of October, 2003 and received the last questionnaire in the last week of November, 2003. Out of 36 responses, 2 were returned to me by fax and the rest of the responses were received by postal mail. Further E-mails and phone calls were made to the Department Chairs of the participating universities to determine whether there was any possibility of getting more responses, but no more questionnaires were received.

After a careful reading of all the 36 questionnaires, no invalid responses for the data analysis were found and all the 36 questionnaires were, therefore, analyzed for the results. As the teachers were not asked to provide their names when returning the questionnaire, there was no identification of individual participants. Institutions and teachers' responses to items were coded and the data were entered into an Excel database of a laptop computer (PC with Windows XP).

2.3 Questionnaire

The main instrument used to elicit data for the study was a written questionnaire (see Appendix) administered to ESL teachers in Bangladesh. According to LeCompte and Gotez (1982), as cited by Scott (2001), "scientific traditions, such as the survey method, focus on a small number of questions that are constructed before data collection and cover a wide range of elements" (p. 14). This survey research used the technique of the questionnaire for data collection because according to Wiersma (1995), as cited by Scott (2001), compared to interviews with the teachers, the questionnaire is more relaxing and it examines the teachers' approaches to teaching more accurately. Also, as it was not possible for the researcher to go to Bangladesh to interview English teachers himself, the questionnaire helped to avoid any error or bias in the data that could result from using another interviewer or a number of interviewers.

The questionnaire included 11 questions, including both open-ended questions and questions with fixed alternatives (See Appendix). In order to check the comprehensiveness, clarity, and representativeness of the interview questionnaire, a pilot study/ trialing was conducted. The questionnaires were distributed to 20 Chinese, Korean, and Persian ESL teachers at the University of Victoria. They were asked to complete the questionnaire and

10 participants returned the questionnaires. Teachers' responses were spontaneous and demonstrated no misunderstandings of any item of the questionnaire. Therefore, based on the findings of the pilot study, no changes were made in the sequential order or wording of items of the questionnaire.

3. DATA ANALYSIS

Data for this study were collected using the written questionnaires. The analysis of data proceeded in several stages. First, all the questionnaires were tabulated to record the responses of each participant for each item. The tabulations were then read and re-read carefully to identify patterns and commonalities. Tables were made to summarize the frequency of responses to each question. Following the tabulation of individual question items, further analyses were conducted with sets of questions, which were grouped together because they relate to a common issue or theme. For example, items from questions that intended to find teachers' perceptions about CLT techniques and CLT methods (Question 5 and 6) were compared with the items in question 8 that asked about teachers' classroom practices. Such a comparison provides information about the correspondence between teachers' attitudes and beliefs and their practices. The comparison of findings about perceptions and practices was then further compared to responses to questions about teachers' perceived difficulties in adopting CLT in Bangladesh as well as their suggestions regarding the need for training in different areas of the development of English language teaching. The frequencies, commonalities and patterns discovered in the data were used to answer the research questions.

4. MAJOR FINDINGS

The present study reveals that participant Bangladeshi EFL teachers have very good understanding of the communicative activities and the general principles of communicative language teaching (CLT); they practice the major communicative activities in their classes.

It was also found that the teachers did not support some of the common misconceptions about CLT, which are reported in research literature as one of the major impediments to implementation and practice of CLT in an EFL context (Burnaby & Sun, 1989; Fox, 1993; Gamal & Debra, 2001; Karavas-Doukas, 1996; Rollman, 1994; Sato & Kleinsasser, 1999; Thompson, 1996). EFL teachers in this study identified the following concepts of CLT negatively: "CLT means only group work and pair work" (Fox, 1993;Gamal & Debra, 2001; Li, 1998; and Penner, 1995), "CLT means not teaching grammar"(Li, 1998; Sato & Kleinsasser, 1999; Thompson, 1996), "CLT means teaching speaking only" (Li, 1998; Thompson, 1996), and "CLT means discourse competence only" (Fox, 1993).

It is also found that there are positive relationships between teachers' perceptions about CLT and their classroom practices as EFL teachers in this study practice some of the major communicative activities in their classes. Some of the most frequently used activities by the teachers in this study are: calling on students to orally respond to any issues/topic, group discussion, listening to audio tapes and answering questions, pair work, and simulations/role play. Although there are some discrepancies between teachers' perceptions and practices in this study, these are not remarkable as they are not causing obstacles in the way of communicative practices or discouraging teachers from practicing CLT; and these discrepancies are not caused by teachers' misconceptions of CLT or their limited knowledge of CLT pedagogy, and are rather possibly due to some practical reasons like lack of resources, traditional exams, under equipped and large classes, or lack of support from administration.

4.1 Comparison of the Findings with Related Literature

The findings of this study are significantly different from previous related research, where it was found that EFL teachers mainly persisted in using traditional practices in classes (Sato & Kleinsasser, 1999), showed unwillingness to use communicative activities (Gamal & Debra, 2001), favored more traditional teaching (Gorsuch, 2000), and found it difficult to change the classical traditional approach of language teaching and implement the modern approach (Penner, 1995).

Unlike the teachers reported in these previous studies, Bangladeshi EFL teachers in this study reported practicing major communicative activities in their classes. Although it is reported that teachers use traditional activities like dictionary use and grammar explanations, these activities are not a hindrance to communicative language teaching practices. Bangladeshi EFL teachers in this study reported using grammar explanation due to their awareness that communicative language teaching does not restrict teachers from teaching grammar, as 31 teachers in

this study reported it as "not true" that CLT means not teaching grammar. They possibly explain grammar only to facilitate students' meaningful uses of English, not to hinder the communicative flow of the class. Thus teachers in this study do not hold the misconception that 'CLT means not teaching grammar' which was identified by Li (1998), Sato and Kleinsasser (1999) and Thompson (1996).

Bangladeshi EFL teachers' perceptions about CLT also contrast with Li's (1998) findings that "a typical misconception of teachers was that by concentrating in appropriateness and fluency, CLT does not teach form at all and thus totally neglects accuracy" (p. 689).

Findings from the present study also do not conform to Lewis and McCook's (2000) and Karavas-Doukas's (1996) studies, which revealed that Vietnamese and Greek EFL teachers were following both traditional and communicative methods in their practices mainly due to misconceptions about CLT. Bangladeshi EFL teachers' use of grammar explanation along with the major communicative activities is very significant for the implementation and success of CLT overall in Bangladeshi post secondary level, as findings from previous studies were that EFL teachers in most cases follow or try to hold on to only traditional grammar practices, whereas Bangladeshi EFL teachers practice major communicative activities and use grammar explanations and accuracy as part of the communicative function or to facilitate communicative competence. It has been established that the traditional grammar teaching method is not an effective way to develop learners' communicative competence (Krashen, 1985, 1992; Nunan, 1989). Many researchers believe that if grammar is taught in a communicative way, mastering grammatical knowledge is important to learners' overall development toward target language use (Ellis, 1994, 1995; Fotos, 1994; Garrett, 1986; Lightbown, 1991; Lightbown & Spada, 1990; Littlewood, 1981; Lee & VanPatten, 1995; Rivers, 1981; Riggenbach & Lazarton, 1991; Sachter, 1991; Savignon, 1991; Smith, 1981; Widdowson, 1996). Li (1998) also asserted that there is plenty of research literature that advocates inclusion of grammar instruction in second language teaching. He added, "While trying to introduce CLT, teachers should not feel guilty about teaching grammar" (p. 697). Bangladeshi EFL teachers seem to be aware of the need of grammar for achieving communicative competence and they may be teaching grammar to students to facilitate and achieve communicative competence, which is advocated by researchers for the success of CLT.

Another important finding of this study is the teachers' perceived need for the knowledge of target language culture. Ellis's (1994) study found that Vietnamese teachers believed that they did not have necessary knowledge of target language culture to successfully practice CLT. Ellis asserted that this belief led to Vietnamese teachers' misconception about CLT that it does not culturally fit for Vietnam and that CLT is basically an ESL methodology, not suited for EFL contexts. Liao (2000) pointed out that a lack of target language culture was one of the major difficulties in the way of successful implementation of CLT in China. Burnaby and Sun's (1989) study also showed that Chinese teachers believed that the communicative approach was mainly applicable in China for those students who planned to go to an English speaking country.

But in this study, Bangladeshi EFL teachers did not identify additional knowledge of the target language for the success of CLT in Bangladesh. These teachers may believe that the status and practices of English in Bangladesh are not like other foreign language countries due to the fact that it was a colony of Britain. As a result of Bangladesh's long association with English, it is not as 'foreign' as in other countries that lack a long historical relationship with English. These teachers may also believe that their cultural knowledge of English is sufficient for using English in Bangladeshi context.. Furthermore, while expressing their opinions about the difficulties in adopting CLT in Bangladesh, the teachers said that the difference between ESL and EFL would not create any major difficulty in the way of successful implementation and practices of CLT.

Another significant finding of this study, in contrast with previous studies (Mustafa 2001; Li, 1998, and Penner, 1995), is that Bangladeshi EFL teachers do not believe that teachers' lack of high proficiency in English is a major difficulty for practicing and implementing CLT in Bangladesh. Mustafa (2001) pointed out teachers' lack of English language proficiency as a factor that inhibits the adoption of CLT in Indonesia. Li (1998) found that teachers in his study believed that CLT required them to be fluent in English and they generally felt that they had high proficiency in English grammar, reading, and writing, but they had inadequate abilities in English speaking and listening to conduct communicative classes. Penner (1995) also observed that Chinese teachers in his study believed their English knowledge was limited. But the majority of the teachers in this study identified that although CLT requires teachers to have high proficiency in English, they believe their English knowledge is sufficient for the Bangladeshi context. Bangladeshi teachers' practice of major CLT activities support the idea that either they have

sufficient English proficiency or they think that Bangladeshi teachers' English proficiency is not a major difficulty in practicing and adopting CLT in Bangladesh. But the majority of the teachers in the present study identified 'students' low-level of English proficiency' as a major difficulty in practicing and adopting CLT in Bangladesh. This is similar to Li's (1998) findings where teachers reported that due to students' low English proficiency they encountered difficulties in trying the CLT approach in their classes. From my own experience I have found that when students are enrolled at the post secondary and university levels in Bangladesh, their low-level of English proficiency usually makes it difficult for the teachers to do oral interaction and other communicative activities in the classroom. Therefore, successful and effective practices of functional and social communicative activities in the classroom are hampered or delayed. But the findings from this study demonstrated that participating teachers' overall communicative practices are not hampered or discouraged due to the lack of students' English proficiency, which is indicative that students' low level English proficiency may not have a negative impact on the success of CLT; rather CLT can help to improve students' English proficiency.

But the findings regarding Bangladeshi teachers' perceptions that CLT is time consuming support Li (1998), Sato and Kleinsasser (1999), and Thompson's (1996) findings. The majority of the teachers in this study supported the idea that CLT requires a lot of time to prepare class activities, which was also evident in Li's (1998) study where teachers reported lack of time for developing communicative materials had prevented them from using CLT. Sato and Kleinsasser (1999) also found that one of the reasons behind Japanese as a second language teachers' persistence in traditional practices in their class was their belief that CLT used time consuming activities. Thompson (1996) set out this belief of teachers as one of the misconceptions of CLT, which inhibits successful practice and implementation of CLT. But it is noteworthy that although Bangladeshi EFL teachers believe that CLT is time consuming and teachers have little time to prepare communicative activities, and this poses a difficulty for successful implementation of CLT in Bangladesh, unlike Korean EFL teachers in Li's (1998) study, Bangladeshi teachers do not appear to be discouraged from practicing communicative activities in their classes. It is evident from the findings that teachers practice and are willing to practice communicative activities and they do not think that preparing communicative activities is too much pressure for them.

Teachers reported difficulties in practicing and adopting CLT in this study. The majority of the teachers in this study identified 'Large class size' as a difficulty in practicing CLT or as a possible barrier to the adoption of CLT in Bangladesh which was also reported by teachers in researches of Li (1998), Mustafa (2001), Burnaby and Sun (1989), and Gamal and Debra (2001) as one of the difficulties in successful implementation of CLT. Bangladeshi teachers also reported that EFL classes are not well-equipped or convenient, which is true as Bangladesh may lack resources as an underdeveloped nation. Classrooms may also be inconvenient due to the large number of students and immovable desks and chairs which hinders the maximum student participation and successful implementation of communicative activities like role-play, group-work and games. Therefore, the majority of the teachers in this study identified large class size as a major difficulty in adopting CLT in their classes or overall in Bangladesh, but they must not find it totally impossible to use communicative activities as the findings also demonstrate that they use some of the major communicative activities in their class. This finding does not fully coincide with Li's (1998) observation in the case of Korea: "The teachers found it very difficult, if not entirely impossible, to use CLT with so many students in one class because they believed that oral English and close monitoring of class activities were essential in CLT" (p. 691).

Traditional grammar-based examination was reported as a barrier to implementing CLT in the current study and it was also identified by Li (1998), Mustafa (2001) and Gorsuch (2000). Lack of effective and efficient assessment instruments of communicative competence was reported by Li (1998) as another major difficulty in implementing CLT in Korean, Indonesian and Japanese contexts. These factors are also identified by the majority of the Bangladeshi EFL teachers as a difficulty or possible difficulty in practicing and adopting CLT in Bangladesh. The Bangladeshi EFL teachers' opinions about the traditional grammar-based exams as a difficulty and their priority of being trained to assess students are logical as they may have expertise to assess grammar from years of experience but they may not know how to assess communicative abilities of students.

Bangladeshi EFL teachers also identified 'Lack of support from administration' as one of the difficulties in practicing and adopting CLT. This is consistent with Li's (1998) and Burnaby and Sun's (1989) findings in their studies. Li's (1998) study showed that Korean teachers found the lack of support from administration frustrating and as Li stated that "Teachers generally found this lack of professional, administrative, and collegial support discouraging" (p. 693). Chinese teachers in Burnaby and Sun's (1989) study reported their dissatisfactions regarding

their status of professional development. Their dissatisfaction with administration is evident as they thought, "their own level of academic knowledge was not being enhanced in the way it would have been" (p. 230). Participant Bangladeshi EFL teachers' report about lack of support from administration may be similar to that of the Korean and Chinese contexts or it may be a general fear among the teachers that if administration does not support teachers, CLT implementation will not be successful in Bangladesh.

Lack of training in CLT was also reported by Bangladeshi teachers as a major difficulty in adopting CLT, which is similar to the findings of Li (1998), Burnaby and Sun (1989), and Gamal and Debra (2001) where EFL teachers identified it as a barrier to successful implementation of CLT. But although EFL teachers thought it a major difficulty in adopting CLT in Bangladesh, it may not be true that participant teachers are in serious need of training in CLT or their lack of training in CLT is posing problem in practicing communicative language teaching. This research found that Bangladeshi EFL teachers have a basic repertoire of CLT techniques and they use the familiar CLT techniques in their classes. These teachers indicate a need for more training in developing and implementing CLT techniques. Bangladeshi EFL teachers overall need training in understanding and developing CLT techniques.

Another major difficulty in implementing and practicing CLT is teachers' lack of English language proficiency or lack of confidence in using English, which was reported by Liao (2000), Li (1998), Mustafa (2001), and Penner (1995) in their studies. But the majority of the EFL teachers (55.56%) in the present study did not think that teachers' lack of English proficiency was a major difficulty for them. On the other hand the majority of them (72.22%) have expressed their opinions that oral fluency is a priority for teacher training in Bangladesh. This is indicative that oral fluency may not be a problem for the participant teachers of the three English medium universities, but lack of oral fluency can be a major problem for other EFL teachers overall in Bangladesh.

5. CONCLUSION AND IMPLICATIONS

The findings of this study demonstrate that participant Bangladeshi teachers' perceptions and practices of CLT and their perceived difficulties in using and adopting CLT in Bangladesh is not similar to those of teachers in other EFL countries. Most significantly, these teachers have positive attitudes towards CLT, showed correspondence between their theoretical knowledge and their practices of CLT, and did not hold many misconceptions about CLT. Most of the studies that investigated EFL teachers' perceptions and attitudes regarding CLT practices and implementation (Burnaby & Sun, 1989; Ellis, 1994; Gamal & Debra, 2001; Lewis & McCook, 2002; Li, 1998; Liao, 2000; Mustafa, 2001; Penner, 1995; Sato & Kleinsasser, 1999; Sun & Cheng, 2000) concluded that the difference between ESL and EFL contexts or the unsuitability of Western ESL methodology in an EFL context was identified by teachers as one of the main reasons for CLT implementation being difficult or not being successful in EFL countries. But this is not the case for Bangladesh. Therefore, despite the differences between EFL and ESL contexts, there is a positive environment for the successful implementation of CLT in Bangladesh. Thus, the three participant universities can be considered as model institutions for CLT development and implementation in Bangladesh.

As mentioned earlier in this section, while research found that while other EFL countries faced difficulties due to the unsuitability of ESL methodology in their EFL contexts, the Bangladeshi EFL teachers in this study are practicing CLT and they are showing their efforts to implement CLT. They may not be imitating a Western methodology, but rather, considering their own educational condition and communicative needs. This idea is supported by the findings of this study as the majority of participant teachers expressed their opinions that they do not lack the cultural knowledge of English speaking countries. Possibly they do not see any difference between the uses of English in Bangladesh and in English speaking countries. So it could be assumed that they are applying their knowledge of Bangladeshi culture for the purposes of CLT. The success of CLT in the three universities of this study shows that CLT can be successful in the EFL context of Bangladesh, given that CLT needs to be implemented and practiced considering the Bangladeshi context and its communicative needs, which will be a "locally appropriate version of CLT" (Tomlinson, 1990).

Based on the findings that CLT implementation was not successful in many EFL countries, researchers suggested integration between EFL and ESL contexts and also prioritized consideration of EFL countries' own educational condition to make the new methodology or approach well-rounded and practical for their own contexts (Burnaby & Sun, 1989; Ellis, 1996; Li, 1998; Sun & Cheng, 2000). Burnaby and Sun (1989) asserted that to make the communicative approach successful, Western and EFL countries should carefully consider the comparability of conditions in the two settings. According to Ellis (1996), to make the communicative approach suitable for an Asian

situation "it needs to be both culturally attuned and culturally accepted" (p.213). He suggests that "mediating" can serve as a useful tool in the adoption process of CLT, and that integration between Western and Eastern teaching is needed to make language teaching successful in EFL countries. According to Sun and Cheng (2000), there needs to be a compromise between CLT methodology and conditions and the provisions of the context in which it is to be implemented. Sun and Cheng believe that the adoption of CLT in the EFL context is basically a curriculum development, which is to integrate the context into a communicative language teaching curriculum. They add that, in EFL teaching, the effect of the context on a program is more notable than it is in an ESL context and knowing more about the context helps to better adapt the new methodology into the program. Sun and Cheng (2000) also recommended that, "adaptation of teaching methodology will be more successful if the theory of learning and teaching where CLT methodology is derived from is reviewed and studied with the characteristics of the program context in mind" (p. 25). Li (1998) also suggested that the adoption of CLT in EFL countries like South Korea should be "gradual and grounded in the countries' own EFL situation" (p. 677) and EFL countries "should adapt rather than adopt CLT in their English teaching" (p. 696). The ministry of education, education policy makers, and post secondary institutions in Bangladesh need to consider these suggestions/ issues for the successful implementation of a Bangladeshi version of CLT.

5.1 Implementing CLT in Bangladesh

The positive attitude towards CLT methodology and practices that is found in these three participating universities may not be evident overall in Bangladesh, and the findings from this study cannot be generalized. The EFL teachers in this study may be the representatives of the best in Bangladesh and other EFL teachers overall in Bangladesh may have misconceptions about the CLT method, which is indicated by half of the participants in this study as a possible difficulty in adopting CLT in Bangladesh, and teachers also may lack expertise in its practices. But, for the successful CLT implementation in Bangladesh these three participating universities can play a vital role in CLT training in other post secondary institutions. Other institutions can hire EFL teachers from one of the universities of this study to get expertise, which may not be a large-scale national development program; interested post-secondary institutions can prepare an internal development model in collaboration with these universities. Some EFL teachers in Bangladesh may be reluctant to try CLT, as it is not familiar, it requires changes of the traditional on their part or because they have misconceptions of CLT. So, teachers need assistance and encouragement in trying out new ideas, activities, and materials. Teachers should have the opportunity to retrain and refresh themselves in CLT and more importantly "teachers should receive help in revising, refining, or changing their educational theories" (Li, 1998; p. 697). Bangladeshi teachers need continuing support with CLT and this can be achieved by appointing highly qualified teaching consultants and conducting in-service teacher education programs (Li, 1998). Proper training can teach them how to use CLT in their classrooms and they can be motivated to overcome the difficulties.

EFL teachers from the universities in this study can take the initiative for in-service teacher training and development programs. They can go to local post-secondary institutions to arrange seminars and training programs on CLT for EFL teachers. A TEFL certificate program can be developed for the institutions that are found to be struggling or facing difficulties in adopting CLT and an experienced and qualified teacher from these three participating universities of this study can run this certificate program. Proper modeling can make the teachers realize that it is possible to introduce communicative teaching strategies and methods in their local contexts. As mentioned earlier, the three private universities of this study can be good models where CLT is being practiced and implemented, and thus other local EFL teachers will be able to see that it is possible to use and practice the recommended strategies/methods of CLT in their classes.

Apart from teacher training, attention should be given to the following areas for the overall success of CLT in Bangladesh:

Vocabulary and grammar teaching: As Bangladeshi teachers are aware of the importance of grammar as part of communicative teaching, and as apparently they teach some grammar or use grammar explanations for communicative functions, they may need to be more informed as to how to teach grammar communicatively and they also need to work on finding methods of communicative grammar instruction appropriate to their teaching context. While integrating grammar instruction and communicative language use, teachers can also use alternative methods such as the grammar-consciousness-raising tasks suggested by several researchers (Ellis, 1995; Fotos, 1994; Rutherford, 1987; Smith, 1981). This viewpoint emphasizes the importance of communicative grammar,

which is designed to relate grammatical structures to contexts in which they may occur naturally. In traditional grammar teaching, grammar usually is an end of the lessons; therefore, grammatical knowledge itself is emphasized and little effort was made to relate grammar to the context of real communicative use. On the other hand, in communicative teaching, teachers are recommended to teach students to understand grammar as a means rather than end in itself (Choi, 1999). Communicative language teaching in fact does not reject grammar teaching and in communicative approach, the issue of grammar teaching lies on how to teach grammar, not on whether to include grammar in the syllabus. Regarding vocabulary teaching, rather than memorization of vocabulary from an isolated list or from dictionary, communicative and modern methods of vocabulary teaching need to be applied in Bangladesh where students will be trained to properly guess vocabulary from context and learn incidentally while reading. Additional vocabulary classes and attention to vocabulary learning in every EFL classes might also help in improving vocabulary knowledge of students.

Materials and resources: Like other EFL countries, lack of authentic materials and audio-visual materials are also common in Bangladesh. Materials and resources are likely to be limited in a country like Bangladesh which is not wealthy and may be participant teachers in this study have also focused on the needs of English teaching materials that are appropriate and effective for Bangladeshi English language context. But as mentioned earlier, it was not clear from this study what kind of teaching materials they referred to in particular, whether conversation, reading, writing, or audio-visual. Also, Bangladeshi teachers' idea about authentic materials is also not clear. Authentic materials and learner centered-activities are recommended in communicative language teaching and an idea about authentic materials is found from Omaggio (1993) while prioritizing the use of authentic materials he stated that "ample opportunities to learn language in context and apply their knowledge to coping with real-life situation" (p. 79). Success of CLT may require the development of some teaching materials considering the Bangladeshi context, as just imitating or following Western texts or topics may not be authentic in Bangladeshi context. Extra funding is also needed to obtain books, materials, and audio-visual equipment for communicative activities and when the funding is not available, using CLT may become hard (Li, 1998). More research needs to be done in Bangladesh to find out the actual problems in EFL classrooms, what kind of material development teachers referred to and are needed in the Bangladeshi context and necessary steps that should be taken to the make the classrooms convenient and equipped for communicative language teaching.

Assessment/evaluation: As communication or oral interaction is one of the important components of CLT, teachers may face difficulty in giving and assessing oral tests to a large number of students, which was found by Li (1998) that South Korean teachers "found it difficult to balance content and language when scoring oral exams" (p. 695) and overall they "found it disconcerting that there were no prescribed ready-made assessment tools for communicative competence" (p. 695). Also in the cases of reading and writing assessment, the lack of standard grading categories and criteria will pose a major difficulty in successful communicative assessment. Furthermore, communicative language learning and teaching cannot be successful if the exams do not reflect what was practiced and taught in the classes as part of the communicative syllabus. Gorsuch (2000) concluded that, if the exam is concentrated on only grammar knowledge, a communicative competence development does not meet the needs of students. Based on the findings in a Vietnamese CLT situation, Ellis (1994) also asserted that, the design and content of texts and examinations will need to be consistent with communicative goals for communicative language teaching to become a reality. Therefore, designing communicative assessment standards and criteria for Bangladeshi EFL students needs to be considered seriously and it is a major issue for further implementation of CLT in Bangladesh.

There is no question that in the present world English is the most important language to communicate and to compete in the global market, for the nation to advance in education, science and technology, to build better infrastructure, and to strive to bring the nation out of the 'developing nation' status, Bangladesh needs to be competent in English. To replace the traditional out-of-date, teacher centred grammar-teaching method it is vital to find the underlying problems with the present post-secondary English curriculum and to take the necessary steps to improve and modernize the English language teaching methodology. The text-centered and grammar-centered practices need to be replaced by the student-centered, fluency-focused, and problem solving activities required by CLT. Referring to Frymier (1987) and Fullan (1993), Li (1998) asserted that teachers are central to long-lasting changes in any effort to improve education and also "Teachers and administrators must be aware of the shift in societal needs and make conscious and persistent effort to introduce more CLT into English teaching" (p. 696). In fact, government, educators, administrators, researchers, teachers, and students all have to take part in the development process of communicative language teaching in Bangladesh. As Savignon (1991) also suggested, teamwork among linguists, methodologists and classroom teachers is needed for the success of CLT, because that

will offer the "best hope for the elaboration and diffusion of language teaching methods and materials that work, that encourages and support learners in the development of their communicative competence" (p. 274).

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APPENDIX- QUESTIONNAIRE

Accurate report of teachers' beliefs, attitudes and expectations is very important in order to design and develop curriculum. Therefore, please report only what you actually practice, not what you think is correct or would like to practice.

1. Age _____
2. Sex _____
3. How many years have you been a teacher of English at post secondary level? _____
4. What types of courses have you taught in past 3 years?

☐ Spoken English ☐ Remedial English ☐ Reading ☐ Writing ☐ EFL major
☐ English for Specific Purposes (ESP) ☐ English literature
☐ Other English courses *(please specify)*

_____

5. Which of the following do you think are communicative techniques? *(Please check)*

☐ Fill in the blanks
☐ Looking up words in the dictionary

- ☐ Writing an essay in English
- ☐ Having a debate or role-play
- ☐ Group discussion on a controversial topic
- ☐ Reading dialogues
- ☐ Going on the Internet and joining a chat group
- ☐ Practice speaking in pairs
- ☐ Dictation task
- ☐ Story telling in front of the class
- ☐ Grammar exercises
- ☐ Describing a picture to a partner

6. What is Communicative Language Teaching (CLT) method in your view? *(Please check one)*

CLT is student/learner-centered approach	☐ True	☐ Not true	☐ Don't know
CLT means strategic and socio-linguistic competence	☐ True	☐ Not true	☐ Don't know
CLT means discourse competence only	☐ True	☐ Not true	☐ Don't know
CLT emphasizes fluency over accuracy	☐ True	☐ Not true	☐ Don't know
CLT emphasizes communication in second language (L2)	☐ True	☐ Not true	☐ Don't know
CLT relies heavily on speaking and listening skills	☐ True	☐ Not true	☐ Don't know
CLT requires the teachers to have high proficiency in English	☐ True	☐ Not true	☐ Don't know
CLT means only group work or pair work	☐ True	☐ Not true	☐ Don't know
CLT requires higher knowledge of target language culture	☐ True	☐ Not true	☐ Don't know
CLT means not teaching grammar	☐ True	☐ Not true	☐ Don't know
CLT means teaching speaking only	☐ True	☐ Not true	☐ Don't know
CLT puts too much pressure on teachers	☐ True	☐ Not true	☐ Don't know
CLT requires a lot of time to prepare class activities	☐ True	☐ Not true	☐ Don't know
CLT is basically an ESL methodology, not EFL	☐ True	☐ Not true	☐ Don't know
Other			

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7. The following are some difficulties that other EFL/ESL teachers had in adopting CLT. Did you come across these difficulties or do you think they might be difficulties for you in adopting CLT in Bangladesh?

Try a scale (*circle one*), how much of an issue is:

1- no problem --- **3**- manageable problem --- **5**- major difficulty

a) Teachers' lack of sufficient spoken English competence	1	2	3	4	5
b) Teachers' lack of target culture (English) knowledge	1	2	3	4	5
c) Teachers' little time to prepare communicative materials	1	2	3	4	5
d) Students' low-level English proficiency	1	2	3	4	5
e) Students resist communicative class activities	1	2	3	4	5
f) Not enough authentic teaching materials to use	1	2	3	4	5
g) Traditional grammar-based examinations	1	2	3	4	5
h) Large class size	1	2	3	4	5
i) The differences between EFL and ESL teaching contexts	1	2	3	4	5
j) Lack of training in CLT	1	2	3	4	5
k) Lack of effective and efficient assessment instruments of communicative competence	1	2	3	4	5
l) Lack of support from administration	1	2	3	4	5
m) Teachers' misinterpretation of CLT	1	2	3	4	5
n) Unsuitability of Western educational assumption in Asia	1	2	3	4	5
o) Other					

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8. Please indicate which of the following classroom procedures you currently use as part of your English language teaching: (*Please circle a scale*)

1- use it regularly ---- **3**-use it sometimes ---- **5** - never tried

a) Grammar explanation	1	2	3	4	5
b) Group discussion	1	2	3	4	5
c) Pair work	1	2	3	4	5
d) Translation	1	2	3	4	5
e) Dictionary vocabulary exercises	1	2	3	4	5
f) Simulations / role play	1	2	3	4	5
g) Reading and reporting from websites	1	2	3	4	5
h) Reading and reporting from newspaper	1	2	3	4	5
i) Reading aloud	1	2	3	4	5
j) Pronunciation drills	1	2	3	4	5
k) Games	1	2	3	4	5
l) Listening to audio tape and answering questions	1	2	3	4	5
m) Call on students to orally respond to any issue/topic	1	2	3	4	5
n) Reading and reciting dialogue	1	2	3	4	5
o) Other					

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9. Please indicate your opinion about the following areas of ELT in Bangladesh? *(Please circle a scale)*

	currently 1- not successful				currently 5- most successful
Reading speed	1	2	3	4	5
Cultural understanding of English countries	1	2	3	4	5
Read English text book/news paper	1	2	3	4	5
Oral fluency	1	2	3	4	5
Exam success	1	2	3	4	5
Preparation of ELT teachers	1	2	3	4	5
Reading comprehension	1	2	3	4	5
Speak with native English speakers	1	2	3	4	5
Vocabulary knowledge	1	2	3	4	5
TOEFL preparation	1	2	3	4	5
Effective teaching material	1	2	3	4	5
Convenient and equipped classroom	1	2	3	4	5
Other *(please specify)*					

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10. What do you think would be the priority for teacher training in Bangladesh for the development of English Language Teaching (ELT)? Please try a scale (*Circle one*):

1- not important --- **3**- important -------- **5**- extremely important

Need for more training of teachers in:					
-fluency in English	1	2	3	4	5
-practice reading and writing in English	1	2	3	4	5
-CLT techniques	1	2	3	4	5
-cultural knowledge of English countries	1	2	3	4	5
-grammatical explanation of English	1	2	3	4	5
-use of video in the classroom	1	2	3	4	5
-knowledge of language acquisition	1	2	3	4	5
-assessing students	1	2	3	4	5
-preparing English language material	1	2	3	4	5
-using the internet to teach English	1	2	3	4	5
Other areas of training needed:					

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11) Do you have any suggestions about the implementation and practice of Communicative Language Teaching (CLT) method in Bangladesh? Please comment.

LANGUAGE MAINTENANCE PRACTICE VS. INTERNATIONALIZATION POLICIES IN JAPAN

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1. INTRODUCTION

'Internationalization' is currently one of the major language policy aims in Japan, with the stated objective of improving English abilities on the part of the Japanese so as to enable the country to take a more active role internationally. However, the policy is based on the government's assumption that English is the only important international language, and overlooks the capital resources resident in large minority groups who already speak other important international languages. Among these languages we might include the Spanish and Portuguese brought by Nikkei immigrants to Japan, as well as the Chinese and Korean spoken by groups with a longer history of residence as well as more recent arrivals. The first three fit into the world-wide 'top ten' group of languages numerically, and all four are important languages from an economic point of view. Thus, the policy of internationalization seems to overlook the inherent value of its own minority languages as a mechanism for allowing Japan to internationalize, as well as simply not taking advantage of a linguistic resource which already exists. This paper examines recent language policies in Japan, with respect to how policies and practices aimed at internationalization for the Japanese and language maintenance for minorities in Japan seem to run at cross-purposes instead of in parallel, essentially creating a social tension instead of the greater international linkage that is desired.

Governments often promulgate language policies and undertake language planning in an effort to resolve societal issues which arise from linguistic conflict of interests. Typically, such forays into language policy issues address two functions, status planning and corpus planning. Status planning is a language-external activity, as it attempts to establish status for language or variety of a language in a society or to change the status of an already existing language or variety of a language in a society. Corpus planning, on the other hand, is a language-internal activity, in that it focuses on changing the internal conditions of a language or variety by standardizing some aspect of the linguistic resources available within the language. For example, the development of an orthography, the adoption of vocabulary items from new or foreign sources, and the compilation of dictionaries and grammars, are all examples of corpus planning activities through which the language's resources are expanded and extended in a society (see, for example, Wardhaugh, 2002).

2. CHARACTERISTICS OF CURRENT LANGUAGE POLICY IN JAPAN

The contemporary thrust of Japan's language policies is based on four ideological principles; these are standardization, linguistic assimilation, internationalization of the Japanese language and internationalization of the Japanese people.

2.1. Standardization

Standardization of the Japanese language has been largely implemented through the public education system. Standard Japanese is used as the medium of instruction for teaching the curriculum in all Japanese public schools, and it is used as the medium for writing all textbooks (Maher, 1997; Noguchi, 2001). Additionally, the *NHK* (that is, the *Nihon Housou Kyoukai* or *Japan Broadcasting Corporation*) occupies an equally important role in implementing standardized language practices throughout the country. The NHK determines acceptable usage of language, and disseminates this usage in its broadcast outreach. The language used in NHK broadcasting is considered by its audiences to be both correct and as close to the standard as one gets (Carroll, 1995). Listeners are likely to consider, if not emulate, the language forms found in the NHK's usage as the standard to which one would aspire; an example of this may be seen in the number of word accents which have shifted in various areas of Japan towards the standard that the NHK uses (Carroll, 1995). The NHK has also published a pronunciation and accent dictionary regularly since 1943, texts which hold a reputation as being the most authoritative guidebooks on

standard language use and accents (Carroll, 1995). Considering these outreach functions, the NHK can easily be reckoned as an organization central to implementing corpus planning, given that the result is a change in the internal conditions of Japanese in the larger society through disseminating a standard form of Japanese.

2.2. Linguistic Assimilation

There are three types of linguistic minority groups in contemporary Japan: an indigenous group composed of the Ainu and Ryukyuans, an old immigrant group of Koreans and Chinese, and a newcomer group which arrived in Japan after the 1970s as either refugees, family members of the Japanese returnees from China, or migrant workers. The following discussion offers examples of these linguistic minorities, and illustrates how their languages are treated by the current Japanese government.

2.2.1. Ainu

Japan has only about twenty native Ainu speakers today, although many people possess receptive knowledge of Ainu; that is, they can understand it but cannot speak it (Anderson & Iwasaki-Goodman, 2001). In order to transmit the Ainu language to the next generation, the Ainu people established their own Ainu language classes in Nibutani in the prefecture of Hokkaido (Anderson & Iwasaki-Goodman, 2001), though Ainu has not yet been taught in the public education system except in universities (Maher, 1997). In Nibutani, it is no longer possible to transmit the Ainu language from parents to their children, because parents only possess receptive knowledge of Ainu; intergenerational language transmission within a family is thus no longer possible in Ainu communities. According to most scholars working in language maintenance and language revitalization (see, for example, Fishman, 1991), intergenerational language transmission is the key to maintaining endangered languages. If this type of transmission does not occur, these languages will simply die out eventually. In order to save such endangered languages from extinction, such heritage languages need governmental intervention in the form of language support. This is undoubtedly the rationale which prompted the *Agency for Cultural Affairs* (*ACA, Bunka-chou*), an agency of MEXT, to put forward the *Act for the Promotion of Ainu Culture and of the Dissemination and Education of Knowledge about Ainu Traditions* (ACA, 2003c) in 1997. *MEXT* is the newly re-formulated *Mombukagakusho*, the *Ministry of Education, Culture, Sports, Science and Technology*. This act aims at promoting the Ainu culture and language, and the ways that the Ainu language should be maintained and disseminated are laid out on the ACA's website (see ACA, 2003c). However, the Ainu people have not been considered as a distinct group by the government, as noted in the Japanese census data; and no figures are available for the current Ainu population (Shibatani, 1990). This fact indicates that the government simply promotes Ainu language revitalization without protection for the Ainu people. The government needs to give support to these people if it truly wishes to protect Ainu from extinction, because Ainu is the unique language spoken by the Ainu people.

2.2.2. Ryukyuan

Similarly, Ryukyuan has not been taught in schools (Maher, 1997; Noguchi, 2001). All Ryukyuans are bilinguals in Ryukyuan and Standard Japanese, but their competence in Ryukyuan differs according to their age (Matsumori, 1995). The older generations are more likely to be fluent bilinguals in both languages, whereas the younger generations are no longer fluent in Ryukyuan, and possess only receptive knowledge of Ryukyuan (Matsumori, 1995). Ryukyuans are obviously in the process of a language shift, from being bilingual to becoming monolingual in Standard Japanese (Matsumori, 1995). This indicates that intergenerational language transmission of Ryukyuan is not being successfully carried out in Okinawa, and Ryukyuan will also become extinct, unless some pro-active language policy is implemented.

2.2.3. Korean and Chinese residents

Japan has a large number of Koreans who compose the largest ethnic minority group in Japan. According to the *Ministry of Justice* (*Houmu-shou*) figures in 2002, 625,422 Koreans resided in Japan as permanent residents in 2001, accounting for 33.8% of the total population of permanent residents who are non-Japanese citizens. Many of them were brought to Japan forcibly before 1945 to work as labourers in mines and factories (Noguchi, 2001). In 1948, the Ministry of Education promulgated an order that all Korean children in Japan must enrol in the Japanese public education system (Maher, 1997), where only Japanese was used as the medium of instruction and where Korean is never taught as a school subject. In order to maintain their language, Koreans established their own

bilingual schools in which students are taught Korean language and history (Maher, 1997). These schools are run by one of two groups, the *General Association of Korean Residents in Japan* (*Souren*) or the *Korean Residents Union* (*Mindan*). Souren is a group organized to serve Koreans in Japan who are originally from North Korea, whereas Mindan is a group to serve those from South Korea.

Lastly, there are also some bilingual (Mandarin-Japanese) schools for Chinese permanent residents, which are run by the Chinese communities (Maher, 1997). Graduates of both the Korean and Chinese schools are regarded as unqualified to take the entrance exams for Japanese public universities, because their schools are not credited by the government (Noguchi, 2001). The attitude of the Japanese government toward the maintenance of minority languages basically plays out as non-interference coupled with non-recognition. Those groups who seek to maintain their own language can establish their own schools, but they do not receive accreditation of those institutions from the government (Maher, 1997). In addition, they only receive small financial support from some local governments (see Tani, 1997), and thus must run their schools mostly at their own expense. The expectation of linguistic assimilation is also recognizable in public schools, because here only Japanese is considered as the medium of instruction. Furthermore, MEXT has just developed a *JSL/Japanese as a Second Language* elementary school curriculum for newcomers' children (MEXT, 2003a), aimed at facilitating those children in their acquisition of Japanese, since so many have difficulty studying at school due to their low level of Japanese proficiency. But at the same time, the government does not mention anything about the establishment of language education programs for minority language maintenance, reflecting the fact that MEXT simply assumes the value of such a JSL education because Japanese is the only language of value in Japan. The government is only concerned with developing Japanese skills in newcomers' children by encouraging them to acquire Japanese proficiency, in line with the unofficial but far-reaching view that people who live in Japan must speak Japanese, although Japanese is nowhere declared as an official language in specific legislation, such as the Constitution, the Educational Law, the Citizenship Law, the Broadcast Law, the Alien Registration Law, and the School Law. The School Law is perhaps the most specific, noting that the elementary school is a place where students are asked to develop correct *Kokugo* ability, necessary for their daily life, without defining Kokugo as the official language.

2.3. Internationalization of the Japanese Language

The Japanese government thinks that it is necessary to promote the importance of the Japanese language to the world because Japan is one of the world's economically powerful states (National Language Council/NLC, 2000); thus, it has adopted a policy of internationalization for the Japanese language. In order to enhance the internationalization of the Japanese language, the government has decided to undertake three major strategies (NLC, 2000): first, to send information about Japan out into the world in Japanese; second, to promote and support Japanese language education in the world outside Japan; and third, to advance the Japanese language ability of the Japanese people.

The first strategy, to send information about Japan out to the world, has been implemented with the NHK's cooperation. The NHK's willingness to cooperate with this policy is seen in its business plan for 2003, where NHK clearly states that it broadcasts news and other information about Japan in English AND Japanese towards the world in order to enhance mutual understanding between Japan and other countries (NHK, 2003).

The second strategy is to promote and support Japanese language education in the world beyond Japan itself. In order to promote the educational enterprise, both MEXT and the Agency for Cultural Affairs (ACA) cooperatively engage in training Japanese language teachers, providing financial assistance for the *Japanese Language Proficiency Test* and *Japanese Language Teaching Competency Test*, improving Japanese language educational facilities, offering scholarships to pre-college students in Japanese language institutes, implementing programs that send Japanese public school teachers overseas as Japanese language teachers, and building databases for Japanese language education (ACA, 2003b).

The third goal, to advance the Japanese language ability of the Japanese people, is conducted by the ACA through a campaign aimed at using correct Japanese. This promotion is essentially an exercise in corpus planning, attempting to change the internal conditions for Japanese by demonstrating the norms for correct Japanese. In order to implement this successfully, the Agency has embarked upon projects such as organizing workshops for parents and children aimed at encouraging them to use correct Japanese, conducting surveys about how the Japanese people see their language, publishing books about Japanese and distributing them in educational institutions, releasing

videos which demonstrate correct Japanese, organizing meetings where various problems related to Japanese are discussed, and arranging meetings where reports from the NLC are examined (ACA, 2003a).

2.4. Internationalization of the Japanese People

The rapid progress of globalization has led the Japanese government to hold the view that foreign language education programs in Japan must be improved (MEXT, 2003c). In particular, the government considers English to be the single most important language for the Japanese, since English has become the common international language, not only helping people from different linguistic backgrounds to communicate with each other but essentially connecting Japan with the rest of the world (MEXT, 2003d). The expectation is that by having a high level of English proficiency, the Japanese can gain the world's understanding and trust, make their presence in the world known more significantly, and further their national development (MEXT, 2003d). However, due to insufficient English ability, many Japanese are said to be restricted in exchanging their ideas with foreigners, so that their ideas may not be evaluated appropriately (MEXT, 2003d). In order to improve this situation, the government has resolved that the Japanese must acquire good English communication skills (MEXT 2003d); in line with this resolution, last year MEXT (2003b) announced the implementation of an *Action Plan to Cultivate the Japanese with English Abilities*, aimed at improving the level of English language education in the next five years.

In 2002, the Japanese government had already implemented the new Courses of Study as the standard curriculum, aiming at enhancing children's ability to learn fundamental subjects (MEXT, 2003c) and especially emphasizing the cultivation of students' English ability. This curriculum also provided schools with flexibility in teaching content, moral education, and special activities, so that schools are even allowed to set specific content in each subject based on the particular needs of the children in their school district (MEXT, 2003c).

In the Courses of Study, foreign languages, particularly English, are encouraged to be taught in lower secondary, upper secondary, AND elementary schools. For example, in elementary schools, a *Period for Integrated Study* under the Courses of Study has been implemented, and foreign language conversation can be taught as a subject for international understanding (MEXT, 2003d). As a matter of fact, about 50% of elementary schools have now adopted English conversation activities as a subject for international understanding (MEXT, 2003d). In order to support English study at the elementary school level, MEXT (2003b) has prepared a teachers' manual and has implemented a teacher training system. At lower and upper secondary schools, foreign languages have become compulsory subjects, emphasizing the cultivation of communication skills (MEXT, 2003b). MEXT (2003b) also provides secondary school English teachers with both domestic and overseas training programs, in order to improve their teaching skills and English ability. Additionally, in 2002 alone, 5,676 people from overseas were hired through the *Japan Exchange and Teaching/JET Programme* to engage in foreign language teaching at schools as Assistant Language Teachers (ALTs) (MEXT, 2003b).

The policy is detailed here to demonstrate that the international frame of reference is only concerned with the acquisition of English competence. It is obvious that English has status in Japan, and in fact, English has been given status for a long time. The effect of such status planning was clearly recognized early on in Japanese society, even before the implementation of the policy of internationalization. Yamamoto (2001) shows this in her survey of how Japanese university students perceive bilinguals in relation to their specific languages. The results illustrate that over 73% of the students perceive a bilingual as one who is a fluent speaker of both Japanese and English, but not of Japanese and other minority languages such as Chinese and Korean (Yamamoto, 2001). This perception has been generated by the implementation of a language education program, in which only English has been taught as a school subject for a foreign language in public schools. The new language policy of internationalization is really an exercise in status planning and simply continues the status already given to English in Japanese society.

3. AN ANALYSIS OF LINGUISTIC ASSIMILATION AND INTERNATIONALIZATION OF THE JAPANESE PEOPLE

Two of the four current language policy stances, namely, linguistic assimilation and internationalization of the Japanese people, can be said to not create linkages, but rather cause tensions within the society. A useful way of approaching these policies is by analyzing them through Ruiz's (1984) three concepts of *language-as-problem*, *language-as-right*, and *language-as-resource*, since these approaches help to clarify the underlying ideology of a language policy, as well as what is necessary for a government to improve its language policy. The orientation of

language-as-problem focuses on identifying and solving language problems, the orientation of language-as-right considers language as a basic human right, and the orientation of language-as-resource encourages raising the status of subordinate languages and attempting to solve tensions between majority and minority communities by making the majority community recognize minority languages as a resource for the entire society.

3.1. An Analysis of Linguistic Assimilation

In line with a policy of linguistic assimilation, MEXT's JSL curriculum to help Japanese acquisition by Japanese-Brazilian children suggests that the government acknowledges low levels of Japanese competence by these children as a language problem in Japan, basically a language-as-problem perspective. At the same time, MEXT does not recognize the other language problem that these children have, namely, the maintenance of their mother tongue.

From both educational and psychological points of view, the loss of L1 is not beneficial for the children and their family. The Japanese government might consider adopting the language-as-resource perspective, recognizing the other language problem that Japanese-Brazilian children face, their mother tongue maintenance. This frame of reference instead views linguistic minorities as linguistic resources within Japanese society, so that Japanese-Brazilians who possess Portuguese proficiency can be seen as an asset for the entire society. After all, Portuguese is the fifth most widely spoken language in the world; with 168 million speakers (Baker & Jones, 1998) and designated as the official language for Portugal, Brazil, and some African countries like Angola, Cape Verde, Guinea Bissau, Mozambique, and Sao Tome & Principe (Baker & Jones, 1998). Portuguese is certainly an international language. Brazil is rich in natural resources (World-Atlas, 2003), and is already a primary trading partner for Japan. Fortunately, Japan has a large contingent of fluent Portuguese speakers among its Japanese-Brazilian linguistic minority. By acknowledging their language as a resource instead of a problem, Portuguese and JBs both have their status raised in Japanese society, and students are now encouraged to learn Portuguese rather than abandon it.

In sum, recognition of and support for such minority languages as resources enables the government to work toward resolving language problems rather than creating them, thus creating linkages rather than exacerbating tensions.

3.2. An Analysis of Internationalization for the Japanese People

Internationalization of the Japanese people is also designed through the same language-as-problem perspective, because it aims at solving communication problems between the Japanese and people who do not speak Japanese in international business settings. The government regards low levels of English proficiency by the Japanese people as a language problem, so that this policy is aimed at making them able to achieve successful communication in global settings by improving their English ability. The government regards English as the only important international language and thinks it sufficient that the Japanese are proficient only in English. However, having English proficiency does not guarantee successful communication with other people from different cultural/linguistic backgrounds, and ideally, internationalization should mean that the Japanese could communicate successfully with people who are from different cultural/linguistic backgrounds in many languages. But neither does the policy of internationalization recognize the existence of other important languages spoken natively in Japan, nor does the government encourage teaching minority languages in public schools, even though 73% of linguistic minority students in public schools speak top ten international languages, such as Portuguese, Spanish, or Chinese, as their mother tongue (MEXT, 2004). Nor are there Assistant Language Teachers (ALTs) for Portuguese and Spanish, though there are 11 for Chinese, in contrast to 5,600 ALTs for English (MEXT, 2002). Achieving true internationalization for the Japanese people is best approached through the language-as-resource perspective, which also encourages raising minority language status, and by implication, an appreciation of cultural, linguistic, and societal diversity.

4. CONCLUSION

The Japanese government appears to have subscribed to the language-as-problem approach to resolve its two pressing language issues, the role of language in the integration of newcomers' children into Japanese society and the role of language proficiency in Japan's internationalizing window on the world at large. The government

would be well served by adopting the language-as-resource perspective in lieu of the language-as-problem perspective in its approach to considering new language policies and implementing relevant planning in the current decade, capitalizing on what it has and creating linkages between mainstream Japanese society and its minority constituencies. Ironically, the same language-as-resource perspective underwrites the establishment of better linkages between Japanese society and other national groups in a more refined sense of 'internationalization'.

In the case of Japan, one does not even have to apply the contentious language-as-right perspective (cf. MacMillan, 1998; May, 2001; Skutnabb-Kangas, 2001; UNESCO, 2003), which focuses on mother tongue maintenance of immigrant children as a moral obligation under the assertion that language rights are basic human rights. Japan's salient minority groups already speak important international languages, as for example, the Spanish and Portuguese brought by Nikkei immigrants to Japan, as well as the Chinese and Korean spoken by groups with a longer history of residence, as well as more recent arrivals. They either fit into the world-wide 'top ten' group of languages numerically, or are important languages from an economic point of view. Tweaking the linguistic perspective into a better alignment with national interests is a win-win situation, one which alleviates certain domestic social tensions at the same that it fosters the international linkages that are desired.

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WORD ORDER OF WH- QUESTIONS IN OMANI ARABIC

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This paper offers an account of the word order of wh-questions in Omani Arabic as they occur in simple and long-distance questions. In simple questions, the word order of the Inflectional Phrase (IP) varies between Object Verb Subject (OVS) and Verb Object Subject (VOS) as examples (1) and (2) below illustrate. In OVS order, the object referring to the wh-word is expectedly fronted and the order of the subject and verb accords with one of the word order variations exhibited elsewhere in the language. However, VOS word order is peculiar to simple wh-questions since it is not attested in affirmative sentences.

1. muh kal Aħmed?
Q-what eat-Past & M. Ahmed.
What did Ahmed eat?

2. kal muh Aħmed?
eat-Past & M. Q-what Ahmed.
What did Ahmed eat?

Conversely, wh-words impose a unitary SVO word order when they occur in long-distance questions. Example (3) shows that the trace *t* which syntactically functions as the object to the verb [kal] 'ate' is preceded by an SV word order. Such a restriction to only SVO is examined in light of Radford's (1997) adverb constituency test and explored in relation to the ECP (Chomsky 1981). In explaining this order, I will also adopt some version of the Lexical Clause Hypothesis (Fukui & Speas 1986). This hypothesis stipulates that subjects can originate inside a lexical projection, usually within VP. They don't have to move to a position higher in the tree.

3. hiʃ tḍini [Aħmed kal *t*]?
Q-what think- F & past [Ahmed eat- F & Past *t*]?
What do you think Ahmed ate?

I also propose that the verbs in simple wh-questions raise to the C position following Aoun *et al* (1994). Moreover, the discussion of the surfacing word orders is tested against the VSO word order proposed to be the base word order in Classical Arabic (Farghal 1986:6). The paper is structured as follows: § 1 offers an overview of the two word orders attested in affirmative sentences in Omani Arabic. § 2 introduces examples of the word order in simple questions. § 3 describes word orders in simple questions based on the examples in section two. In § 4, I explore the word order of long distance wh-questions. § 5 briefly shows the word orders in Classical Arabic and reviews the works proposing VSO as the underlying word order. Finally, § 5 summarizes the findings of this paper.

1. Overview of Word Order in Sentences

Although Omani Arabic, like Classical Arabic, accepts two word order variations; namely, SVO and VSO in affirmative sentences, the most frequent word order in daily conversations is SVO. Structures (5) and (6) are heard more often than sentences[1] (4) and (7) which can be ambiguously understood as yes/no questions.

4. kal Aħmed l-moz.

[1] This can be attributed to the preference to keep the object as close as possible to the verb it complements.

eat- Past Ahmed the-banana.
Ahmed ate the banana.

5. Aħmed kal l- moz.
Ahmed eat- Past the-banana.
Ahmed ate the banana.

6. Muna tu- gmaʔ l- bet.
Muna mop(e)- Pres. the- house.
Muna moped the house.

7. tu- gmaʔ Muna l- bet.
mop(e)- Pres. Muna the- house.
Muna moped the house.

It is worth mentioning that Omani Arabic never allows objects to surface sentence-initially. OSV and OVS are notoriously wrong.

8. *kum-tuh Ali fasax
cap- his Ali take off-Past.
Ali took off his cap.

9. *kum-tuh fasax Ali
cap- his take off-Past. Ali
Ahmed took off his cap.

2. Simple wh-Questions

Taking after one of the word orders of ordinary sentences, simple wh-questions surface with OVS where an O which refers to the wh-word is fronted. The VS order follows from orders licensed by OA. Examples with both "hen" meaning **'where'** and "muh" meaning **'what'** are provided to confirm that the order is the same and is not affected by the wh-word used. My arguments are based on the fact that "hen" is a complement and "muh" is an object.

10.√[2] hen raaħ Ali?
Q-where go-Past &M Ali?
Where did Ali go?

11. * hen Ali raaħ?
Q- where Ali go-Past &M?
Where did Ali go?

12.√ muh ʔʃtar-a Ali?
Q-what buy-Past & M. Ali
What did Ali buy?

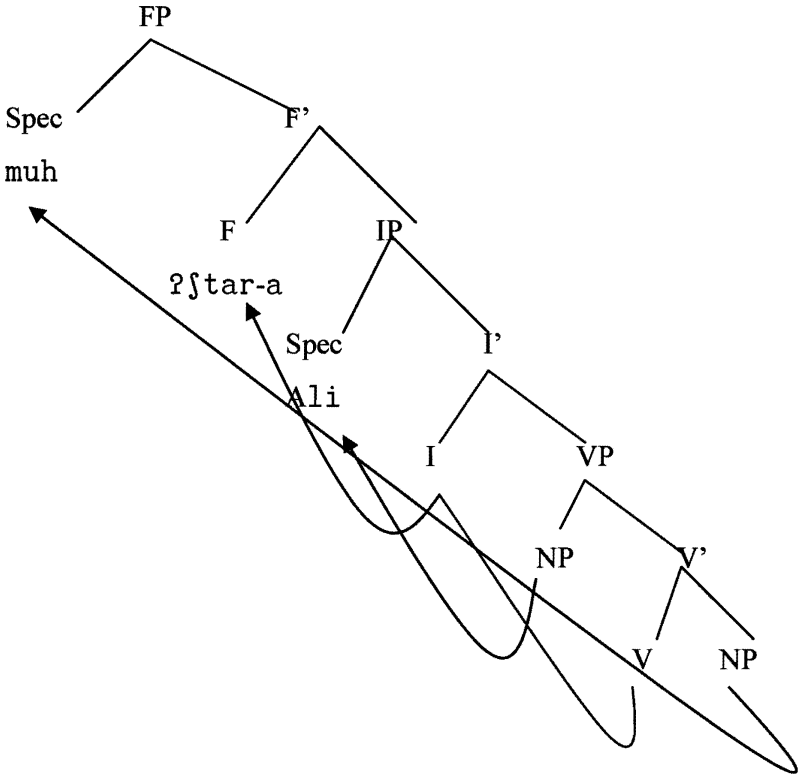
13. * muh Ali ʔʃtar-a?
Q-what Ali buy-Past &M.
What did Ali buy?

3. Word order in simple wh-questions

[2] Throughout this paper, √ is used to indicate grammatical structures and * is placed in front of ungrammatical sentences.

The following lines describe the word orders in simple questions as observed in the examples presented above. The verbs 'raaħ' and 'ʔʃtar-a' always occur following the question words 'hen' and 'muh'. This shows that wh-questions only allow the order *wh*VS. In other words, inversion of subject-verb is obligatory with regard to simple wh-formations. Verbs must move higher in the tree to fill the positions in the higher nodes.

As the tree structure below shows, verbs undergo three syntactic movements till they reside in their position as the specifier of FP. The subject, however, undergoes only one movement and can't move any farther. This is why the verb has more privilege of movement when compared to the subject. Also, the distance between the wh-word (complement in 10 and object in 12) and its verbs shouldn't be too far apart. The fact that they should be lexically linked renders the movements of wh-elements ungrammatical since there is an intervening subject. It has been observed that as complementizers occur freely with VS order in sentences, verbs can't raise to C (Aoun *et al* 1994). Interestingly enough, Aoun *et al* postulate some projections above the traditional IP when they research agreement in the VS order. They name it the FocusPhrase (F). So, whVS will be configured as follows, admitting FP:



When the head of any structure moves, it has to move to a head position. So, this entails that there is a further projection above the FocusPhrase.

There is yet another attested word order in simple wh-questions. It seems that the inverted verb can move further and precede the wh-element. Consider:

14. √raaħ hen Ali?
15.* raaħ Ali hen?
16.* Ali hen raaħ?

The following question can be raised in regard to the above structures:

1. Why does OA accept 14. but not 15. and 16.?

In an attempt to answer this question, I will apply Radford's adverb constituency test. Consider where the adverb '?ams' meaning 'yesterday' is located in both of the exhibited word order variations whVS and VwhS:

17. raaħ [hen Ali ?ams]?
18. raaħ [?ams hen Ali]?
19. hen raaħ [?ams Ali]?
20. hen raaħ [Ali ?ams]?

As illustrated by Radford (1997), adverbs occur at the border of VP [or IP]. Radford considers adverbs as adjuncts to some phrasal category. In both of the word order variations, the adverb '?ams' occurs at the border of IP.

Ordinarily, adverbs can freely occur with verb phrases like in the English verb phrase 'went yesterday'. Interestingly enough, the adverb '?ams' also occurs sentence-finally in OA. So, what makes the adverb in OA occur freely in two positions? I propose that in all the above structures, the adverb '?ams' modifies the verb and occurs at the borders of VP [or IP] in both the D-structure and S-structure. The free word order variation '?ams' enjoys in the S-structure does not change its assigned function in the D-structure. The variation it exhibits is just stylistic and not particularly functional. This also supports another argument; namely, when '?ams' occurs word-finally, it has a wider scope as it relates to the whole sentence.

4. Long-distance wh-questions

In this section, I'll examine the syntactic behavior of wh-elements when they occur in embedded structures. Syntactic behavior here refers to how word order is reflected. More interesting observations can be noted with regard to what order is licensed and which seems not to filter in surface sentences. Let's study the word order of the following structures:

21. hiʃ ta?tʌqd-i Marjam ?ʃtarat *t*? Complete fronting
Q-what think- F & Past Maryam buy- F & Past *t*?
What do you think Maryam bought?

22. ta?tʌqd-i hiʃ Marjam ?ʃtarat *t*? Partial movement
think- F & past Q-what Maryam buy- F & Past *t*?
What do you think Maryam bought?

23. ta?tʌqd-i Marjam ?ʃtarat hiʃ ? Wh-in-situ
think- F & Past Maryam buy- F &Past Q- what?
What do you think Maryam bought?

'hiʃ' in the embedded structures, be it moved or in-situ, restricts surface word order to SVO. Constructions with VSO word order are not licensed and if they do surface, they sound awkward. My initial assumption follows from the Lexical Clause Hypothesis (Fukui and Speas 1986). This hypothesis posits that subjects, unlike verbs, don't have to move to a position higher in the tree. They can remain in their base-generated position. Therefore, I assume that OA has two types of subjects: those that are topicalized and must occur pre-verbally and those remaining in their base generated position. Languages with in-situ subjects allow subjects to follow the tensed verb, pro-drop is licensed and extraction from subject position is normally allowed (Bernadette 1991:237). This supports the fact that in OA SVO and VSO are attested in affirmative sentences.

Let's reverse the order of 23. and see how the sentence reads:
24.*ta?tʌqd-i [?ʃtarat Marjam hiʃ]?

Wh-in-situ always follows the verb in the embedded sentence [ʔʃtar-at] and never occurs after the subject. This shows that OA places restrictions to the free movement of the subject and verb situated in the embedded sentences. The subject-verb inversion is not obligatory and is actually said to have no effect. However, this word order accords with that observed in simple wh-in-situ questions where O occurs immediately after V and not after S.

I will test such an interesting word order to the ECP which stipulates that moved objects have to be lexically linked to their transitive verbs (Shlonsky 1988:194). This proper binding governs the new positioning of verbs and objects after movement has taken place. It ensures that elements don't just move arbitrarily to any place. Rather, their landing site is determined as I here posit, prior to their movement. In sentence 23 where the question word remains in its generated position, the wh-element is lexically linked with the verb it complements. But, in both 21 and 23, the trace and the extracted wh-word are separated by more than two constituents. The wh-word has moved across so many constituents yet still the structures are grammatical. This can be accounted for by Wahba's neat argument that LF movement applies freely here and unites the readings of these structures into one meaning only.

Let us now check the position of the adverb 'ʔams' in long-distance wh-questions:

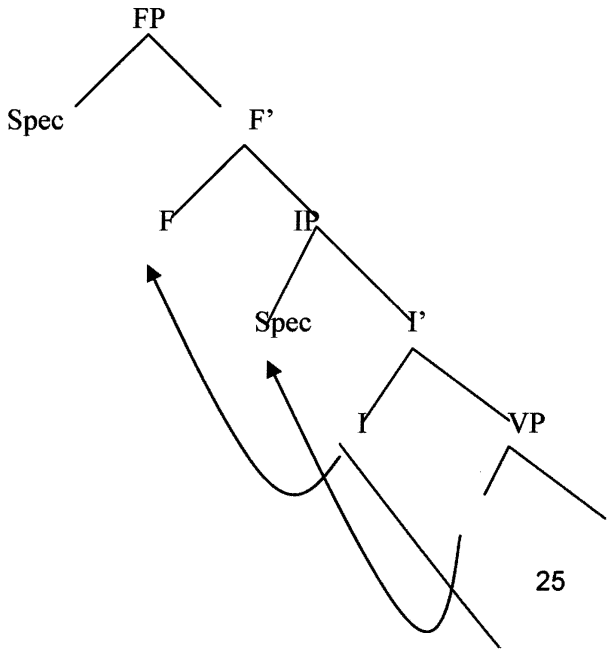
25. hiʃ taʔtʌqd-i [Marjam ʔʃtarat ʔams] *t*?
26. taʔtʌqd-i hiʃ Marjam [ʔʃtarat ʔams] *t*?

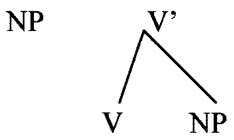
ʔams occurs at the borders of VP [or IP]. This makes us comfortable with our earlier postulation that adverbs always take on one function no matter what position they surface in. In sentence 19, the final ʔams relates to the whole structure.

5. The VSO order and Classical Arabic

Bakir (1980) proposes VSO as the base word order in Classical Arabic. According to Bakir, the free word order variation exhibited in surface sentences happens as a result of 'preposing' constituents to other positions in the syntactic structure.

Farghal (1986: 6) also argues in favor of VSO as the base word order. He states that "stylistic variations don't alter grammatical relations which have been assigned in the VSO order, i.e., government remains intact". By testing this proposition against the word order surfacing in the data introduced so far, I conclude that this is the right underlying word order. The VSO order violates the ECP, which is argued to have a great influence on surface structures and wh-constructions in OA.





6. Conclusion

This paper is an attempt to understand the word order variations exhibited in simple and long-distance wh-questions in OA. It shows that subject-verb inversion is obligatory in simple wh-questions. Verbs undergo successive syntactic movements till they reside in the Spec of FocusPhrase.

On the other hand, SVO surfaces in the embedded sentences of long-distance wh-questions. I adopt the Lexical Clause Hypothesis which assumes that some languages have in-situ subjects and thus subjects don't have to move higher in the tree and can remain in their base-generated position. This paper also proves that the subjacency principle is active in the language and crossing of wh-elements over more than one constituent isn't acceptable. Salient work done on wh-questions and word order (Farghal 1986 and Aoun et. 1994) have contributed a lot to a better understanding of how wh-questions act in the grammar of OA. A crucial point to consider for future research is how word order variations react with agreement in wh-words. Will they impose different orders to wh-elements as agreement turns out to be the focus?

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CONDITIONALS IN MODERN STANDARD ARABIC
(with some comments on the Masirah dialect of Omani Arabic)

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1 INTRODUCTUION

In Modern Standard Arabic (MSA, henceforth) the complementizer law (if) has a very specific semantic function: conditionality. Awad (1995, p.16) maintains, "the choice of a complementizer is largely predictable from and triggered by the matrix verb". This is indirectly compatible with Chomsky's (1992) specification of verbs' encoding the features of agreement and tense. However, it seems that law is actually a sentential complementizer whose selection depends on the sentence as a whole as law triggers the presence of another complementizer- la- which, as a matter of fact, also requires the presence of law only when la is preposed with its focus phrase to the initial-sentence position. Both complementizers require that the verb following them be in the past tense adding to the dependency relation between the two complementizers. The features [+Cond.] and [+past] on the conditional verbs must be identified from properties of surface structure strings according to Ouhalla's (1993) proposal of the Identification Requirement.

The paper is divided as follows. Section two highlights the structure of conditional clauses with reference to their component parts. Section three sheds some light on the function of the conditional complementizer la as a contrastive focus marker. Finally, section four outlines the interaction between tense and conditional clauses through the identification of features, coindexation and the role of agreement.

2 THE CONDITIONAL SYSTEM IN ARABIC

2.1 The components of conditional structures

Each conditional clause in MSA consists of two clauses; a subordinate clause dubbed /dʒumlat fɪʔl a'ʃərṭ/ "the clause of the conditional verb", which contains a dependent verb, and a main clause, *dʒumlat dʒawab a'ʃərṭ* "the clause of the conditional answer", which includes the main verb denoting the consequences of the event indicated by the first or the dependent verb in the clause of the conditional verb. The example in (1a) below shows the component clauses of conditional structures in Arabic.

(1) لو أنصف الناس لإستراح القاضي

a. law	anṣaf	ənas	la-straħ	alqaḍi
if (Comp)	be fair-past.	people	Comp-be relieved-past	the judge

If people were fair, the judge would have been relieved.

In the example above, the string "law anṣaf ənas" (If people were fair) represents the clause of the conditional verb whose dependent verb anṣaf (are fair) denotes the requirement of *fairness* (in this particular example) needed for the happening/occurrence of the main verb straħ (to be relieved) in the clause of the conditional answer.

All conditional clauses start with some conditional marker like law (as in 1a), ʔɪnn, ʔɪðə, and/or a wh-element like who, which, where and when in the clause of the conditional phrase which is followed by the clause of the conditional answer, the latter of which may or may not start off- depending on the context- with an additional morpheme like la in MSA and ba in the Masirah dialect of Omani Arabic. These two morphemes are represented

in sentences (1a) above and 5) below. la and similarly ba belong to what Ouhalla (1993) names al-mu?akkidaat "the corroborative (or reinforcing) morphemes" which are used to reinforce the effect of an event.

[1](5) لو تاكل زين بتكبر (Masirah dialect MA; my own)

law	ta-	akəl-ø	zein	ba-tə-	kbər-ø
if(Comp)	present-	eat- you+2MS[2]	well	Comp-	grow up-you+2MS

If you eat well, you will grow up.

As a result, ba in (5) emphasizes and reinforces the fact that the person in question will grow up if he/she eats just in the same way that la in (1a) reinforces the fact that the judge would have been relieved if people were fair to each other. The optionality of the occurrence of the corroborative markers is dependent on the sentences including them. For instance, a sentence like (1a) above necessitates the occurrence of la as a sentence without it, like (1b), will be rendered ill-formed if no la is present. This is shown below in contrast to (4) where the sentence is exempt from the presence of la [3] as it is understood from the context even if it is absent.

(1) لو أنصف الناس إستراح القاضي

*b. law anṣaf ənas straħ alqaḍi

if	be fair-past.	people	be relieved-past	the judge

If people were fair, the judge would have been relieved.

(4) لو قمتَ قمتُ (al-Munjid dictionary)

law	qumt- ə-	ø-	qumt -u
If	stand up-past +2MS	Comp-	stand up- 1S+past

If you stood up, I would have stood up.

2.2 Summary

The conditional structure consists of two phrases, namely "the phrase of the conditional verb" and "the phrase of the conditional answer", conditional markers/particles like law, ʔɪnn, ʔɪðə and/or wh-elements (who, what, when, where,...) and corroborative morphemes attaching to the verb of the subordinate clause like la in MSA and ba in the Masirah dialect of Omani Arabic which may or may not be present as discussed above in 2.1.

3 CONDITIONAL CLAUSE AND FOCUS

Ouhalla (1993) states that in MSA, focus phrases (*f*-phrases) can be found either *in-situ* ((1a) above) or preposed to the beginning of the sentence (the bracketed clause in (1c) below). I return to the latter point in 4.3.

(1) لإستراح القاضي لو أنصف الناس

c.(la- straħ alqaḍi {laa laʁaḍɪbə}) law anṣaf ənas

Comp-	be relieved-past	the judge	Neg. become angry	if (Comp)	be fair-past.	people

The judge would have been relieved (not would have become angry) if people were fair.

As Moutaoukil (1989) argues, *f*-phrases *in-situ* in a sentence like (1a) bear a different meaning or "pragmatic function" when compared with its preposed counterpart in (1c) That is, *f*-phrases *in-situ* provide the hearer with new information whereas preposed *f*-phrases reflect "contrastive focus" where the hearer understands the answer as being contrasting or in conflict with existing possible information. Rizzi (1997) refers to contrastive

[1] The example numbers reflect the order in which examples appear in the appendix.

[2] MS stands for Masculine Singular

[3] It is unclear why a sentence like (1b) (without the corroborative morpheme la) is ungrammatical whereas (4) is perfectly grammatical without it. This asymmetry is beyond the scope of the current work and needs future research.

focus phrases as being quantificational where the hearer would understand the given answer as a possible item of a set.

To be more concrete, in (1c) the response lastraħ (would have been relieved) using Moutaoukil's argument is in conflict with the understood response laʁaḍɪbə (would have been angry). Moreover, Rizzi's quantificational notion is understood when other alternatives like lafarɪħə (would have been happy), latafaraʁə (would have been jobless) to count but a few, come to the hearer's mind.

As to *f*-phrases *in-situ*, the phrase lastraħ alqaḍi (would have been relieved) gives new information to the hearer because it answers questions like maða law anṣaf ənas? (what if people were fair?). Ouhalla notes that contrastive focus is a form of assertion (which by extension implies certainty) and hence serves as an instance of "epistemic modality". This idea is enhanced when recalling that "al-mu?akkidaat" like la are genuinely used to reinforce or assert the effect of their following predicates.

4 CCONDITIONAL CLAUSES AND TENSE

4.1 The Conditional markers: law and ʔɪnn

An interesting observation about the conditional structures is that they interact with tense depending on the type of conditional markers they have. According to Almunjid dictionary (1987), the conditional marker (complementizer) law in MSA requires that the verb coming after it be in the past tense, as in (4a) below. Despite the ban of the present tense of verbs after law in MSA, a reading like (4b), being marginal, might be possible in some Arabic dialect, like in the Masirah dialect of Omani Arabic.

(4) لو قمتَ قمتُ (Almunjid dictionary)

a. law qumt- ə- ø- qumt -u
If(Comp) stand up-past +2MS Comp -stand up- 1S+past
If you stood up, I would have stood up.

??b. لوتقوم أقوم (Almunjid dictionary)

*a. law tə- qum- ø- a?- qum
If(Comp) present- stand up-2MS Comp -present+1S - stand up
If you stand up, I will stand up.

We could hypothesize that the tense of the following verb of the conditional complementizer law in Arabic is a matter of parameter setting in the following way.

a. Modern Standard Arabic allows only a past tense verb after the complementizer law and never a present tense one.

b. Some dialects (if not all) of Arabic allow both a past and a present tense verb after law.

A piece of evidence from MSA sustaining that the past tense is always required on the verb following the conditional complementizer law comes from the negative conditional constructions where the negative particle immediately following law has to be in the past tense (lam; the negative past marker)[4] as in (7) below.

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[4] There are two temporal variants of the negative marker lam= past negative marker. These are laa= present negative marker and lan= future negative marker, as shown below. The examples come from Ouhalla (1993).

a. laa y-uħibbu Zayd-un al-qiraa?at-a
NEG+PRES 3M-like(IMPERF) Zayd-NOM the reading- Acc
"Zayd does not like reading."

b. lan t- usaafira Zaynab-u
NEG+FUT 3F-travel(IMPERF) Zaynab-NOM
"Zaynab will not travel."

(7) لو لم يغادر زيد البلاد لزرته

law lam ju-ʁadɪr Zajdʊn ɵlbɪlad la-zurt-ʊh

if NEG+ past 3MS-leave(present) Zayd (NOM) the country-acc. visit-3MS (past)

If Zayd didn't leave the country, I would have visited him.

We turn now to the conditional complementizer ʔɪnn which means if or that depending on its context as in 8 and 9 respectively.

(8) إن تذاكر تنجح (from my native knowledge of MSA)

ʔɪnn tʊ- ðakɪr-ø ta- ndʒəħ- ø

If present-study- 2MS present -succeed- 2MS

If you study, you will succeed.

(9) سمعت إن الأولاد بيلعبوا مع الخرفان (Awad, 1995, p.16)[5]

smɪʔna ʔɪnna l-wlaad bilʔabu maʕ il-xurfaan

we heard that the children they play with the- sheep

We heard that the children are playing with the sheep.

As the sentences in (8) and (9) illustrate, ʔɪnn is followed by a present tense verb contrary to what is happening in the case of law. In what follows, I try to account for the fact that it is always a past tense verb that follows the complementizer law using the Identification requirement (Ouhalla 1993).

4.2 Identification of features

4.2.1 Identification requirement (IR)

According to Ouhalla (1993), "the abstract features encoded in the functional heads Of Structural Descriptions must be identified"(p.284). Following this principle, structural descriptions are specified with certain abstract features, the latter of which can be viewed as commands or instructions to the performance system (Chomsky 1992). Hence, the feature [+Cond.] marks/ types (Cheng 1997) a given structural description as being conditional. The identification requirement checks the recoverability of underlying features from the properties of surface strings. To put it differently, the presence of the features [+Cond.] and [+past] for example, must be overtly indicated from the properties of the surface strings so that the resulting structure can be interpreted as being a conditional clause whose verb has to be in the past.

Ouhalla lists a number of mechanisms to achieve the identification of underlying features. These include phonetic, morphological and syntactic properties of sentences. For instance, the *wh*-morpheme can be seen as morphologically identifying the feature [+wh] associated with the wh-phrases. Similarly, the conditional marker/complementizers law and la are morphological morphemes which overtly identify the feature [+Cond.] associated with their predicates (VP) where this feature originates. Linked to the observation that the morpheme la is optional (mentioned in 1.1) is the fact that another mechanism of identifying the feature [+Cond.] is available, namely *tonic accent* (Ouhalla 1993, p.284) (Brody 1990).

It was mentioned in the preceding paragraphs that the [+Cond.] and [+past] features originate in the VP which is the predicate of the conditional complementizer as represented in figure (1). The tree in a. below is analogous to Ouhalla's (1993) treatment of the negative marker *maa* as shown in b.

Figure 1

a. FP refers to force phrase: specifying the clause type. b. (Ouhalla, 1993) *maa*

[5] ʔɪnn in (11a) and ʔɪnna in (11b) are the same. I represent them differently because I use examples from different sources.

4.2.2 Role of Coindexation

Coindexation between the conditional markers (both law and la) and their predicates is very important in reflecting that they share the same features of [+Cond.] and [+past]. In other words, this feature sharing mechanism marks the Head Complement Agreement (HCA) between the complementizer and its complement.

In addition, coindexation marks the scope of both complementizers as la has a narrow scope over its predicate (*f*-phrase) and law has a wide scope over the whole conditional clause, given that it is law actually that types the whole clause as being conditional and not la which gets it only through a dependency relation with law.

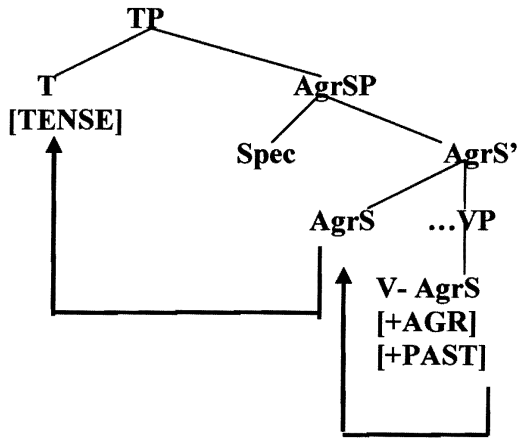
The relation of coindexation and scope marking dates back to Baker's 1970 proposal that "the scope of an operator can be encoded in terms of coindexation with F (alias COMP), and does not necessarily require movement of the operator to Spec-FP at some (covert) level of representation" (Ouhalla 1993, p.285).

4.3 Tense and agreement

Pending still is the question of how the past tense feature [+past] is realized on the complementizers law and la. It is true that the IR ensures the identification of the feature [+past] as discussed in 3.2.1; however, the fact that Arabic is a language of the VSO order has to be taken into consideration.

Before addressing this important issue, we need to discuss the role of agreement in conditional constructions. Ouhalla (1993) considers the tense phrase TP as being higher than AgrS. Figure (2) below is parallel to figures a. and b. in 3.2.1. In the diagram
below, the verb is shown to be lexically specified for both agreement and tense features (Chomsky 1992). In order for these features to be realized at SS, the verb complex (V+ AgreementS) has to move first to the medial AgrS position and then to T under the Identification Requirement.

Figure 2 Agreement and Tense (Ouhalla 1993)

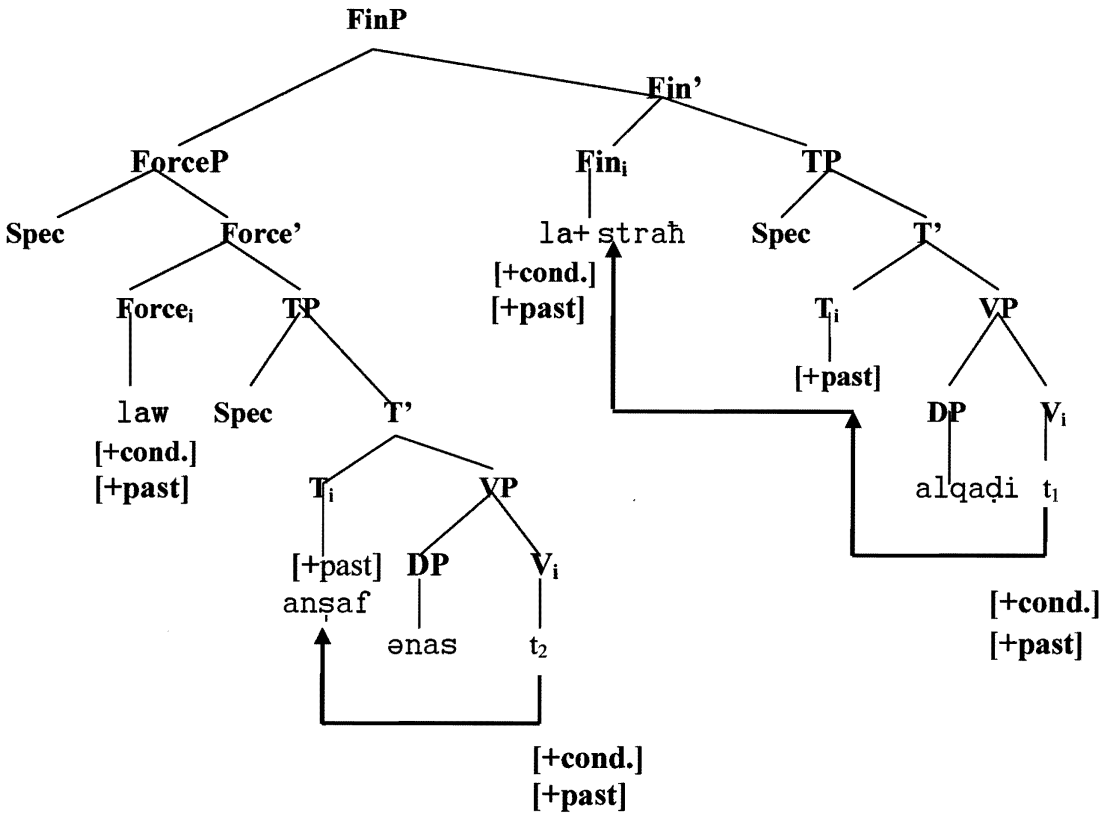


Now we turn to the issue of Arabic VSO order and its role in the identification of features. To understand this better, let's examine the representation of the conditional sentence in (1a) below.

(1) a. law ansaf ənas la-strah alqaḍi
if (Comp) be fair- past. people Comp-be relieved-past the judge
If people were fair (not unfair), the judge would have been relieved.

In the tree structure below, figure (3) (using concepts from Rizzi (1997)), the main clause "la-strah alqaḍi" can be considered a finite phrase in Rizzi's terms as it marks finiteness, because of its interaction with the past tense and it is at the bottom of the tree, whereas the embedded clause "law ansaf ənas" can be labeled as a force phrase ForceP because the conditional complementizer law is what specifies the whole clause's type and has a wide scope- sentential- as argued before.

Figure 3 representation of conditional clauses in Arabic}.



The conditional clause in (1a) shows that verbs come immediately after the conditional markers law and la. Since Arabic is a head initial language of the order VSO, the verbs ansaf (be fair) and strah (be relieved) have to move to the T position under TP moving along with them the features [+cond.] and [+past]. Hence, it is not the IR that triggers the movement of verb complexes but rather the VSO order of Arabic.

A second movement of the verb strah to **Fin$_i$** is triggered by the fact that the complementizer la is a bound morpheme that requires a verbal lexical category to attach to. Coindexation is shown on every complementizer and its predicate to ensure feature sharing (Head-Complement Agreement relation). Another issue

which has been mentioned briefly in a previous section is the inter-dependency relation between the two complementizers law and la. The complementizer la in a conditional construction like the one in (1a) depends on the other complementizer (law) and vice versa. This is captured in the tree by the fact that both complementizers have the same features of
[+cond.] and [+past] and that the ForceP where the complementizer law resides, is in the Spec position of Fin' which includes the other complementizer (la). Hence, the two are bound by a Spec-Head Agreement relation which explains their dependency in addition to their sharing the same features.

The tree in figure (3) shows that ForceP can be flipped to the other side of the tree, accounting this way for the sentence "la-straħ alqaḍi law anṣaf ənas" as the main clause, which is an *f*-phrase, as discussed in section 3, which moves to the sentence-initial position due to the postpositioning of the other half of the clause "law anṣaf ənas" [6].

Before closing this section, we need to mention that **Fin$_i$** m-commands **ForceP** which again backs up the dependency relation between the complementizer la and law as **Force$_i$ (law)** receives the same head value feature of its mother **ForceP** through the Head Feature Principle (HFP)[7].

5 CONCLUSION

This paper aimed at examining the conditional construction in Modern Standard Arabic with special emphasis on the complementizers law and la, the latter of which occurs in the same construction as law. The two complementizers are always followed by past tense verbs in MSA though they can be followed by present tense verbs in some dialects. This can be seen as a parametric difference with the past tense being the basic tense and the present tense being inserted at the end of derivation by a default rule[8].

The analysis used relied heavily on the principle of the Identification Requirement, that the abstract features in structural descriptions must be identified from properties of surface strings. Hence, the conditional reading for a construction with law can be interpreted as encoding the feature [+Cond] as well as the feature [+past] both in VPs where they originate and the functional heads (i.e., complementizers law and la). Coindexation is what IR uses to identify these features. The Spec-Head Agreement between FinP- where the complementizer la is and the ForceP which is the mother of Force (complementizer law)- amounts to reinforcing the interdependency relation between the two complementizers as they both share the same features.

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[6] The two phrases "la-straħ alqaḍi" and "law anṣaf ənas" are constituents as they can be answers to the following fragment questions respectively, "maða law anṣaf ənas?" (what if people were fair?) and "mata straħ alqaḍi?" (when will the judge be relieved?).

[7] The Head Feature Principle (in the framework of the HPSG) stipulates "in any headed phrase, the Head value of the mother and the Head value of the head daughter must be identical." (Sag, Wasaow and Bender 2002, p.88)

[8] Many authors, including Ouhalla (1993) and Fassi Fehri (1982), maintain that the present tense is derived via a default mechanism as it results from eliminating the future tense reading (when the future modal is absent) and the past tense reading (when the perfective form of the verb is absent).

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Appendix:

Affirmative conditional structures:

(1) لو أنصف الناس لإستراح القاضي[9]

a. law anṣaf ənas la-straħ alqaḍi
if (Comp) be fair-past. people Comp-be relieved-past the judge
If people were fair, the judge would have been relieved.

*b. law anṣaf ənas straħ alqaḍi
if be fair-past. people be relieved-past the judge
If people were fair, the judge would have been relieved.

c.(la- straħ alqaḍi {laa laʁaḍɪbə}) law anṣaf ənas
Comp- be relieved-past the judge Neg. become angry if (Comp) be fair-past. people The judge would have been relieved (not would have become angry) if people were fair.

(2) لو إجتهدت لنجحت (my own)
law ədʒtahədt lanadʒəħt
if study hard-perf. you succeed- perf.-will
If you studied hard, you would have succeeded.

(3) لو انك إجتهدت لنجحت (my own)
law annaka ədʒtahədt lanadʒəħt
if have-pres.-you study hard-perf. you succeed- perf.-will
If you have studied hard, you would have succeeded.

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[9] This example comes from the web, (On-line: http://www.khayma.com/tutor-medial/thdir-dros/m3/gwad/fl/7.htm)

(4) لو قمتَ قمتُ (al-Munjid dictionary)

a. law qumt- ə- ø- qumt -u

If (Comp) stand up-past +2MS Comp- stand up- 1S+past

If you stood up, I would have stood up.

-Sentences with present tense verbs

??(4) b. لوتقوم أقوم (Almunjid dictionary)

*a. law tə- qum- ø- aʔ- qum

If(Comp) present- stand up-3MS Comp -present+1S - stand up

If you stood up, I would have stood up.

(5) لو تاكل زين بتكبر (Masirah dialect MA; my own)

law ta- akəl-ø zein ba-tə-kbər-ø

if(Comp) present- eat- you+3MS well Comp- grow up-you+3MS

If you eat well, you will grow up.

- Negative Conditionals

(6) **لو لم يغادر زيد البلاد لزرته**

law lam ju-ʁadɪr Zajdʊn əlbɪlad la-zurt-ʊh

if NEG+ past 3MS-leave(present) Zayd (NOM) the country-acc. visit-3MS (past)

If Zayd didn't leave the country, I would have visited him.

-Clauses with ʔɪnn:

(7) **إن تذاكر تنجح** (from my native knowledge of MSA; Conditional clause)

ʔɪnn tu- ðakɪr-ø ta- ndʒəħ- ø

If present-study- 3MS present -succeed- 3MS

If you study, you will succeed.

(8) **سمعنا إن الأولاد بيلعبوا مع الخرفان** (Awad 1995, p.16) (not a conditional clause)

smɪʔna ʔɪnna l-wlaad bilʔabu maʔ il-xurfaan

we heard that the children they play with the- sheep

We heard that the children are playing with the sheep.

THE REPRESENTATION OF CP IN AGRAMMATISM: HIERARCHICAL DEFICIT OF SEVERITY

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1 INTRODUCTION

The representation of the Complementizer Phase (CP) layer is a controversial issue in the study of language deficits in agrammatic aphasia. The debate has centered on the question of whether or not the grammar of agrammatic patients contains a full set of functional categories, in particular structurally high categories like the CP layer.

Damage to Broca's area, the left anterior cortical region of the brain, causes a disturbance to the comprehension and production of language, known as agrammatism. The speech production of agrammatic Broca's aphasia is characterized by the omission of function words and by a reduction of sentence length and complexity. To explain these characteristic impairments, researchers argue that agrammatic aphasia causes a deficit of phrase structure representation, as the nodes that head functional projections (e.g. CP) are impaired and thus, inaccessible (De Bleser & Bayer, 1991; Ouhalla, 1993). Earlier work on agrammatism took the position that all functional elements are equally impaired in agrammatic speech (Goodglass, 1976; Grodzinsky, 1984). In contrast, evidence from a number of recent studies (Friedmann & Grodzinsky, 1997; Hagiwara, 1995; Lee, 2002; Platzak, 2001) suggests that the deficit is hierarchically selective, affecting functional projections depending on their structural position (from high to low) in the syntactic tree.

In order to account for the selective hierarchical deficit of agrammatic speech, Friedmann (1994) proposed the syntactic-based Tree-Pruning Hypothesis (TPH). In this approach, the impairment of the functional category is defined in terms of its hierarchical position in syntactic tree. Based on the finding that verbal tense, but not agreement is impaired in the speech of a Hebrew-speaking agrammatic patient, the TPH proposes that aphasics produce intact syntactic trees up to the tense node (T) and are pruned from this node up. Therefore, agrammatic patients cannot produce functional categories which are dependent on nodes higher than T (e.g. CP).

Along the same lines, findings of Hagiwara (1995) indicate that the hierarchical site of the deficit varies in accordance with the degree of severity, suggesting that the site of the dissociation is not consistently located at the Tense node. She predicts that the higher a functional node is in the syntactic representation, the more susceptible it is to impairment. Thus, the CP node is the most susceptible to be impaired, as it is the highest functional node.

A study by Friedmann and Grodzinsky (1997) on the use of tense and agreement use of Hebrew- and Palastinian Arabic-speakers confirmed that the severity of the agrammatic impairment affects the hierarchical site of the impairment and the number of nodes that are impaired. They discovered that in severe agrammatism, the syntactic tree is pruned at a lower node (e.g., Agr), thus impairing all higher nodes including: the AgrP, TP and CP layers. In milder cases, the impairment occurred at a higher node (e.g., C), only affecting the CP layer including C and spec-CP. In order to account for this individual discrepancy they proposed a revised TPH in (1).

(1) The Tree Pruning Hypothesis (Friedmann & Grodzinsky, 1997, p. 420)
   (a) C, T, or Agr is underspecified in agrammatism
   (b) An underspecified node cannot project any higher.

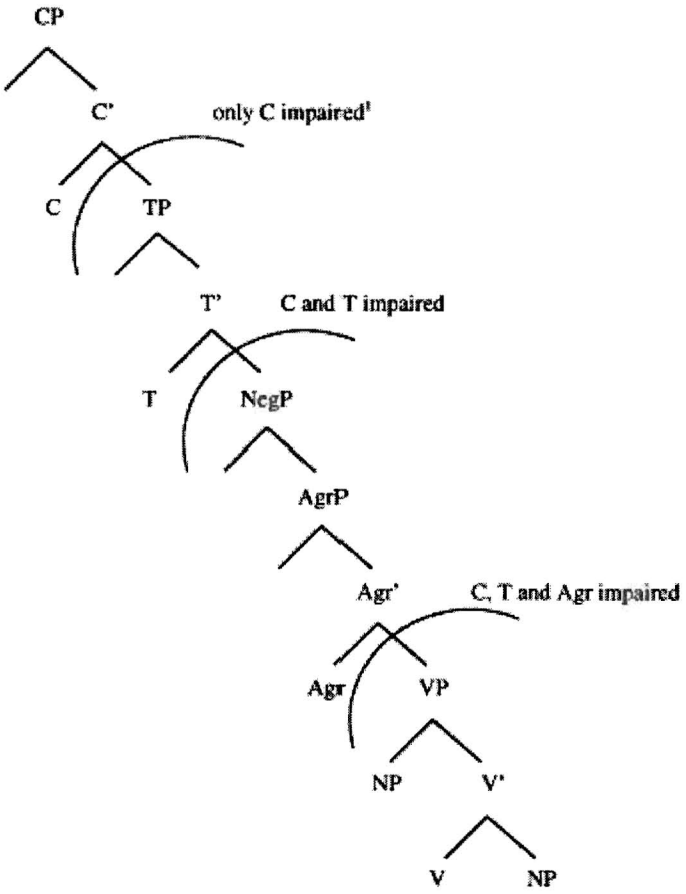

Figure 1 Degrees of severity in agrammatic impairment determined by pruning location (Friedmann & Grodzinsky, 1997, p. 421). The arch represents the site of the deficit.

According to the TPH, agrammatic patients cannot construct projections of the syntactic tree which are higher than an impaired node, as shown in Fig. 1. Moreover, the extent to which functional categories and their projections are lost depends on the severity of the impairment. Friedmann maintains the strong claim that the impairment always involves a loss of the CP layer. Consequently, any element base-generated in CP (e.g., complementizer), structure requiring CP (e.g., subordinate clause introduced by a complementizer), or element moved to spec-CP (e.g., wh-question word) is inaccessible and cannot be produced by agrammatic patients.

In support of this claim, Friedmann (2002) recently reported that Hebrew- and Arabic-speaking agrammatics encounter severe difficulties in wh-question production. However, they retain the ability to produce yes-no questions, which in these languages differ from declarative sentences in intonation only and therefore do not require movement of the verb beyond the tense node. In a group of English-speaking patients, this dissociation was not observed, as both wh- and yes-no questions were severely
impaired. This is understandable in terms of the tree-pruning hypothesis, as yes-no questions in English require movement, either in the form of *do*-support, or in the form of subject/auxiliary inversion. The loss of structures requiring CP in agrammatism has been reported in a number of empirical studies. Several other researchers have shown that production of wh-questions is severely impaired or absent in agrammatic speech (De Roo, 1999; Friedmann, 2002; Goodglass, 1976; Thompson & Shapiro, 1995).

An inability to project the CP layer and to perform syntactic operations depending on COMP or spec-CP must also affect subordinate clauses. If the CP layer can no longer be projected, because the tree is pruned, the agrammatic production should not contain subordinate clauses introduced by a complementizer, since complementizers are base-generated in COMP. The lack of embedded clauses in agrammatic speech has been

reported in numerous studies (Gleason et al., 1980; De Roo, 1999; Thompson, Shapiro, Tait, Jacobs, & Schneider, 1996)

The goal of this paper is to examine cross-linguistic data from the spontaneous speech of six agrammatic patients (two English-speaking, two French-speaking, and two Italian-speaking) to further investigate representation of CP in agrammatic production. Furthermore, I will test the validity of the TPH, focusing on three main issues: (1) the hierarchical impairment of functional categories, (2) the level of the pruning site in relationship to the severity of agrammatism, and (3) the complete impairment of the CP layer. The primary analysis will focus on the production of subordinate clauses introduced by a complementizer requiring the CP layer and coordinate clauses that are introduced by a conjunction not requiring the CP layer. The secondary analysis will examine the further implication that members of the CP layer are subject to the same degree of impairment. In this light, I will note whether there is equal disruption to all elements in the CP layer by observing the production of wh-question words that move into spec-CP.

2 METHOD

2.1 Data

The data used in this investigation was taken from Menn and Obler (1990), a large cross-linguistic narrative sourcebook of agrammatic aphasia, which includes transcribed spontaneous speech of patients from 14 different languages. The data was collected during an interview with a speech therapist where the patients were asked to perform a communicative task including: discussing the history of their illness, telling a well-known folktale (e.g., Little Red Riding Hood), or describing a complex picture series. Additionally, for each language, two non-aphasic controls matched for language, sex, age, education and literacy were recorded in the same situations. Data gathered for this study included: coordinate clauses which did not require the CP layer and subordinate clauses and wh-questions requiring the CP layer. The number and rate of grammatically correct formations was measured and analyzed.

2.2 Subjects

The transcripts of six agrammatic patients and six matching controls were examined: four native speakers of English (Menn, 1990), four native speakers of French (Nespoulous et al., 1990), and four native speakers of Italian (Miceli & Mazzucchi, 1990) were observed. (See Table 1 for background information of each subject). All patients displayed characteristic agrammatic speech production according to the criteria outlined by Menn and Obler (1990, p. 14): omission of function words and reduction of syntactic complexity.

TABLE 1
Background Information on Subjects

Subject	Severity of Condition	Age	Gender	Language	Literacy	Education (years)
Agrammatics						
ME	severe	56	M	English	high	14
MF	mild	49	M	English	adequate	16
MC	moderate	59	M	French	high	15
MA	mild	30	F	French	minimal	10
MV	moderate	20	M	Italian	high	18
MR	mild	44	M	Italian	high	16
Controls						
MS		51	M	English	high	15
MW		57	M	English	adequate	18
MFT		56	M	French	high	15
MP		23	F	French	adequate	11
MN		25	M	Italian	high	16
MB		40	M	Italian	high	16

2.3 Transcription Style

Since the speech of agrammatic patients is non-fluent and contains numerous errors the transcription style was reworked as follows (Menn & Obler, 1990, p.18):

line 1, patient's morphemes Le loup demande au [PCR] ou elle va.
line 2, morphemic translation DET.M/SG wolf asks of&the [LRRH] where she goes.
line 3, English equivalent of line 2 The wolf asks [LRRH] where she's going.

As an additional note, the inconsistent style of the morphemic translation in this paper follows the variation chosen by different authors in the narrative sourcebook. The English samples did not include line 2 or 3. PCR (French) and LRRH (English) stand for 'Little Red Riding Hood'.

3 RESULTS

The analysis of the spontaneous speech of the six agrammatic subjects is reported in Table 2. Columns 1 to 4 present the data on number of utterance, subordinate clauses, coordinate clauses and wh-questions for the six agrammatic subjects.

TABLE 2
Subordinate Clauses vs. Coordinate Clauses in Spontaneous Speech:
Number and Grammaticality Rate

Patient	Severity of condition	Number of utterances 1	Grammatical/Total Subordinate Clause 2	Grammatical/Total Coordinate Clauses 3	Grammatical/Total Wh-questions 4
English-speaking patients					
ME	severe	260	0/2	10/10	0/0
MF	mild	400	1/2	6/7	3/3
French-speaking patients					
MC	moderate	730	0/2	26/28	0/0
MA	mild	633	3/4	28/29	1/2
Italian-speaking patients					
MV	moderate	510	0/3	15/15	0/0
MR	mild	873	5/7	15/15	1/1
Total (%)		**3406**	**9/20 (45%)**	**100/103 (98%)**	**5/6 (83%)**

3.1 Subordinate clause production

The results show that subordinate production that required the CP layer is severely impaired as only 9 grammatically correct subordinate clauses were produced out of 20 attempts (column 2). The accuracy rate was also quite low, at only 45%. Select examples of incorrect subordinate clauses are reproduced below:

(1) Trova [che] non c'é il pollo {MV}
Finds.3.SG not there+is DET.M/SG chicken
Finds [that] the chicken isn't there (Miceli & Mazzucchi, 1990, p. 774)

(2) [Il] y a une petite fille qui... {MA}
There is a little.F girl COMP
There is a little girl who... (Nespoulous et al., 1990, p. 679)

In contrast, the production of coordinate clauses which do not require the CP layer is unimpaired. The agrammatic patients produced 100 grammatically correct coordinate clauses, with an accuracy rate of 98%, as seen

in column 3. Select examples of correct coordinate clauses reproduced below in (3) to (5) show that the agrammatic patients have no difficulty creating a clause that does not require structurally high nodes:
(3) the farmer is driving the truck and carry[ing] [the] corn {MF} (Menn, 1990, p. 159)

(4) jambes et les bras surtout {MC}
legs CONJ DET.M/PL arms expecially
legs and my arms especially (Nespoulous et al., 1990, p. 676)

(5) l' acqua scorre e va per {MV}
DET.FEM/SG water runs CONJ goes to
the water is overflowing and going to (Miceli & Mazzucchi, 1990, p. 770)

The subordination deficit shown in (1) & (2) is emphasized in Table 3, where the number of grammatically correct subordinate clauses in the agrammatic subjects' speech is compared to that of the controls. First, the contrast in the production of subordinate clauses is striking between the controls (138) and the agrammatic subjects (9). Secondly, the controls' production rate of both clauses was relatively close, producing 138 subordinate clauses and 172 coordinate clauses, while the agrammatic subjects' production rate of both clauses was severely contrasting, producing 9 subordinate clauses and 100 coordinate clauses. Since subordination involves using the nodes higher than T (specifically the C node), the patient's inability to subordinate is an important indicator that the CP layer is impaired.

TABLE 3
Agrammatic Subjects vs. Control:
Number and Grammaticality Rate of Subordinate Clauses requiring CP

Subjects	Grammatical/Total Subordinate Clauses 1	Grammatical/Total Coordinate Clauses 2
Agrammatics		
Total (%)	9/20 (45%)	100/103 (98%)
Controls		
Total	138/138 (100%)	172/174 (99%)

The two error types produced by the agrammatic subjects were: (1) complementizer omission (c.f. (6), (8), (10) and (11)) and (2) false starts ending with the complementizer with no following subordinate clause (c.f. (7) and (9)). Examples of ungrammatical subordinate clauses for each of the six agrammatic patients are seen below in (6) to (11).

(6) [She] forgot [that] [she] [was] the wash the dishes {ME}
forgot DET wash DET dishes
forgot the wash...the dishes (Menn, 1990, p. 171)

(7) The wolf told her that... {MF}
DET wolf told her COMP
The wolf told her that... (Menn, 1990, p. 182)

(8) Le paysan attend [qu'] le posse {MC}
DET.M/SG farmer wait.PRES [that] the:PRO/DET grow.PRES
The farmer is waiting it/the grows (Nespoulous et al., 1990, p. 708)

(9) [Il] y a une femme qui... {MA}
There is a woman COMP
There is a woman who... (Nespoulous et al., 1990, p. 679)

(10) non s'é accorta [che] l' acqua scorre {MV}
not herself+is aware.F/SG DET.FEM/SG water runs

she doesn't notice [that] the water is overflowing (Miceli & Mazzucchi, 1990, p. 770)

(11) [sono] meravigliati [che] la le la cesta non [che] il pollo {MR}
astonished.M/PL DET.F/M/F basket not DE.M/SG chicken
[are] astonished [that] the, the the basket doesn't [that] the chicken
(Miceli & Mazzucchi, 1990, p. 806)

In the above examples, the agrammatic patients are unable to produce a grammatically correct subordinate clause. In their attempt to create a subordinate construction they omit the element that requires the CP layer, the complementizer, or produce an incomplete clause, halting abruptly after the complementizer. These types of errors support the hierarchical nature of agrammatic impairments as they illustrate the fact that the lexical knowledge of the complementizer 'that' is intact (c.f. (5) and (7)), but somehow the syntactic knowledge of the COMP projection is impaired.

Additional evidence for the hierarchical impairment of agrammatism is found in following examples:

(12) I can't speak, my right side was limp and I was crying, it's just foolish, y'know. {MF}
(Menn, 1990, p. 156)

(13) Le PCR [lui] donne le panier avec les friandes et entretient avec la grandmère {MA}
The RRH [him] gives the basket with the goodies and converses with the grandmother
LRRH gives the basket with the goodies and converses with the grandmother.
(Nespoulous et al., 1990, p. 681)

(14) Questo è il problema, perché ho 180[di] minima {MV}
This.M/SG is DET.M/SG problem because I have 180 minimal
This is the problem, because I have 180 minimal
(Miceli & Mazzucchi, 1990, p. 796)

From these examples, it can be noted that the selective impairment of agrammatic speech is not linked to length or complexity of sentence (c.f. (12) & (13)). Additionally, the pragmatic knowledge of subordination must be unaffected as five subordinate clauses without a complementizer were produced by the Italian agrammatic subject MV (c.f. (14)). In these cases the subordinate clauses were introduced by the clausal subordinator, 'perché' (because).

The results up to this point have focused on the production impairment and subsequent error types of subordination requiring the CP layer in all agrammatic subjects. In the next section, I will show the performance of individual subjects with different degrees of agrammatism, from mild to severe (see Table 4 on page 8).

TABLE 4
Severity of Agrammatic Condition: Number and Grammaticality Rate
of Subordinate and Coordinate Clauses

Subjects	Language	Grammatical/Total Subordinate Clauses 1	Grammatical/Total Coordinate Clauses 2
Moderate/Severe			
ME	English	0/2	10/10
MC	French	0/2	26/28
MV	Italian	0/3	15/15
Total (%)		**0/7 (0%)**	**49/50 (98%)**
Mild			
MF	English	1/2	6/7
MA	French	3/4	28/29
MR	Italian	5/7	15/15
Total (%)		**9/13 (69%)**	**51/53 (96%)**

As shown in column 2 above, the severity of the agrammatism does not affect the production of coordinate clauses. In contrast, when looking at the production of subordinate clauses by each subject in column 1 above, two grades of impairment emerge. One grade of impairment, which is manifested by the moderate to severe patients, is that of complete impairment to embedded clauses requiring CP (0/7). The milder patients show a different grade of impairment, as they were able to produce 9/13 correct embedded complementizer clauses. However, the number of correct subordinate clauses produced by the mild agrammatic subjects is still a deficit from normal production, as their matched controls produced 37/37 subordinate clauses. These results show that although mild agrammatic patients have difficulty accessing the C° projection, they are still able to produce structures in their spontaneous speech that require the CP layer in their spontaneous speech. Samples of correct subordinate clause formations are reproduced below in (15) and (16):

(15) un chasseur je crois qui est venu {MA}
a hunter I believe COMP be.AUX.PERF come.PAST.PART
A hunter, I believe, who came (Nespoulous et al., 1990, p. 704)

(16) was surprise—surprised—to—to… that [the] basket was open {MF}
(Menn, 1990, p. 160)

The mild English-speaking agrammatic subject has large difficulties producing a subordinate clause (c.f. (16)). First, he attempts to create an infinitival construction, breaking off in mid-clause to create the subordinate construction 'that [the] basket was open'. Though the final embedded construction is correct, it is by no means a simple task for this subject, which suggests that there is still some impairment to the C° projection.

3.2 Wh-Question Production

In order to identify whether any of the agrammatic subjects could access the highest projection of CP, spec-CP, the production of wh-questions is considered in section 3.2. Only the mild agrammatic patients, MF, MA and MR produced question formations in their spontaneous speech. The production of subordinate clauses and wh-questions in the speech of these three subjects is reported in Table 5.

TABLE 5
Wh Questions and Subordinate Clauses in Spontaneous Speech: Number and Grammaticality Rate

Subject	Language	Grammatical/Total Wh questions	Grammatical/Total Subordinate Clauses
MF	English	3/3	1/2
MA	French	1/2	3/4
MR	Italian	1/1	5/7
Total		**5/6 (83%)**	**9/13 (69%)**

Though only six wh-questions were attempted in the mild agrammatic subjects' narratives, five wh-questions were grammatically correct. The examples of correct and incorrect are provided below:

(17) Qu'est-ce que c'est? {MA}
What is it? (Nespoulous et al., 1990, p. 706)

(18) [comment] on appelle ça?
[how] they call that?
is it called? (Nespoulous et al., 1990, p. 706)

(19) What's wrong? {MF} (Menn, 1990, p. 174)

(20) What d'ya know? (Menn, 1990, p. 173)

(21) Where you—where does your mother, uh /b/ranmother live, LRRH,--Hood? (Menn, 1990, p. 176)

(22) Come stai? {MR}

Two subjects, MA and MR each produced one correct wh-question (c.f. (17) & (22)). The incorrect question by MA in (18) lacks a wh-word in spec-CP. MF shows difficulty in the production of the question in (21), but creates correct questions in all three attempts. The finding that MF produced 3/3 correct wh-questions suggests that this mild agrammatic subject can access the highest CP projection, spec-CP. This is a surprising result, as his production of subordinate clauses requiring a lower CP projection C° showed the greatest impairment of all the mild agrammatic subjects (1/2). It is important to note that there is a strong possibility that all correct questions produced by these subjects (c.f. (17), (19), (20) and (22)) are formulaic questions which do not involve movement of the wh-word into spec-CP. This may explain why the subjects were able to produce these questions.

To summarize, the four main findings in this paper are as follows:
(1) Agrammatic subjects produce significantly less subordinate clauses requiring CP than control subjects; (2) The impairment of subordinate clauses is greater in moderate and severe agrammatic subjects; (3) There is no significant difference in the production of coordinate clauses between the agrammatic subjects and the control subjects; (3) The severity of agrammatism affects the production impairment of complementizers, not coordinate conjunctions.

4 DISCUSSION

The goal of this paper was to further investigate the validity of Friedmann's TPH focusing on three controversial issues in the study of the selective language deficits in agrammatism: (1) The impairment of functional categories is hierarchical, affecting functional categories from high to low in the syntactic tree; (2) The degree of severity affects the structural level of the syntactic pruning (3) The CP layer is inaccessible in agrammatism, therefore all projections of CP including, C° and spec-CP are equally impaired.

The results presented in this paper support the claim that the impairment of functional categories in agrammatism is hierarchical. The results clearly demonstrated that structures requiring CP, (e.g., subordinate clauses) and elements base-generated in CP, (e.g., complementizers) are severely impaired in agrammatic production. This main claim of the TPH predicted by the pruning site of the syntactic tree is supported in this investigation and in numerous studies on many languages including, Hebrew and Palestinian Arabic (Friedmann & Grodzinsky, 1997), Japanese (Hagiwara, 1995), Swedish (Platzak, 2001) and Finnish (Neimi et al., 1990). Additionally, several of these studies reported that the severity of the agrammatic impairment affected the structural level of the tree pruning (Friedmann & Grodzinsky, 1997; Hagiwara, 1995).

In this paper, the number of grammatically correct structures and attempts at structures requiring the CP layer varied in accordance with the degree of severity of the agrammatism. The ability to correctly produce subordination and wh-question formation was restricted to mild agrammatic subjects. These subjects appeared to be able to access the CP layer, and produce a limited amount of CP productions. Other researchers have reported similar findings (Hagiwara, 1995; Lee, 2003). To account for such findings, Hagiwara (1995) proposed that the underlying impairment of agrammatism is not a structural syntactic deficit, but rather a deficiency of resources necessary to construct a full syntactic tree. Following Chomsky's (1995) Minimalist Program as the theoretical basis, Hagiwara suggests that each application of the Merge operation requires a certain amount of resources. Because more combination operations are required for building structures with higher functional projections, these will be less likely to be successfully constructed than structures with only lower functional projections. Additionally, the tree structure of higher elements which undergo movement, such as wh-question words, requires even more resources to produce. This may explain why agrammatic patients frequently produce partial syntactic representation, as they are unable to apply Merge the required number of times. The Hierarchical Complexity Hypothesis, a recent proposal by Izvorski and Ullman (1999), follows along the same lines as Hagiwara. This hypothesis predicts that because the deficit affects the likelihood of successful combination of Merge operations, the resulting impairment will not be all-or-nothing, but graded between different functional categories and members of the same functional category.

Friedmann's implication that the CP layer is always impaired in the production of agrammatic speech due to the pruning of the tree below CP is partially supported in this paper. The majority of the findings presented here showed that both the C° projection and the spec-CP are impaired in agrammatic speech. These findings can be accounted for by the TPH. In contrast, the TPH cannot account for the finding that one mild agrammatic patient

suffered greater impairment to the C° projection than the spec-CP projection. This finding suggests that a higher projection in the CP layer, spec-CP, is preserved and can be produced in spontaneous speech, even when a lower projection, such as C° is impaired. In this case, the tree cannot be pruned at C as the TPH claims because the CP layer is not entirely impaired. Furthermore, this shows that there may be dissociation between members of the same functional category CP.

These results are similar to observed dissociations among tense and agreement, elements belonging to the same IP layer reported by Friedmann and Grodzinsky (1997). In order to account for the finding that tense, but not agreement, was impaired in agrammatic speech, they incorporated Pollack's (1989) Split IP structure into the TPH (c.f. Fig. 1). This structure allowed for the pruning of the tree at T, thus impairing T, but not Agr. It is possible then, that the results presented in this paper may be better captured with Rizzi's (1997) Split CP analysis. In Rizzi's proposal, CP is not a single projection but a left-periphery of the clause. Rizzi's analysis displays a more elaborated CP structure including: ForceP – TopP – FocP – FinP – AgrOP – VP (De Roo, 2003). In this proposed structure, the complementizer 'that' and wh-morphemes are located in the different nodes. The complementizer 'that' is located the highest node, ForceP, while wh-elements in main questions move into spec-Foc of the FocP. This interpretation would allow the impairment of both elements without compromising the hierarchy of these elements in the Minimalist CP node. Moreover, this account would not compromise the TPH, as the pruning of the tree in mild agrammatism could occur at ForceP, only impairing elements in ForceP (e.g., complementizers) and not wh-morphemes in main questions. Recent research by De Roo (2003) on the status of topicalization and sentence embedding in Dutch agrammatic speech has yielded positive findings for a Split CP analysis of CP deficits in agrammatic speech.

5 CONCLUSION

This study presents data on the representation of CP by six agrammatic subjects from three languages. The findings show a selective impairment to elements base-generated and structures requiring CP. This result is in accordance with previous observations that functional categories are not equally impaired in agrammatic production, but rather impaired based on their structural location in the hierarchy of the syntactic tree. Two important findings presented in this paper partially contradict the prediction of the TPH that the CP layer is inaccessible in agrammatism: (1) Mild agrammatic subjects were able to produce nine correct subordinate clauses and five correct wh-questions; (2) A dissociation between members of the functional category CP (i.e., C° in subordinate clauses and spec-CP in wh-question formation) was found in the spontaneous speech of one mild agrammatic subject. It is proposed that the application of Rizzi's (1997) Split CP to the TPH may solve these noted discrepancies. To confirm the validity of this suggestion, further cross-linguistic studies on Split CP in agrammatism are necessary.

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CP IN MAURITIAN CREOLE

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1. INTRODUCTION

Mauritian Creole[1] is spoken in Mauritius, a small island in the Indian Ocean off the east coast of Madagascar. It is an SVO language which exhibits syntactic features very similar to those of other Creole languages, including a lack of subject auxiliary inversion in wh- questions and the presence of preverbal tense, mood and aspect markers (Bickerton 1995). While several aspects of Mauritian Creole syntax have been studied up to the present (Adone 1990, 1994, 1999, Baker 1972, Seuren 1990, 1995, Syea 1992, 1993, 1997, 2000 and others), none have concentrated on the complementizer system. This paper will discuss and analyze the structure of the Mauritian Creole CP within Luigi Rizzi's (1997) framework.

In section 1, I discuss the constituents being considered for this analysis, including their properties and their distribution with relation to one another. In section 2, I outline the theoretical background for this paper (Rizzi's 1997 'The Fine Structure of the Left Periphery'). In section 3, I test the theoretical framework against the facts of Mauritian Creole, discussing any changes or revisions that need to be made, and in section 4, I propose avenues for future research.

2. CONSTITUENTS OF CP

Several types of constituent can occur in CP in Mauritian Creole, including complementizers, a relativizer, question words (wh- and yes/no), topicalized constructions and focalized constructions. Combinations of up to three of these constituents can occur within the CP of one clause, with restrictions on the ordering of constituents in relation to each other. In this section, I discuss in detail each of the constituents under consideration, describing the properties and distribution of each.

2.1 Complementizers and a Relativizer

The complementizer *ki* 'that' is very common in Mauritian Creole. Complements introduced by *ki* are always finite, in that they include a finite verb form and a nominative subject. Complements introduced by *ki* are always declarative.

(1) aster la **ki** li panse **ki** li'n fer en kitsoz malonet (Baker 151)
now-DET **that** she think **that** she'ASP do DET thing dishonest
'It was only then that she realized that she'd done something dishonest'

In terms of its distribution relative to other elements in CP, *ki* can be preceded by a bimorphemic wh- word (section1.2) as in (2), or a bimorphemic wh- word and a focus (3).

(2) **kimanyer ki** zot fin pas lafrontier ? (Adone & Vainikka 1999)
how **that** they ASP pass border ?
'How did they pass the border?'

(3) **kifer zordi ki** ou pe koz so koze ar moi (Virahsawmy: Ziliet ek so Romeo)

[1]Also called Kreol or Morisyen

why today that you ASP tell his talk to me
'Why today are you telling me what he said.'

Another common complementizer is *pu* 'for'. According to Adone (1994: 29) *pu* is only used to mark unrealized complements (ie. events or states which haven't been carried out). In example (4), the event (putting a fish in) has been carried out, whereas in (5) the event (burning the boy's house) is not carried out.

(4) li desid **al** met posoh ladah (Realized)
(Adone 93)
she decide go put fish inside
'She decided to put a fish in it (and she did)'

(5) li ti pe al aswar **pu** al bril lakaz sa garsoh la me ban dayin fin atake li
he TNS ASP go night **COMP** go burn house that boy the but PL witch ASP attack him
'He was going one evening (for) to burn the boy's house, but witches attacked him.'
(Unrealized)
(Adone 93)

In contrast with *ki*, *pu* takes non-finite complements (no tense, aspect etc...), but interestingly, the subject of this non-finite complement is in the nominative case, contrary to what Rizzi (1997: 284) claims is usual for non-finite subjects. In (6), the subject of the complement is the nominative *to*, rather than the accusative *toi*.

(6) finn ler **pou** *to/*toi* marye (Virahsawmy: Linkonnsing Finalay)
ASP time **for** *you(nom)* marry
'It was time for you to marry'

An overt subject pronoun is not required with *pu* (7), unless there is a reason for it to be there (8) (ie. to disambiguate or clarify a sentence) . This also contrasts with *ki*, where the subject pronoun must always be present.

(7) mo ena enn koze serye **pou** _ koz ar ou
(Virahsawmy: LF)
I have a talk serious **for** talk with you
'I have something serious to talk to you about'

(8) momem mo finn dir li vinn koz-koze **pou** *mo* napa res tousel
(Virahsawmy: LF)
myself I ASP tell him come chat **for** *I* not stay alone
'I myself told him to come for a chat so that I wouldn't be alone'(for me not to stay alone)

In (8), *mo* must be present after *pu* in order to make it clear that the subject of the embedded clause is the same as the subject of the main clause (not the direct object). Without *mo*, the subordinate clause in (8) could read 'for me not to stay alone' or 'for him not to stay alone'. Like *ki*, *pu* can follow a bimorphemic wh- word (9), but unlike *ki*, it can also follow a monomorphemic wh- word (section 2.2) (10).

(9) li ... pe pahse **kimanyer pu** li fer pu kuyoh so kamwad-la
(Baker 151)
she ASP think **how** **for** she do for cajole her friend-the
'She...was thinking of how she could make amends with her friend.'

(10) kisannla kone **ki pou** fer ? (Virahsawmy: Prezidan Otelo)
who know **what for** do ?
'Who knows what to do?'

The last complementizer which I will discuss here is *si* 'if'. *si* is similar to *ki* in that it requires a finite

complement with a nominative subject and that the subject pronoun of the complement cannot be dropped (11).

(11) **si** to pa ekout moi, kit sa lakaz la ale
(Virahsawmy: LF)
if you not listen me leave DEM house DET go
'If you won't listen to me, then get out of this house'

Alone among the complementizers, *si* has a negative counterpart *sipa* 'if not'. According to Baker (1972: 136), *sipa* only occurs when the negator *pa* is present in the main clause (12), but there are numerous examples in my data where *sipa* occurs independent of negation in the main clause (13).

(12) **pa** kone aster **sipa** li pou kapav gagn li
(Virahsawmy: Dr. Nipat)
not know now **ifnot** he ASP can get it
'I don't know now if he can get it.'

(13) Dammarro, pins moi enn kou pou gete **sipa** mo pa pe reve
(Virahsawmy:Toufann)
pinch me DET moment for see **if-not** I not ASP dream
'Dammarro, pinch me for a moment to see whether or not I'm dreaming'

si can occur following *ki* (14)[2], as well as preceding a topic (15):

(14) sirtu **ki si** sa ti Radyu li ti pu kon mwa
(Baker 186)
especially **that if** DEM TNS Radyu he TNS ASP know me
'Especially since if that was Radyu, he would have known me.'

(15) **si** **li** li don ou enn travay...
(Virahsawmy: LF)
if **him** he give you DET work
'If he gives you work...'

ki, discussed above in its role as complementizer, is also used as a relativizer. A clause introduced by the relativizer *ki* modifies a preceding noun (16). *ki* as a relativizer doesn't appear to cooccur with any other overt CP elements.

(16) sa kamwad la **ki** ti don li Maryay kumahs zalu li (Baker 156)
that friend the **who** TNS give her Maryay start jealous her
'The friend who had given her Maryay began to get jealous of her'

2.2 Question Words

In Mauritian Creole, wh- questions are expressed by movement of a wh- phrase to CP. There are two classes of wh- words in Mauritian Creole; monomorphemic (*ki* 'what, who', *kuma* 'how', *komie/kumie* 'how much/many', *kot/kote* 'where', *kan* 'when') and bimorphemic (*kifer* 'why', *kizafer* 'what (thing)', *kikalite* 'what kind', *kiler* 'what time', *kikote* 'where (what side)', *kimanier* 'how (what manner)', *kisana/kisanla* 'who (that one)', *puki* 'for whom'). Both classes of wh- word can occur in main clause questions ((17)&(18)) as well as in embedded questions ((19)&(20)).

(17) **kan** nou pou rezoinn ? (Virahsawmy: Souiv larout ziska)
when we ASP meet-again ?

[2] This example may simply show an accidental adjacency with an independant subordinate clause.

'When will we meet again?'

(18) **kifer** to pa 'le mahze?
(Baker 152)
why you not want eat ?
'Why don't you want to eat?'

(19) personn pa kapav dir moi [**ki** ler la] ? (Virahsawmy: Dernier vol)
noone not can tell me [**what** time DET]
'Can't anyone tell me what time it is?'

(20) get enn kou bien [**kisannla ki** toultan telman okipe...] (Virahsawmy: Profeser Madli)
look a moment well who that always so busy..
'Take a good look at who is always so busy...'

Despite many similarities, these two classes of wh- words behave differently in some aspects of the syntax, especially with respect to other elements in CP. For example, bimorphemic wh- words can be followed by either one of the complementizers *ki* 'that' or *pu* 'for' ((15)&(16)), whereas monomorphemic wh- words can only be followed by *pu* ((17)&(18)).

(21) **kisana ki** to ti don sa liv la ?
(Adone&Vainikka 78)
who **that** you TNS give this book the ?
'Who did you give this book (to)?'

(22) li ... pe pahse **kimanyer pu** li fer pu kuyoh so kamwad-la
(Baker 151)
she ASP think **how** **for** she do for cajole her friend-the
'She...was thinking of how she could make amends with her friend.'

(23) kisannla kone **ki** **pou** fer ? (Virahsawmy: Prezidan Otelo)
who know **what for** do ?
'Who knows what to do?'

(24) ***kan** **ki** to pou vini ?
(Adone&Vainikka 79)
when that you ASP come ?

Bimorphemic wh- words are found following a topic (25), as well as preceding a focus and a complementizer (26). Monomorphemic wh- words are found preceding *pu* (27), as well as following a topic or a focus (28).

(25) **an mars, kikalite** letan gagne dan landroi kot fet ti pou deroule? (Virahsawmy: Souiv larout)
in march, what weather have in area where party TNS ASP happen
'In March, what kind of weather was there at the place where the party was held'

(26) **kifer zordi ki** to pe dir moi sa ? (Virahsawmy: Profeser Madli)
why today that you ASP say me this ?
'Why today(of all days) do you tell me this?'

(27) kisannla kone **ki** **pou** fer ? (Virahsawmy:

Prezidan Otelo)
who know **what for** do ?
'Who knows what to do?'

(28) **toi ki** to pou fer aster? (Virahsawmy: Souiv larout)
you what you ASP do now?
'What are you doing now?'

Another type of question under consideration here is the yes/no question. Yes/no questions are signaled either by intonation, or by placing the word *eski* at the beginning of the sentence. *eski* only occurs in main clause questions (29); embedded yes/no questions are marked by the complementizer *si/sipa* (30).

(29) **eski** to'nn dir li tousa ?
(Virahsawmy: Galileo Gonaz)
Q you'ASP say him allthat ?
'Did you tell him all that?'

(30) mo pa kone [**sipa** mo pou kapav donn satisfaksion]. (Virahsawmy: Dr Nipat)
I not know **ifnot** I ASP can give satisfaction.
'I don't know if I can give satisfaction'

eski can be preceded or followed by a topic ((31)&(32)).

(31) **toi eski** to dispoze mars ar moi ? (Virahsawmy: Zil Sezar)
you Q you willing walk with me ?
'Are you willing to walk with me?'

(32) **eski moi'si** mo finn infekte par sindrom intelektiel ? (Virahsawmy: Souiv larout...)
Q me'too I ASP infect by syndrome intellectual ?
'Have I too become infected by the intellectual syndrome?'

2.3 Topic and Focus Constructions

In addition to complementizers and question words, Mauritian Creole also allows topic and focus constructions to occur within CP. Rizzi makes several claims regarding topic and focus constructions which should be addressed at this point. First, he claims that 'a topic can involve a resumptive clitic within the comment. If the topicalized constituent is the direct object, the clitic is obligatory. On the other hand, a focalized constituent is inconsistent with a resumptive clitic' (Rizzi 1997: 289). Although the results are sometimes obscured by the fact that subjects can be dropped in Mauritian Creole, this test is useful for distinguishing between topic (33) and focus (34).

(33) **sa tifi**, li ti al lafrans
(Adone 27)
DEM girl, she TNS go France
'That girl, she went to France (not England)'

(34) **sa karo kan la**, misie Zorz ti ule vande
(Adone 27)
DEM field sugar-cane DET, mister George TNS want sell
'This sugar-cane field, Mister George wanted to sell (not that one)'

The fact that (33) contains the resumptive pronominal subject *li* indicates that it must be a topic construction, since focus constructions cannot contain a resumptive pronoun. In (34), 'sa karo kan la' is the direct object of 'vande'. Since a resumptive clitic is required in a topic construction if it is a direct object and there is no resumptive clitic in this sentence, this construction must be a focus.

Rizzi (1997: 291) also claims that 'a wh- operator in main questions is compatible with a Topic in a fixed order (Top Wh), whereas it is incompatible with a Focus'. This assumption is not born out in Mauritian Creole, where not only can a topic follow Wh (35), but a focus can also follow Wh (36).

(35) **kifer toi** to pa fou moi lape (Virahsawmy: Prezidan Otelo)
why you you not wreck me peace
WH TOPIC
'Why don't you leave me in peace?'

(36) **kifer zordi** ki to pe dir moi sa ? (Virahsawmy: Profeser Madli)
why today that you ASP say me this ?
WH FOCUS
'Why today(of all days) do you tell me this?'

3. THEORETICAL BACKGROUND: RIZZI'S PROPOSAL

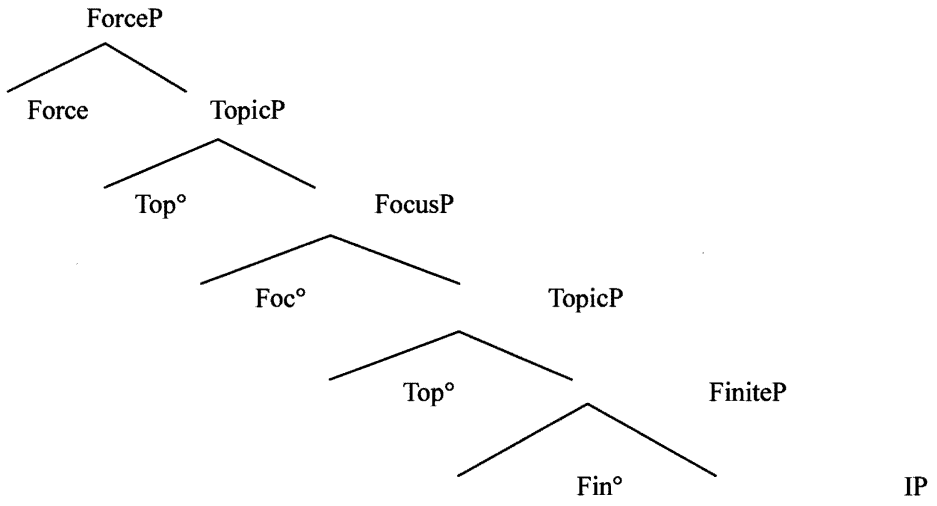
In his 1997 article 'The Fine Structure of the Left Periphery', Rizzi proposes that, just as IP and VP have been expanded in the last few decades, CP must be expanded to accommodate the range of constituents which can occur at the left periphery of a clause (1997: 281). In his article, which focuses mainly on Italian, English and French, Rizzi considers four types of constituents which may occur at the left periphery; relative pronouns, interrogative pronouns, topicalized elements and focalized elements (1997: 281). The theoretical framework of Rizzi's article assumes 'Relativized Minimality', while in terms of motivating movement to CP, Rizzi assumes that 'syntactic movement is "last resort" in the precise sense that it must be triggered by the satisfaction of certain quasi-morphological requirements of heads' (Rizzi 1997: 282). In other words, any kind of movement to the left periphery of a clause is motivated by the need to satisfy the criterion that a head must be in 'spec-head configuration with the preposed phrase' (Rizzi 1997: 282).

Central to Rizzi's proposal is the idea that the complementizer system is an "interface" between the subordinate clause and the matrix clause. Rizzi (1997) claims that English 'that' and Italian 'che' have a closer relationship to the matrix clause, while English 'for' and Italian 'di' have a closer relationship with the subordinate clause. 'that' and 'for' are said to have different specifications for finiteness, because 'that' takes a finite complement, while 'for' requires a nonfinite complement. For this reason, these two complementizers are claimed to occupy different positions in CP; 'that' occurs in the head of ForceP, the highest phrase in the representation, while 'for' occurs in the head of FinP, the lowest phrase in the representation.

Another important distinction which Rizzi includes in his expanded CP is between Topic and Focus constructions. These two types of construction are also claimed to inhabit different positions in the CP structure. Topic constructions occur in spec of TopP, and Focus constructions occur in spec of FocP. The heads of TopP and FocP are null in many languages (including English and Italian), but may contain topic and focus particles in other languages like Gungbe (Rizzi 1997: 287). This structure is in line with the "last resort" representation of movement, since the preposed phrase (Topic or Focus) will be in spec-head configuration with the head of TopP and FocP, whether or not they are phonetically realized. Another important aspect of the structure which Rizzi proposes is the fact that TopP and FocP are only present when required, ie. 'when a constituent bears topic or focus features to be sanctioned by a spec-head criterion' (Rizzi 1997: 288).

Given the assumptions made thus far, Rizzi (1997: 297) proposes the structure shown in (37).

(37)



In subsequent work, Rizzi (1999) has expanded this structure further, to include Int(errogative)P and another phrase which he tentatively names Wh. His motivation for including the category IntP is that in Italian, the complementizer *se* 'if' doesn't pattern with *che* or *di*; it is located somewhere between the two. Wh is said to host embedded wh- words, and in fact Rizzi gives two separate structures: one for main clauses (38) and one for embedded clauses (39).

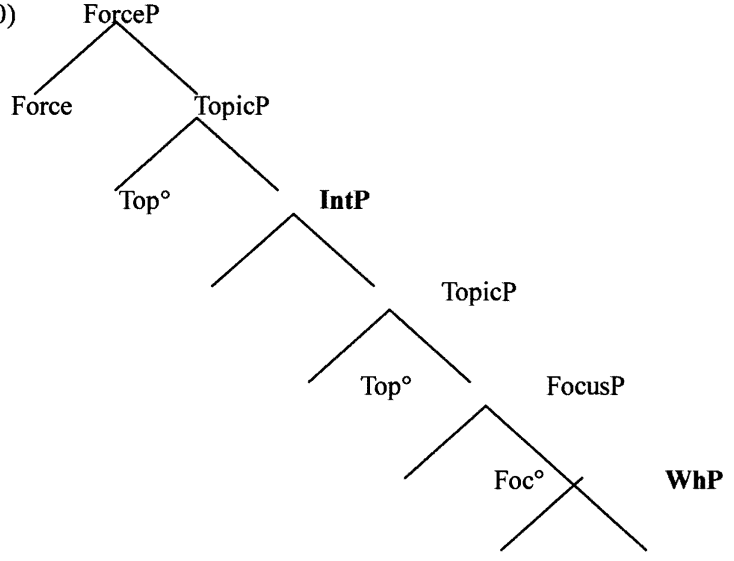
(38) FORCE (TOP*) INT (TOP*) FOC (TOP*) FIN IP (Rizzi, 1999, p.3)

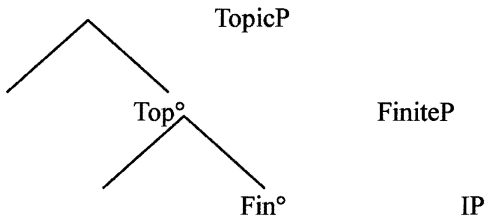
(39) ... Force ... INT ... FOC ... Wh ... (Rizzi, 1999, p.5)

4. MAURITIAN CREOLE AND RIZZI'S PROPOSAL

With a few minor adjustments, I believe that Rizzi's proposed CP structure is able to account for the distribution of elements at the left periphery of the Mauritian Creole clause. First, if Rizzi's structure is to account for Mauritian Creole, the structures in (38) and (39) must be merged to create the tree in (40).

(40)





This tree structure is sufficient to explain all of the patterns seen in examples (1)-(30).

Rizzi claims that whatever is in ForceP expresses the type of clause that follows (ie. declarative, interrogative, relative etc...) (Rizzi 1997: 283). Therefore, a clause which is headed by a relative is a relative clause and a clause which is headed by the complementizer *that* is a declarative. For Mauritian Creole, I follow Rizzi's suggestion that relativizers occur in Spec of ForceP, since I have no evidence to the contrary, and I will also follow the assumption that *that* occurs in the head of ForceP. The Mauritian Creole complementizer *ki* has all the properties that Rizzi claims for *di* and *that* (finiteness, declarative force etc...), therefore I see no reason why it should not be assumed to occur in the head of ForceP (See example (1)).

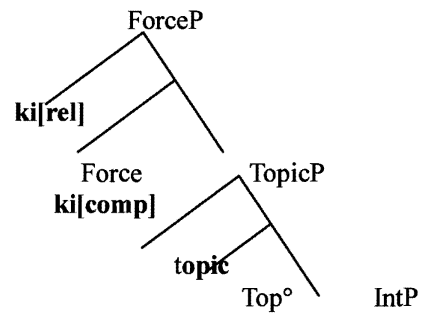
Next, Rizzi proposes that prepositional-type complementizers like *for* and *di* occur in FinP (1997: 288). These complementizers are referred to as prepositional because they usually have case agreement with the subject of the embedded clause (ie. the subject will have prepositional case instead of nominative case). Although the Mauritian Creole equivalent *pu* can be shown to occur in FinP based on the fact that nothing can intervene between it and IP, it doesn't have all of the properties that a non-finite complementizer normally has (Rizzi 1997: 284). Most significantly, even though the complement of *pu* must always be nonfinite (as is expected), the subject is in nominative case rather than in prepositional case (See example (6)).

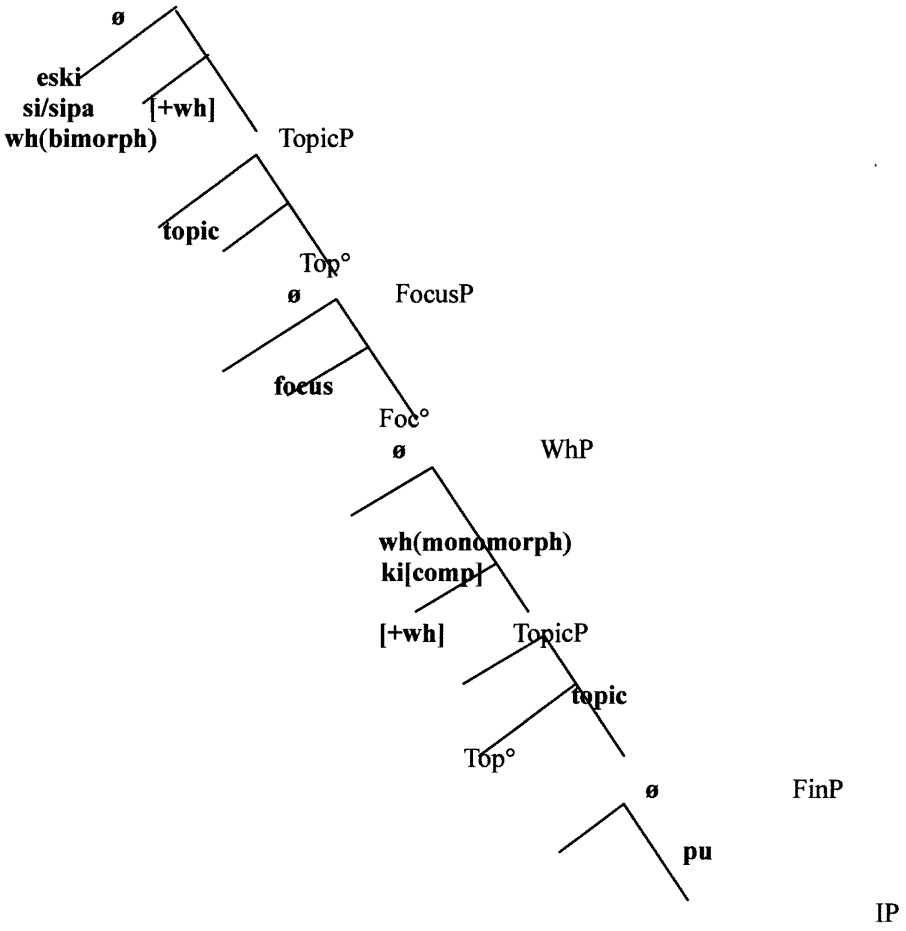
Rizzi's (1999) addition of IntP to the structure of CP is very important for an analysis of Mauritian Creole. Although Rizzi only discusses the presence of the complementizer *se* in embedded clauses for this position, in Mauritian Creole it hosts the complementizer *si/sipa*, as well as *eski*, *si/sipa*'s counterpart in main clause yes/no questions. This is shown by the fact that both *eski* and *si/sipa* can be preceded by or followed by a topic (see (17)&(21)), as well as the fact that neither can co-occur with bimorphemic question words. Bimorphemic question words also show up in IntP, which is shown by the fact that bimorphemic wh- words can be preceded by a topic, which comes between ForceP and IntP, and because it can be followed by a focus and the complementizer *ki* (see (3)).

Rizzi's (1999) WhP is also very important to an analysis of Mauritian Creole. Although in his formulation, WhP only hosts embedded wh- phrases, I claim that in Mauritian Creole, it hosts the monomorphemic wh- words, and the complementizer *ki*. *ki* is found in two places in the structure; Foc° and WhP. In its position as head of ForceP, it types its clause as declarative and maintains a relationship with the matrix clause, while in its WhP position, it follows a bimorphemic wh- word, reinforcing the interrogative strength of the clause.

Based on the above discussion, I propose that the final version of the structure of the Mauritian Creole CP is as in (41).

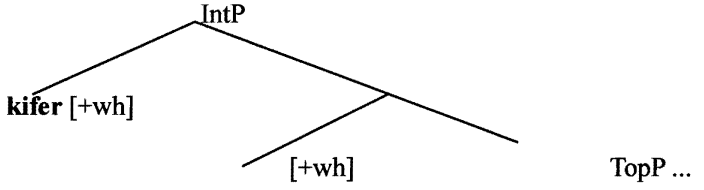
(41)





An important part of this analysis is to show why movement of topic, focus and wh- elements occurs. As mentioned in section 2, Rizzi assumes that movement occurs because the heads of phrases have certain criteria which must be satisfied. In Rizzi (1997: 282), topic and focus constructions move to the spec of TopP and FocP because they need to satisfy the criterion that the heads (Top° and Foc°, containing, respectively, the features [+topic] and [+focus]) be in spec-head configuration with a [+topic] or [+focus] constituent. A similar situation exists for movement of wh- words. The heads of IntP and WhP contain the feature [+wh], therefore they must be in spec-head configuration with [+wh] constituents. In (36), we see that *kifer* moves into spec of IntP because of the agreement of its [+wh] features with those of the head.

(42)



5. FUTURE RESEARCH

Due to limited space, I have not been able to cover every aspect of the Mauritian Creole CP, but in this final section I will suggest some areas of my analysis that could be expanded in future work. First, I did not go into detail about the differences between the occurrence of the constituents in CP in main clauses as opposed to their occurrence in embedded clauses. It is possible that some of the distributional properties of the constituents are directly related to whether they are occurring in a main clause or in a subordinate clause. Rizzi(1999) shows the

importance of positing a separate position for wh- in embedded clauses in Italian, so it stands to reason that this distinction could be important in Mauritian Creole as well.

Another issue that needs to be worked out relates to movement of wh- elements. If both monomorphemic and bimorphemic wh- words have the feature [+wh], and both IntP and WhP have the feature [+wh], how do we show that monomorphemic wh- words are only allowed to move to WhP and that bimorphemic wh- words are only allowed to move to IntP? For the time being, I have no answer to these questions, but I hope to be able to address them in future work.

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PREDICATE CONTROL IN THE MANDARIN *JIANYU* CONSTRUCTION

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1. INTRODUCTION

The sentence structure $NP_1 + V_1 + NP_2 + V_2$ is a common form in many languages, including English and Mandarin. English examples are given in (1)a-b (Perlmutter & Soames, 1979). The Mandarin *Jianyu* construction has the form given in (2).

(1)a. I expected Tom to go.
b. I forced Tom to go.

(2) Wo rang ni likai.
I let you leave
I asked you to leave.

The different grammatical properties of predicate verb (V_1) in (1)a and (1)b were discussed in Carnie (2002) and Perlmutter & Soames (1979): V_1 *expect* in (1)a is a raising verb, whereas V_1 *force* in (1)b is a control verb. In this paper, we discuss V_1 in the Mandarin *Jianyu* construction and propose that V_1 is an object control verb (also see Xue & McFetridge, 1998).

Issues from section 2 to section 5 are organized as follows: section 2 introduces *Jianyu* and the *Jianyu* construction. Section 3 reviews several types of verbs that occur in the position of V_1 and focuses on one type: causative verbs. Section 4 analyzes V_1 in the framework of HPSG. Two criteria will be examined to find out whether V_1 in the *Jianyu* construction is an object control verb. Section 5 summarizes the results.

2. THE JIANYU CONSTRUCTION IN MANDARIN

As an original Mandarin term, *Jianyu* does not have an equivalent word in English. The morpheme *yu* refers to grammatical relations, as in *zhuyu* (subject), *binyu* (object), *zhuangyu* (adverbial), et cetera. *Jian*, which is originally a verb, means "to play two different roles". Put together, "*jianyu*" means a word (phrase) playing two different roles in a sentence. In the Mandarin Jianyu construction, $NP_1 + V_1 + NP_2 + V_2$, NP_2 plays double role, for it connects two verbs adjacent to it: V_1 and V_2. Since SVO is the basic sentence structure in Mandarin, it suggests that the two roles of NP_2 (*Jianyu*) are the object of V_1 and the subject of V_2. Hence, the *Jianyu* construction can be described as the structure $NP_1 + V_1 + NP_2 + V_2$ in which a noun (or noun phrase) functions as the object of the verb preceding it and the subject of the verb following it. Another example of the *Jianyu* construction is shown in (3):

(3) Ta de hua shi wo shengqi.
He poss-particle words make I get angry
His words made me angry.

In this sentence, NP_1 is *ta de hua* (his words), V_1 is *shi* (make), NP_2 (*jianyu*) is *wo* (I), V_2 is *shengqi* (get angry). *Wo* is the object of the causative verb *shi* (we will discuss it later) and also the subject of another verb, *shengqi*. In the next section, we switch our attention to V_1. We first briefly review four types of verbs that appear in the V_1 position. And then we focus on one type of V_1, the causative verb, and discuss three different groups of causative verbs.

3. TYPES OF V_1

In Wu (1990), V_1 is categorized into four types according to its lexical meanings:

Type 1 (T_1) ------- causative verbs (*rang* (to make), *quan* (to persuade), *bi* (to force)...);
Type 2 (T_2) ------- vocative verbs (*jiao* (to call), *chenghu* (to address)...);
Type 3 (T_3) ------- verbs showing feelings (*xihuan* (to like), *zhuhe* (to congratulate), *ganji* (to be grateful)...);
Type 4 (T_4) ------- verbs referring to existence or possession (*you* (there be, to have...)).

Due to the limits of space, this paper only discusses type 1: causative verbs.

3.1 Causative verbs

Xing (1995) proposes that most Mandarin causative sentences, in the form of NP_1 + causative verb + NP_2 + V_2, are *Jianyu* constructions. She also points out that the causative verbs in this structure (called the "causative *Jianyu* construction") have three arguments: NP_1, NP_2, and V_2. NP_1 is the causer or agent, NP_2 is the causee or patient, and V_2 is the result caused by V_1. Sentence (3), given above and repeated here, is a typical causative *Jianyu* construction:

(3) Ta de hua rang wo shengqi.
He poss-particle words make I get angry
His words made me angry.

Ta de hua (his words) is the causer, *rang* (to make) is a causative verb, *wo* (I) is the causee, and the result which *rang* causes is V_2 (*shengqi*, I got angry). Alsina (1992) proposes that a causative structure must contain a causer and a caused event. The relationship between the causer and the caused event is described as follows: "the causer (or agent) acts on an individual, the patient, to bring about an event, of which this individual is itself an argument" (p.521). According to this, the Mandarin causative *Jianyu* constructions can be interpreted as construction where NP_1 (causer, the agent) brings about (V_1) a caused event (the result VP_2) to NP2 (causee, the patient). In other words, the causative verb V_1 connects three arguments: NP_1, NP2 and VP_2.

The most common causative verbs in Mandarin are *rang*, *jiao*[2], and *shi*, which amount to English *to make* or *to let*. Causativity is the only meaning of these three verbs. The above sentence (3) is a *rang* example, while sentences (4) and (5) are examples of *jiao* and *shi*.

(4) Laoshi *jiao* women kan heiban.
Teacher let we look blackboard
The teacher asked us to look at the blackboard.

(5) Ta de hua *shi* wo xiang ku.
He poss-particle words make I want cry
His words almost made me want to cry.

A number of other causative verbs not only mean causativity but also contain some specific meanings. Verbs in this group include *quan* (persuade), *bi* (force), *cui* (urge), *jinzhi* (forbid), *pai* (assign), *qingqiu* (beg), *mingling* (demand), *guwu* (motivate), and *yunxu* (allow). Take *quan* and *bi* for instance. *Quan* means "to make (someone) willing to do something by reasoning, arguing, repeatedly asking, etc.", and *bi* means "to make (an unwilling person or animal) do something" (Longman, 1987). Examples are given in (6) and (7):

[2] This *jiao* is different from the *jiao* as vocative verb.

(6) Wo *quan* Lisi canjia julebu.
I persuade Lisi join club
I persuaded Lisi to join the club.

(7) Zhangsan *bi* Lisi qu xuexiao. (Xue & McFetridge, 1998)
Zhangsan force Lisi go school
Zhangsan forced Lisi to go to school.

Causative verbs in the third group attribute two thematic roles to NP_1: NP_1 is not only the agent (causer) of V_1 but also the agent of the caused event V_2. These verbs include *song* (to take sb.), *dai* (to bring sb.), *chan/fu* (to hold one's arm), and *pei* (to accompany). Example sentences are given in (8)-(10):

(8) Wo *song* Lisi hui jia.
I take Lisi return home
I took Lisi to return home.

(9) Wo *chan* ni shang lou.
I hold.your.arm you up stairs
I helped you go upstairs.

(10) Ta *dai* women qu xuexiao.
He take we go school
He took us to school.

In sentence (8), *wo* (NP_1) is not only the agent of *song* (V_1) but also the agent of *hui* (V_2, to return). In other words, *wo* and *Lisi* (NP_2) both returned to *Lisi*'s home. In sentence (9), two people (*wo* and *ni*) went upstairs. In sentence (10), both *ta* (NP_1) and *women* (NP_2) went to school. However, in these sentences, the status of NP_1 and NP_2 are different: as a helper, NP_1's status is secondary to NP_2.

Therefore, causative verbs can be divided into three groups based on two criteria: (1) whether causativity is the only meaning, and (2) whether NP_2 is the only agent of V_2. In the next section, we propose that the causative verbs in the Mandarin *Jianyu* construction are object control verbs, through a Head-Driven Phrase Structure Grammar (HPSG) analysis.

4. ANALYSIS OF V_1

As mentioned in section 1, V_1 (to expect) in sentence (1)a is an object raising verb, while in sentence (1)b it (to force) becomes an object control verb (also see Sag et al., 2003). Our question is whether V_1 in the Mandarin *Jianyu* construction is an object raising verb or an object control verb. As mentioned earlier, only the causative predicate verb is discussed in this paper, due to space limits.

Two criteria for the assessment are based on Sag et al. (2003). The first one is whether the verb takes a non-referential noun as an argument. If yes, it is an object-raising verb; if not, it is an object-control verb. The second criterion is whether the passive structure is well-formed, and, if it is well-formed, whether the passive form is synonymous to its active counterpart. If yes, it is an object-raising verb; if not, it is an object-control verb.

4.1 Non-referential nouns in Mandarin

There are two different opinions on the definition of non-referential nouns in Mandarin. Lin (1997) proposes that the Mandarin non-referential noun "*ta*", like the non-referential noun "it" in English, bears no value and zero reference. The HPSG description of non-referential noun is [MODE none] and [INDEX none]. The example is given in (11):

(11) he *ta* liang bei pijiu
drink it two glass-CLASSIFIER beer
drink two glasses of beer

Non-referential "ta" occurs between a verb and its object. Although it appears in the object position, the noun following it is the real object. In most cases, the real object is preceded by a numeral word and a classifier. See another example in sentence (12):

(12) qing *ta* yi bai ge pengyou
treat (a dinner) it one hundred CLASSIFIER friend
treat one hundred friends a dinner

Hsin (2002) argues that the value of a non-referential noun is not "none" but "indefinite", like "*ren*" in sentence (13):

(13) You *ren* zhidao le.
there.be people know ASP
Some people knew.

In this paper, we follow the first position, taking [INDEX none] as the primary characteristic for Mandarin non-referential nouns. Therefore, "*ta*" in (11) and (12) is an non-referential noun; "*ren*" in (13) is an ordinary noun.

4.2 Passive form " Bei" structure in Mandarin

Mandarin uses the "Bei-structure" as one of its most common passive structures (also see Xue & McFetridge (1998) & M. Li (1985)). A transformation from an active form to its passive form is shown in (14)a and b:

(14)a. Gege ma le ta.
Elder-brother scold ASP he
His elder brother scolded him.

b. Ta *bei* gege ma le.
He BEI elder-brother scold ASP
He was scolded by his elder brother.

4.3 Lexical entries of orv and ocr

In the following sections, 4.4, 4.5 and 4.6, we use the aforementioned two criteria to assess the three groups of causative verbs in order to find out whether they are object-raising verbs or object-control verbs in the Mandarin *Jianyu* construction in the framework of HPSG. The HPSG lexical descriptions of object-raising-verbs (orv) and object-control-verbs (ocr) are given in (16) and (17) (Sag et. al, 2003, p378):

(16) object-raising-verb-lxm (orv-lxm)

$$\left[\begin{array}{l} \text{ARG-ST} < \text{NP}, \boxed{1}, \left[\begin{array}{l} \text{SPR} \quad < \boxed{1} > \\ \text{COMPS} < \quad > \\ \text{INDEX} \quad s_2 \end{array}\right] > \\ \\ \text{SEM} \quad [\text{RESTR} < \text{ARG} \quad s_2 >] \end{array}\right]$$

(17) object-control-verb-lxm (ocv-lxm)

$$\begin{bmatrix} \text{ARG-ST} < \text{NP}, \text{NP}, \begin{bmatrix} \text{SPR} & < \text{NPi} > \\ \text{COMPS} & < \quad > \\ \text{INDEX} & s_2 \end{bmatrix} > \\ \\ \text{SEM} \quad [\text{RESTR} < \text{ARG } s_2 >] \end{bmatrix}$$

Descriptions in (16) and (17) show that object-raising verbs (orv) and object-control verbs (ocr) have three arguments. An object-raising verb can take a referential or a non-referential noun as its second argument. An object-control verb, however, only takes a referential noun as the second argument. Besides this, an object-raising verb only gives semantic roles to the first NP argument. An object-control verb, however, gives both NP arguments semantic roles.

4.4 V_1 in *rang* group

As pointed out in section 3.1, causative verbs in the *rang* group only bear causative meaning and do not have any other specific lexical meanings. See sentence (3) (repeated here as (15)).

(15) Ta de hua *rang* wo shengqi.
He poss-particle words make I get angry
His words made me angry.

In this sentence, the predicate verb *rang* takes the non-animate noun phrase *ta de hua* as subject and the pronoun *wo* as object and gives them two thematic roles: causer and causee, respectively. The causative verb *rang* has three arguments: *ta de hua*, *wo*, and *shengqi*. The third argument also receives its thematic role, caused event, from the causative verb. The second argument is a referential noun, *wo*. Next we examine whether the referential noun *wo* can be replaced by the non-referential noun "*ta*".

As discussed in 4.1, the only environment for non-referential "ta" is between a verb and its object; in most cases the object is preceded by a numeral word and a classifier in a row. Therefore, in the *Jianyu* construction, non-referential "ta" appears in the position of *Jianyu.* This is to say; the real object of the causative verb becomes the third argument and refers to the result of the caused event. However, this is not true in Mandarin.

(18)a. *Wo rang[4] *ta* liang bei pijiu
I let it two glass-CLASSIFIER beer

b. *Tamen shi *ta* yi bai ge pengyou
They let it one hundred CLASSIFIER friend

c. *Zhangsan jiao *ta* wu ge xuesheng
Zhangsan let it five CLASSIFIER student

If we add a verb argument to the above sentences, they turn into well-formed causative constructions.

(19)a'. Wo rang *ta* liang bei pijiu sa zai di shang.
I let it two glass-CLASSIFIER beer spill at ground on
I let two glasses of beer spill on the ground.

[4] In (18), these three sentences are well formed in Mandarin if *rang, shi, jiao* are not causative verbs and not in the *jianyu* construction.

b'. Tamen shi *ta* yi bai ge pengyou shengqi.
They let it one hundred CLASSIFIER friend get angry
They let one hundred friends get angry.

c'. Zhangsan jiao *ta* wu ge xuesheng shengqi.
Zhangsan let it five CLASSIFIER student angry
Zhangsan let five students get angry.

However, in the above three sentences, (19) a'-c', the second argument of V_1 (NP_2 or *jianyu*) is not the non-referential noun "*ta*"[5] but the real object, *pijiu, pengyou,* or *xuesheng,* in that the third argument is the added verb phrase. The real object of V_1 obtains an agent role from the added argument.

According to the above analysis, we found that the causative verb in the first group does not fit the first criterion since the non-referential noun itself cannot be the second argument.

The second criterion is whether the verb can be passivized in a well-formed structure. The active-passive pairs for sentences (3), (4) and (5) are given in (20)-(22).

(20)a. Ta de hua rang wo shengqi.
He poss-particle words make I get angry
His words made me angry.

b. *Wo *bei* ta de hua rang shengqi.
I BEI he poss-particle words make angry

(21)a. Laoshi jiao women kan heiben.
Teacher let we look blackboard
The teacher asked us to look at the blackboard.

b. *Women *bei* laoshi jiao kan heiban.
We BEI teacher let see blackboard

(22)a. Ta de hua shi wo xiang ku.
He poss-particle words make I want cry
His words made me want to cry.

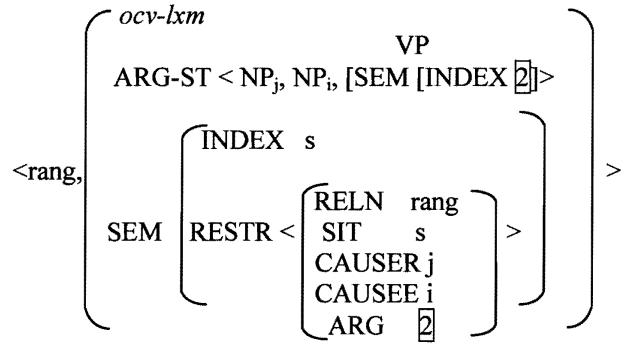
b. *Wo *bei* ta de hua shi xiang ku.
I BEI he poss-particle words make want cry

None of the passive forms are accepted as grammatical sentences in Mandarin.

To sum up, the causative verbs *rang, jiao,* and *shi* are unlikely to be called object-raising verbs in the Mandarin *Jianyu* construction, in that they fit neither of the criteria. According to what was said earlier, they are object-control verbs. The lexical entry of rang is drawn in (23).

[5] At least the second argument can not be the non-referential noun itself if we reckon the combination of non-referential noun and the real object to be the second argument.

(23)



4.5 V_1 in *quan* group

Since there are a number of causative verbs in this group, we choose *quan* (to persuade), and *bi* (to force) to discuss. Unlike the *rang* group, the non-referential noun "*ta*" can follow all the verbs in this group:

(24)a. Wo quan *ta* yi bai ju hua.
I persuade it one hundred sentence-CLASSIFIER words
I persuaded (sb.) with one hundred words.

b. Lisi bi *ta* shi ci.
Lisi force it ten time-CLASSIFIER
Lisi forced ten times.

Nevertheless, we cannot turn (24)a-b into a *Jianyu* construction. Unlike the causative verbs in the *rang* group, verbs in this group do not allow another VP to be added as the caused event. Therefore, it is unlikely to give further discussion on whether causative verbs in the *quan* group fit the first criterion.

In order to find out whether causative V_1 in the *quan* group meets the second criterion, sentences (6) and (7) (repeated here as (25) and (26)) are transformed into passive forms, as given in (25)b and (26)b:

(25)a. Wo quan Lisi canjia le julebu.
I persuade Lisi join ASP club
I persuaded Lisi to join the club.

b. ? Lisi *bei* wo quan canjia le julebu.
Lisi BEI I persuade join ASP club

(26)a. Zhangsan bi Lisi qu xuexiao. (Xue & McFetridge, 1998)
Zhangsan force Lisi go school
Zhangsan forced Lisi to go to school.

b. Lisi *bei* Zhangsan bi qu xuexiao.
Lisi BEI Zhangsan force go school
Lisi was forced by Zhangsan to go to school.

The passive form in (26)b is a well-formed sentence and also analogous to (26)a. Another verb *jinzhi* (to prohibit) in this group also shows a well-formed and analogous passive form:

(27)a. Xuexiao jinzhi women wangshang chu qu.
School prohibit we night out go
Our school prohibited us to go out at night.

b. Women bei xuexiao jinzhi wangshang chuqu.
We BEI school prohibit night out go
We were prohibited to go out at night by the school.

So far, causative verbs in the *quan* group seem to offend the first criterion whereas fit the second criterion fairly well. However, this is similar to the English control verb "persuade". It can be passivized in a well-formed sentence, like "I was persuaded to go", which is also synonymous to its active form "Someone persuaded me to go". The passivized "persuaded", however, cannot appear in sentences like "*The project is persuaded to be done by Monday". Therefore, it cannot be called a raising verb since it does not fit the second criterion. In Mandarin, with "*bi* (to force)" for example, the passive form in (28) is not grammatical.

(28) *Zhe xiang gongcheng bei bi xingqiyi zhiqian wancheng
This CLASSIFIER project BEI force Monday before finish
The project is forced to be done by Monday.

To summarize, passivized causative verbs in the *quan* group are not allowed to appear in every passive form. Therefore causative verbs in this group cannot be assessed as object-raising verbs, in that they fit neither criterion. The causative verbs in this group are also object-control verbs. The lexical entry of *quan* is given in (29).

(29)

$$\langle \text{quan}, \left[\begin{array}{l} \textit{ocv-lxm} \\ \text{ARG-ST} < \text{NP}_j, \text{NP}_i, [\text{SEM } [\text{INDEX } \boxed{2}] > \\ \text{SEM} \left[\begin{array}{l} \text{INDEX } s \\ \text{RESTR} < \left[\begin{array}{l} \text{RELN } quan \\ \text{SIT } s \\ \text{PERSUADER } j \\ \text{PERSUADEE } i \\ \text{ARG } \boxed{2} \end{array} \right] > \end{array} \right] \end{array} \right] \rangle$$

4.6 V_1 in *song* group

The last group of causative verb can take the non-referential noun "*ta*" and its real object in a row, as shown in (30) and (31).

(30) Wo song ta shi ge ren.
I take it ten CLASSIFIER person
I took ten people (to somewhere).

(31) Lisi dai ta ershi ge haizi.
Lisi take it twenty CLASSIFIER child
Lisi took twenty children (to somewhere).

Verb phrases referring to the caused event can also be added to the end of the above sentences as shown in (32) and (33).

(32) Wo song ta shi ge ren qu gongyuan.
I take it ten CLASSIFIER person go park
I took ten people to the park.

(33) Lisi dai ta ershi ge haizi shang lou.
Lisi take it twenty CLASSIFIER child up stairs
Lisi took twenty children to upstairs.

Discussion on this issue is similar to that in the first group. Once the caused event is added, the second argument of the causative verb is not the non-referential noun *ta* but the real object, the agent of the third argument. The causative verbs in the *song* group, therefore, do not fit criterion 1.

The passivization forms of the causative predicate are well-formed and synonymous to their active counterparts. Examples are given in (33) and (34).

(33)a. Wo song Lisi hui jia.
I take Lisi return home
I took Lisi home.

b. Lisi *bei* wo song hui jia.
Lisi BEI I take return home
Lisi was taken home by me.

(35)a. Wo chan ni shang lou.
I hold.your.arm you up stairs
I helped you go upstairs.

b. Ni *bei* wo chan shang lou.
You BEI I hold.your.arm up stairs
You were helped by me go upstairs.

To conclude, causative verbs in the *song* group have double performance. On one hand, they cannot take non-referential nouns as their arguments in the *Jianyu* construction; hence they are not raising verbs. On the other hand, they are not control verbs either, in that their passive forms are well-formed and analogous to their active counterparts. The semantic analysis for sentence (33)a is given in (36).

(36) Wo song Lisi hui jia.

$$\left[\begin{array}{l}\text{MODE prop}\\ \text{INDEX } s_1\\ \text{RESTR} < \left[\begin{array}{l}\text{RELN wo}\\ \text{INSTANCE i}\end{array}\right], \left[\begin{array}{l}\text{RELN song}\\ \text{SIT } s_1\\ \text{TAKER i}\\ \text{TAKEE j}\\ \text{ARG } s_2\end{array}\right], \left[\begin{array}{l}\text{RELN name}\\ \text{NAME Lisi}\\ \text{NAMED j}\end{array}\right], \\ \quad \left[\begin{array}{l}\text{RELN hui}\\ \text{SIT } s_2\\ \text{RETURNER <j>+<i>}\end{array}\right], \left[\begin{array}{l}\text{RELN jia}\\ \text{INSTANCE k}\end{array}\right] >\end{array}\right]$$

5. CONCLUSION

In this paper, the Mandarin *Jianyu* construction ($NP_1 + V_1 + NP_2 + V_2$) was investigated to find out whether predicate verb (V_1) is a raising verb or a control verb. Two criteria were adopted: one is whether the predicate verb takes a non-referential noun as its argument and the other is whether the passivized form is synonymous to its active counterpart. Three groups of causative predicate verbs were tested with the two criteria through an HPSG analysis. The results indicate that the non-referential *ta* in Mandarin has weak

grammatical functions in structure $NP_1 + V_1 + NP_2 + V_2$ because the predicate verb does not take it as its argument. This, to some extent, suggests that the predicate verb in the Mandarin *Jianyu* construction is not a raising verb. Verbs in the *rang* and *quan* groups proved this to be true since they do not fit the second criterion either. However, the second criterion was not offended by verbs in the *song* group (see 4.5). Nevertheless, this paper still proposes that causative verbs in the *song* group are control verb, in that *song* verbs give thematic roles not only to their first argument but also to other arguments, as shown in (36). Thematic restriction is another discrepancy between raising verbs and control verbs, as discussed in previous studies (Carnie, 2002). In all, as argued by Xue & McFetridge (1998) and further analyzed by this paper, predicate verbs in the Mandarin *Jianyu* construction are object control verbs.

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ROUNDING PATTERNS OF DORSAL CONSONANTS IN KWAK'WALA

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1. INTRODUCTION

Dorsal consonants and round vowels show a rich interaction in Kwak'wala, a Northern Wakashan language. Some of these interactions induce changes in rounding of the consonants that are significant enough to be reflected in the orthography of the language. These rounding patterns are the focus of this paper. In particular, this study expands on findings by Grubb (1969) and Boas (1911, 1947) and shows that it is underlying /u/ that triggers regressive rounding changes, whereas it is both /u/ and /o/ that trigger progressive rounding changes.

This study is based on data obtained through elicitations conducted with Freda Shaughnessy, a native speaker of Kwak'wala.

Section 2 introduces the concept of rounding in speech sounds. Section 3.1. discusses changes in round vowels caused by dorsal consonants. Then section 3.2. analyzes the patterns of labial and palatal off-glides in velar consonants. Similarly, Section 3.3. discusses the pattern of labial off-glides in uvular consonants. Section 4 concludes this paper.

2. ROUNDING

Vowels such as 'u' and 'o' and consonants such as 'k^{w}' and 'q^{w}' are called rounded because they are pronounced with rounded lips throughout the segment. Furthermore, the consonants feature an additional labial off-glide [^{w}] at the end. This off-glide is also pronounced with rounded lips but an even tighter space between the lips than for the previous part of the consonant. In contrast, the plain velar stop 'k' is pronounced with spread lips.

Rounded dorsal consonants are contrastive with plain dorsal consonants in Kwak'wala. That is, they occur in the same environment, such as 'x' in 'xitɑ' (word 161: *to lift up your head*) and 'x^{w}' in 'x^{w}itɑ' (word 162: *deadhead, to stick up vertically*). Contrast between plain and rounded consonants only occurs at the dorsal place of articulation. Table 1 shows the Kwak'wala dorsal stops and fricatives in the orthography, following the Liq'wala writing system.

Table 1
Orthographic inventory of Kwak'wala dorsal stops and fricatives

	velar	uvular
stop	k, k^{w}	q, q^{w}
glottalized stop	k', k'^{w}	q', q'^{w}
voiced stop	g, g^{w}	ǧ, ǧ^{w}
fricative	x, x^{w}	x̌, x̌^{w}

3. DORSAL CONSONANT-VOWEL INTERACTIONS

3.1. Vowel change

The important change in vowels is the lowering of underlying /u/ to acoustic [o] when it occurs near uvulars such as in word 1 ('mix̌**u**x̌^{w}' *he/she/it is sleeping now*), which is pronounced [mix̌**o**x̌^{w}]. As the gloss for word 1 shows, this change is only in the pronunciation and is not reflected in the orthography. Rather, the orthographic form directly shows the underlying form for both 'u' and 'o'.

The vowel change has been incorporated as the second step in the flow chart for deriving uvular consonants that is provided in Appendix B. The flow chart uses the example word 2 (ƛ'ɑx̌ux̌^{w} *he/she/it is whittling wood*), which includes the vowel change.

3.2. Velar consonant changes

The contrast between plain velar consonants and velar consonants with labial off-glide, as discussed in section 2, becomes neutralized when the segment is preceded or followed by a round vowel. That is, plain /k/ is followed by an off-glide, becoming [k^{w}], when it is preceded by /u/ or /o/ (a process of progressive rounding). Furthermore, /k^{w}/ loses the labial off-glide when it is followed by /u/. Boas (1911, p. 431; 1911, p. 436; 1947, p. 214) states that /o/ and /u/ cause these neutralization patterns, whereas Grubb (1969, pp. 41-43) states that only phonetic [u]s cause them.

Grubb's observation that only phonetic [u]s trigger the consonant alternations leads to the conclusion that neither /o/s, which always surface as [o], nor /u/s that surface as [o] due to an adjacent uvular (see section 3.1.) cause the alternations. However, as stated by Boas and confirmed by Freda Shaughnessy, a native speaker of Kwak'wala, both /u/ and /o/ trigger rounding when they precede a velar consonant. Hence, the trigger is not [u] as stated by Grubb. Accordingly, the data elicited in our class does not exhibit a sequence of a preceding /u/ or /o/ with a following plain velar consonant.

This paper shows that, in contrast to both Boas's and Grubb's findings, it is underlying /u/ that triggers the loss of the off-glide in a preceding velar, disregarding whether the vowel surfaces as [u] or as [o] acoustically. Hence, although /o/ triggers progressive rounding, as discussed in the previous paragraph, it does not trigger the loss of the off-glide. When /u/ surfaces as [o] it triggers the loss of the off-glide, whereas /o/ surfacing as [o] does not, such as in word 3 (**g**^{w}ox^{w}səm' *paper bag*), which is phonetically [**g**^{w}ox^{w}səm]. This also provides the evidence that the third person suffix is /ux̌^{w}/ and not /ox̌^{w}/ since the suffix triggers the loss of the off-glide.

A further phonetic dorsal pattern involves the plain velar stops /k/ and /g/. They are generally pronounced with the palatal off-glide [^{y}] (Grubb, 1969, pp. 41-43), resulting in [k^{y}] as in word 4 (ƛ'əkɑ' *to paddle*) which is phonetically [k'ɪ**k**^{y}ɛ] (see also (1a) below). However, the palatal off-glide is not present when the consonant is followed by the vowel 'i' (Grubb, 1969, pp. 41-43) as in word 5 (ƛ'əki dɑ bəg^{w}ɑnəm' *the man is paddling*) in which it is phonetically [k'ɪ**k**i].

Furthermore, the palatal off-glide is not present when the velar stop is underlyingly round, such as /k^{w}/ surfaces as [k] and not [k^{y}] in front of /u/ in word 6 in (1b) below. That is, the presence of the palatal off-glide identifies 'g' in word 7 (**g**uk^{w} *house*, which is phonetically [**g**^{y}uk^{w}]) as underlyingly plain, i.e. /g/. In contrast, the absence of the palatal off-glide as part of 'k' in word 6 identifies the 'k' in this word as underlyingly /k^{w}/. The contrast becomes particularly clear when comparing [n'i**k**^{y}ox̌^{w}], the pronunciation of word 8 with underlying /k/ (see (1a)), to [yəl**k**ox̌^{w}], the pronunciation of word 6 with underlying /k^{w}/ (see (1b)), because both words involve the same suffix /ux̌^{w}/ that follows the velar stop.

The process of labial off-glide loss can be seen in (1) by comparing the same words with different suffixes. In each case the underlying form of the consonant is indicated by the letter in single quotes and exemplified by the form that the top arrow points to. These forms involve suffixes with an initial vowel that is not /u/. Thus, they show the unchanged, underlying form of the consonant with respect to rounding.

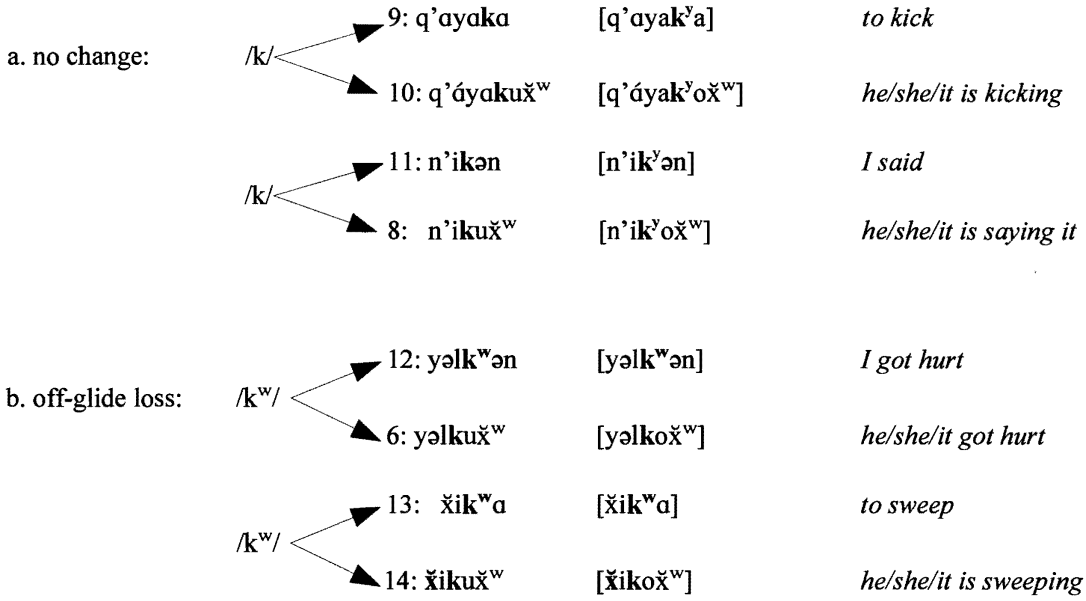
The forms at the top are contrasted to the forms that the bottom arrows point to. The bottom forms involve suffix-initial /u/, which triggers labial off-glide loss in the preceding velars when the velars in question are underlyingly round (see (1b)).

Each example consists of the underlying consonant in question, a word number, the orthographic form, the

1 These patterns have also been observed in many neighboring languages, such as progressive rounding in Oowekyala (Howe, 2000) and loss of the labial off-glide in Mainland Comox (Bodenbender, 2001; Davis, 1970).

phonetic form and the English translation of the word.

(1) Velar consonant patterns



These data show that it is not the surface vowel that triggers the loss of the labial off-glide but the underlying /u/ as reflected in the orthography. This has not been identified in previous research.

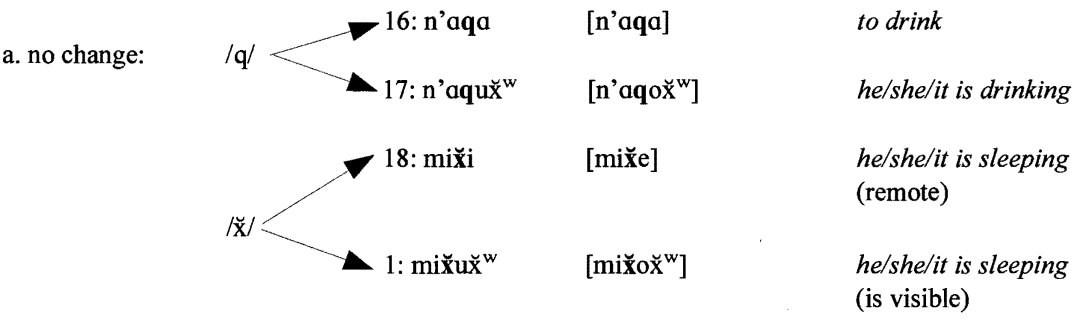
The flow chart in Appendix A translates the findings of this study with respect to velar consonants into procedural steps and provides a tool to determine the pronunciation of any velar stop or fricative input. The flow chart uses the example words 6 ('yəlkuxʷ' *he got hurt*) and 7 ('gukʷ' *house*), which includes processes with respect to labial and palatal off-glides.

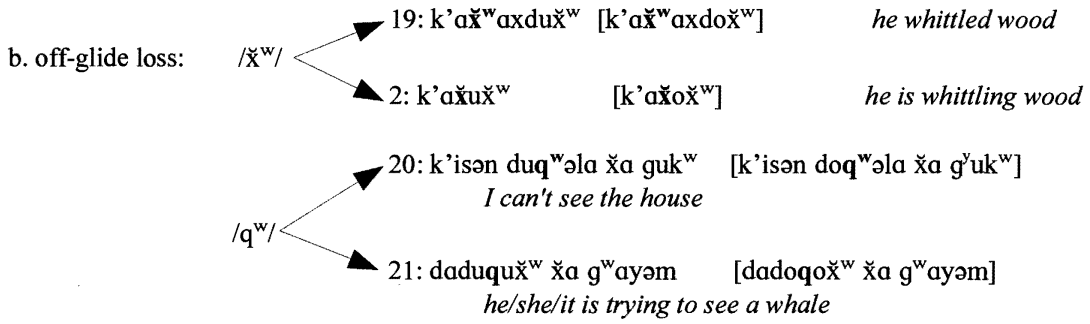
3.3. Uvular consonant changes

Similarly to velar consonants, the contrast between /q/ and /qʷ/ becomes neutralized when the segment is followed by /u/. That is, rounded /qʷ/ loses the labial off-glide and becomes [q] when it is followed by /u/. However, preceding /u/ or /o/ do not trigger rounding as with the velars, such as in word 15 (ẖ'oqe' *heart*) which is phonetically [n'oqe] and therefore features a non-round [q] following /o/.

Neither Boas (1911, 1947) nor Grubb (1969) reported on the loss of the labial off-glide for uvulars when they are followed by /u/. However, like for the velars this pattern can be clearly seen in the data in (2).

(2) Uvular consonant patterns





The flow chart in Appendix B translates the findings of this study with respect to uvular consonants into procedural steps and provides a tool to determine the pronunciation of any uvular stop or fricative input as well as adjacent round vowels. The flow chart uses the example word 2 (*k'aɫ̌uǩʷ' he/she/it is whittling wood*), which includes processes with respect to labial off-glide and round vowel.

4. CONCLUSION

This paper discusses rounding patterns of dorsal stops and fricatives in Kwak'wala. It shows that both /u/ and /o/ trigger rounding of a following velar consonant, as stated by Boas (1947). Furthermore, it shows that it is not the surfacing phonetic form of the vowel that triggers the loss of the labial off-glide but the underlying form, /u/. Hence, when /u/ surfaces as [o] it triggers the loss of the off-glide, whereas /o/ surfacing as [o] does not. This has not been identified in previous research. It is possible that this detail simply had not been noticed. However, it has to be noted that previous research has been conducted on different dialects of Kwak'wala than this study. This might explain some of the differences in the nature of the vowels that trigger rounding changes.

Additionally, this study found that the presence or absence of the palatal off-glide [ʸ] in velar stops that are followed by /u/ can distinguish underlying rounded velar stops, such as /kʷ/ from underlyingly plain velar stops, such as /k/.

This study adds to our knowledge about Kwak'wala and provides the necessary insight to derive the phonetic forms of Kwak'wala words involving dorsal stops and fricatives correctly. Two flow charts have been developed as part of this study to aid in the derivation of the surfacing phonetic forms.

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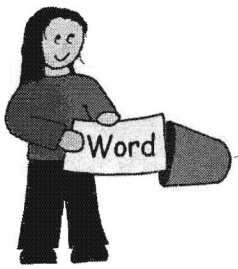
APPENDIX A

Flow chart for deriving the pronunciation of velar consonants (K = {k, k^{w}, k', k'^{w}, g, g^{w}, x, x^{w}}) with respect to rounding and palatalization from their contexts.



are you [k] or [g] without [^{w}]?
yes *no*

add [^{y}] to yourself
k, g => **k^{y}, g^{y}**

e.g.: (a) yəl**k^{w}** + uxˇ^{w}
to get hurt + he/she/it

(b) **guk^{w}**
house

are you followed by 'i'?
yes *no*

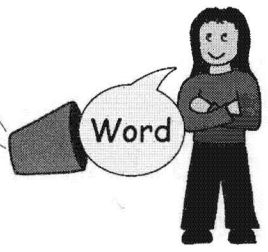
lose [^{y}]
k^{y}i, g^{y}i => **ki, gi**

are you without [^{w}] and preceded by 'u' or 'o'?
yes *no*

(lose [^{y}] and) add [^{w}] to yourself
uK, uk^{y}, ug^{y} => **uK^{w}**

are you followed by 'u'?
yes *no*

lose [^{w}]
K^{w} => **K**

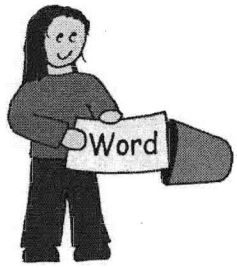


6: [yəlkoxˇ^{w}]
he got hurt

7: [**g^{y}uk^{w}**]
house

APPENDIX B

Flow chart for deriving the pronunciation of uvular consonants (Q = {q, qʷ, q', qʼʷ, ǧ, ǧʷ, x̌, x̌ʷ}) with respect to rounding and palatalization from their contexts.



are you followed by 'u'?

yes *no*

lose [ʷ]

Qʷ --> **Q**

e.g.: k'ɑx̌ʷ + ux̌ʷ

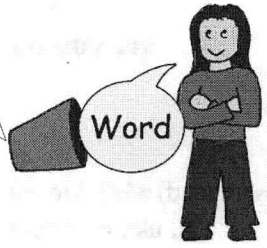
to whittle wood + he/she/it

are you preceded or followed by 'u'?

yes *no*

change adjacent 'u's into [o]s

uQu --> **oQo**



2: [k'ɑx̌ox̌ʷ]

he is whittling wood

TWO SYLLABLES ARE BETTER THAN ONE: A PROSODIC TEMPLATE FOR BENGALI HYPOCORISTICS

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INTRODUCTION

This paper explores hypocoristics (also known as nicknames) found in Bengali in order to demonstrate how Prosodic Morphology (McCarthy and Prince, 1986) can provide a unifying framework for the analysis of a variety of hypocoristic types including suffixation, 'clipping' and non-contiguous forms. I begin with a brief survey of hypocoristic formation in the language in order to characterize the prosodic forms in terms of syllable shape. Next, I examine how similar forms in English and Spanish have been analyzed within the theory of Prosodic Morphology. Finally, I investigate their transferability for Bengali and propose a template to account for hypocoristics in the language.

In Bengali,[1] personal names can be divided into two types: bhalo nam *'good names'* and dak nam *'calling names'* or pet names. Sircar (1994: 117) maintains that "every[2] Bengali individual has at least two names", a *good name* used for school and other formal purposes and the *calling name* which is used by close friends and family.

Calling names may be either a) a derivatives of the formal name or b) a nickname which has no relationship with the formal name. For instance, a female whose *'good name'* is Anjali /ɔnjɔli/may could have a pet name /ɔnju/ or /ɛ̌ɔna/ 'gold'. Moreover, nicknames are not always chosen for their meaning, it is also common to opt for a pet name simply on the basis of "sweetness of sound, rhythm or just for fun" (Dil, 1975: 63). The remainder of this paper will be concerned with derivatives of the formal names, termed 'hypocoristics', and not those which root from unrelated sources.

Little study of the linguistic structure of Bengali has been carried out and less yet has considered the nature of hypocoristics or derivative nicknames. Approximately half (118 forms) of the data examined was provided by three articles (Dil, 1971; Dil, 1972; Dil, 1975) on the topic of the Hindu and Muslim Dialects of Bengali. The remaining hypocoristics were collected from five informants: four Bengali-Canadian females (77 forms) and one Bangladeshi male (32 forms) for a total of 227 forms.

TYPES OF HYPOCORISTIC FORMATION

Bengali employs a number of processes to form hypocoristics, including truncation (with and without) suffixation, reduplication and non-contiguous mapping. However the most productive type by far is truncation with suffixation.

Suffixation

Examples (1) through (9) demonstrate the extensive use of suffixation in Bengali. Suffixes attach to forms that are left-aligned before truncation (1 - 4) as well as those forms aligned with a medial syllable (5, 6). Medial syllable alignment is less common but productive, without any restrictions. The most common suffix is /-u/ (1, 2, 5) followed by /-i/ and then /-a/ which are all also diminutive suffixes.

Table 1: Left-Edge Alignment

(1)	hašna	>	haš.n + u
(2)	indrani	>	in.d + u
(3)	julekha	>	ju.l + i
(4)	ganeš	>	ga.n + a

[1] Bengali (the colonial English designation for the language) or Bangla (as it is known by its speakers) is a language of the Indo-Iranian branch of the Indo-European family, closely related to Hindi.

[2] "Except perhaps vagabonds and destitutes who exist on the periphery of society" (Sircar, 1994: 108).

(5)	šumon	>	mo.n + u
(6)	šumon	>	mo.n + i

Dil (1975:16) also records two additional suffixes /-ai/ and /-ua/ as denoting "diminutive" and "affective" meanings (below 7 - 9).

(7)	shahin	>	sha.n + a i
(8)	shahin	>	sha.n + ua
(9)	kanak	>	kan.a + ia

While neither /-ai/ or /-ua/ appear in the hypocoristic data provided by my informants, a third suffix /-ia/ did appear (see (9) above). These suffix seem to be rare and limited to the Bengali spoken in Bangladesh though the suffixes /-ai/ and /-ua/ are both attested in adult speech during baby talk. Such cases include /juta/ 'shoes' or /dhɔn/ 'treasure' which may become /jutua/ and /dhɔnai/ respectively (Dil, 1975:16).

Truncation without Suffixation

As noted above, hypocoristics may also be formed through a prosodic process of circumscription without subsequent suffixation. Not unlike the hypocoristic presented above, non-suffixed forms may be left aligned or medial syllable aligned as illustrated in both (10) and (11) the process of left aligned truncation is clearly prosodic and not morphological.

(10)	jitendra	(jit(a) + indra)	>	jiten
(11)	šumita	(šu + mita)	>	šumi

The base name in (10) /šumita/ is composed of two morphemes, a prefix /šu-/ meaning 'beautiful' and a free morpheme /mita/ 'sweet, delicious', yet the circumscribed residue crosses the morphological boundary to generate the hypocoristic /šumi/. This same process is repeated in (11) whereby /jiten/ becomes is derived from /jitendra/, a base name composed of two free morphemes /jit/ and /indra/.

Morphological Truncation

On the other hand, another non-prosodic process may be at work. The example shown in (12) illustrates the derivation of a hypocoristic through what may be interpreted as either a prosodic or a morphological process.

(12)	indrajit	(indra + jit)	>	indra
(13)	indrajit	(indra + jit)	>	jit

The base name /indrajit/ is created from the compounding of two free morphemes /indra/ and /jit/. The derivation of the hypocoristic /indra/, at first glance, appears to follow the same process of left edge alignment and truncation as (10) and (11). However unlike these products of prosodic truncation, the truncation presented (12) and (13) does not sever any morphological units in order to conform to a certain prosodic shape. Each of the two morphemes /indra/ and /jit/ are left fully in tact, just as they were before the compounding.

The process of disassembling compounds is common. Base names are often composed of a suffix plus a free morpheme or two free morphemes. Each of the twenty medial-syllable aligned hypocoristics resulting from my corpus are instances of such "breaking-up" of compounds into their component pieces or morphological truncation.

Non-Contiguous Mapping

Bengali presents rarer forms of hypocoristic formation (shown from (14) to (25) below). All of these forms show some type of non-contiguous mapping and, in many cases, are accompanied by segmental change as well as reduplication (in (24) and (25)).

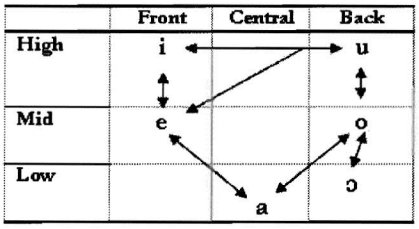
(14)	Kušum	>	kum + i
(15)	Deben	>	din + u
(16)	Rehana	>	ren + u
(17)	Rehana	>	rin + a
(18)	Gurupriya	>	gu + pi

(19)	Binodini	>	bin + di
(20)	Kušum	>	kušm + i
(21)	Gɔneš	>	Gɔnš + a
(22)	Kɔmol	>	koml + i
(23)	Putul	>	putl + i
(24)	Disha	>	diš-miš
(25)	Rafiq	>	rafu-kafu

Vowel Alternations

There are many cases where hypocoristic formation corresponds with vowel alternations. Often the suffixation of the /-i/ or /-u/ suffix appears to trigger the raising of root vowel. Dil (1975: 70) summarizes the possible vowel alternation in a chart, reproduced below in (26). Some of these changes are also found in other aspects of the language. For example, in the pronominal paradigm, we see the alternation between /u/ and /o/. In the Bengali second person pronouns[3], /tumi/ 'you (sg. neutral)' and /tui/ 'you (sg. intimate)', the medial vowel /u/ lowers to [o] when followed by the high vowel /-i/.

(26)



1. /i/ > /u/, /u/ > /i/
2. /i/ > /e/, /e/ > /i/
3. /a/ > /i/
4. /u/ > /e/
5. /u/ > /o/, /o/ > /u/

SYLLABLE SHAPE

The previous examples clearly demonstrate that Bengali hypocoristics are overwhelmingly disyllabic. This disyllabic foot varies, permitting heavy syllables (initial and final syllables) in addition to the most common type of a disyllabic foot with two light syllables. My data offered only six cases of truncation to a monosyllable. However, the examples appear to represent two distinct phenomena.

(27)	rupa	>	Rups
(28)	dipu	>	Dips
(29)	sanji	>	Sanj
(30)	jafrin	>	Jaaf

The first, exemplified by /rupa/, /dipu/ becoming /rups/ and /dips/ respectively, reveal the influence of an informant's second language, English. This process of hypocoristic formation is frequent in English whereby a name is truncated to a monosyllabic stem and then in some cases, is suffixed with the voiced fricative /-z/.[4] Moreover, Bengali does not permit word-final consonant clusters (Cole-Fitzpatrick, 1990: 158) so we can exclude /rups/ and /dips/ along with /sanj/ from the analysis as they are instances of the use of a recognized process of hypocoristic formation in English (Weeda, 1992), but not in Bengali.

The second process appears to be, as argued in Section 2.3, morphological truncation. The formal names /indrajit/ and /indranil/ are both compound names composed of two morphemes, /indra/ being the first morpheme of each name.

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[3] The second person paradigms (neutral and intimate) are formalized as:

	Singular	*Plural*		*Singular*	*Plural*
Nom	/tumi/	/tomra/	*Nom*	/tui/	/tora/
Acc/Dat	/tomake/	/tomader/	*Acc/Dat*	/toke/	/toder/
Gen	/tomar/	/tomader/	*Gen*	/tor/	/toder/

[4] Examples of this widespread and fairly productive process include: Maggie > Mags, Deborah > Debs, Carol > Kaz, William > Wills (McCarthy & .Prince, 1986; Weeda, 1992).

(31)	indrajit	>	(male)	jit
(32)	indranil	>	(male)	niil

Thus when truncated from the left edge, the hypocoristic divides along morphological lines allowing two nicknames, /indra/ or /jit/ (or /nil/). It is only in cases of morphological truncation that we find mono-morphemic nicknames. Being that this paper is only concerned with prosodic truncation, these forms will not be discussed any further.

PROSODIC MORPHOLOGY

McCarthy and Prince (1986, 1995) set out a theory which attempts to explain the relationship between morphology and phonology. More specifically, they describe how prosodic units of mora (μ), syllable (σ), foot (Ft) and prosodic word (PrWd) influence and regulate templatic and circumscriptional morphology (McCarthy & Prince, 1995: 319). McCarthy and Prince (1995:318) develop three claims:

(1) Prosodic Morphology Hypothesis
  a. Templates are defined in terms of the authentic units of prosody: mora, syllable, foot or prosodic word
(2) Template Satisfaction Condition
  a. Satisfaction of the templatic constraints is obligatory and is determined by the principles of prosody, both universal and language-specific
(3) Prosodic Circumscription
  a. The domain to which morphological operations apply may be circumscribed by prosodic criteria as well as by the more familiar morphological ones

Basically, McCarthy and Prince's theory of prosodic morphology asserts that templates must be expressed with reference to prosody. Moreover, the theory stipulates that templatic mapping and circumscription "must respect the well-formedness requirements of prosody" (McCarthy and Prince, 1995, 318).

This is significant for the Bengali hypocoristics in that it provides a framework which should characterize the prosodic shape of hypocoristics in Bengali and more generally, provide greater insight into status of the minimal word in the language.

MINIMAL WORD

In Bengali, the smallest independent word is a bimoraic foot. Fitzpatrick-Cole (1990:157) argues that the minimal word in Bengali is enforced through a minimal foot constraint. This constraint blocks certain phonological processes while also "trigger[ing] a repair rule of vowel lengthening" to ensure the conformity of sub-minimal words (i.e. mono-moraic) with a well-formedness condition. In short, the process of "vowel lengthening is the result of active template satisfaction" (Fitzpatrick-Cole, 1990: 167).

If Fitzpatrick-Cole is correct, then we can see that most Bengali hypocoristics correspond exactly to the requirements of a minimal word. They must be disyllabic, containing two moras. The syllables may end in consonants but this is of no consequence for the foot as coda consonants are not moraic and thus do not add syllable weight[5] (Fitzpatrick-Cole, 1990).

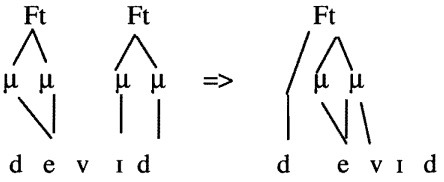
[5] Fitzpatrick-Cole (1990:158) characterizes Bengali prosody as insensitive to any heavy – light distinction. It may be thus argued that what truly matters is that a foot is bimoraic or disyllabic. Hayes (1985) finds that "quantity-insensitive feet are overwhelmingly trochaic in labeling" (McCarthy & Prince, 1995: 245). This finding is supported by McCarthy and Prince (1995: 246) who state that languages, which (a) do not recognize distinctions of quantity and (b) also present balanced feet, are necessarily trochaic. In essence, trochaic feet are of the default.

MAPPING TO A TEMPLATE

Monosyllabic Template (Template [σ] plus /-i/)

As suffixation seems to be the most pervasive means of forming hypocoristics in Bengali, I will begin by characterizing this process. Weeda (1992) examines a productive strategy for hypocoristic formation in English whereby a base name is truncated to monosyllabic stem which is optionally concatenated with a /-y/ suffix. For instance, in (33), the English name 'David' /devɪd/ is truncated to a heavy monosyllable, 'Dave' /dev/ and this stem permits the appendage of a suffix /-i/ to create another possible hypocoristic 'Davy' /devi/.

(23)



Weeda's (1992:104) description of English hypocoristics remains within the theory of prosodic morphology (McCarthy & Prince, 1986) as he analyses this phenomena as the mapping of a "bimoraic syllable template ... to the word from left to right". Following the analysis of Weeda (1992), the process of hypocoristic formation in Bengali can be characterized as the maximal mapping of a syllable (CVC) to a monosyllabic stem. However, unlike English which exemplifies the two productive processes of hypocoristic formation ("bare-stem apocope" and stem plus –y suffix), Bengali does not present a productive strategy of simple 'bare-stem apocope'. I will thus only pursue the second strategy of truncation with suffixation which is involved in the same process of template mapping.

Bengali Hypocoristics as a Monosyllabic Template

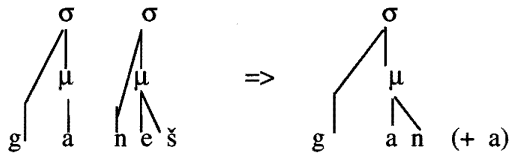
The most basic hypocoristic template in Bengali may be characterized by a template which is a monosyllable of the form CVC.

The mapping of the stem melody to the template would take the following steps:

(i) The first mora of a morpheme (associated with a left or medial edge) is mapped to a mono-syllabic template regardless of base syllabification. The syllable may include a coda consonant.
(ii) Onset clusters (of the form obstruents + liquid) are truncated through the loss of liquid
(iii) A number of vowel alternations may occur but they likely occur after mapping to the template and subsequent to the addition of a suffix which triggers a process of vowel harmony

The association would occur in a left to right direction (as expected for suffixes) from the beginning of a morpheme, whether word initially or medially. (34), below, shows how a template-driven left to right association would account for the phonological shape of the stem /gan-/ prior to suffixation. Here, the base name /ga.neš/ is mapped to one syllable regardless of its base syllabification. Note that the nuclear vowel receives a mora but the coda consonant does not as coda consonants are non-moraic[6] in Bengali (Fitzpatrick-Cole, 1990: 167).

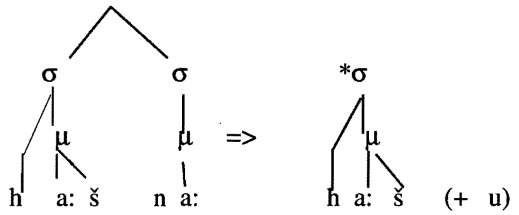
(34)



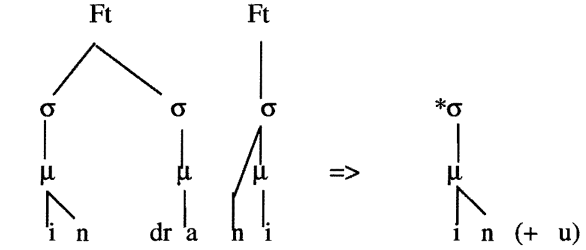
[6] Vijarakrishnan (2002: 3) describes such an analysis of codas as moraic and monosyllabic lengthening as the consequence of a minimality requirement (also followed by Ghosh, 1996) as simplistic instead citing a forthcoming paper by Mitra (in preparation) who implements a catalectic solution to monosyllabic lengthening within Optimality Theory.

A template should produce a well-formed syllable as specified by universal and language-specific constraints such as an important prosodic constraint in Bengali which requires that codas are without consonant clusters. This is evidence by the absence of coda clusters in all Bengali words (Fitzpatrick-Cole, 1990; Ray, 1966). Mapping to a mono-syllable is expected to fill the template only to the extent of a well-formed syllable. This template predicts (35) /haš-u/ and (36) /in-u/ will be derived from the base names /hašna/ and /indrani/. However, neither are hypocoristics that are realized in the language. Therefore, hypocoristic formation cannot be analyzed as resulting from a monosyllabic template.

(35)



(36)



Moreover, as Weeda (1992) demonstrates, the sonority sequencing can be a factor in the maximization of template mapping. The Sonority Sequencing Principle (SSP) states that since vowels are more sonorous than consonants, onset clusters should rise in sonority as the nucleus approaches and the cluster in the coda should fall in sonority. This would suggest that consonants in the coda should be preceded by a segment of higher sonority (i.e. nasals should precede obstruents). However, the syllable final sequence such as /šn/, generated from the mapping to monosyllabic template, violates this universal sonority ranking.

Furthermore, we might expect a hypocoristic template of the form CVC to provide examples of monosyllabic hypocoristics of the shape CVC. Yet in Bengali, we find only four cases of such hypocoristics, all of which have already been excluded because they result from an English template or are truncated with respect to morphological boundaries without consideration of the prosodic processes described above.

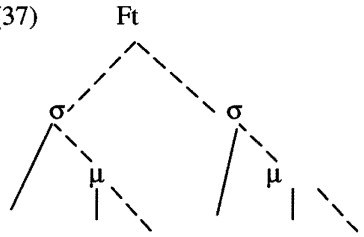
For all of the reasons stated, it is not possible to derive all hypocoristics or even the most productive type of hypocoristics with a monosyllabic template as this template does not comply with the Template Satisfaction Condition (McCarthy & Prince, 1995: 318) which requires that the template is determined by universal and language-specific principles of prosody. The next section considers an analysis of Bengali hypocoristics as the consequence of a foot-level template.

A Foot Level Template

McCarthy and Prince (1986) as well as Weeda (1992) argue against an analysis of English hypocoristics as the product of a suffix-inclusive disyllabic template. However, unlike English, which rarely[7] truncates to a disyllabic foot, Bengali hypocoristics fervently conform to a disyllabic foot. This section develops an analysis that posits Bengali hypocoristics as derivatives of a foot-level template. Unlike Japanese (Poser 1984; Poser, 1990; Mester, 1990) which concatenates a suffix to the bimoraic foot template, the Bengali template contains a vocalic element which is linked to the final mora in the minimal (disyllabic) word. Such a template has the potential to embrace a great range of hypocoristics including those which (a) receive suffixation and (b) contain a suffix but still hold to a disyllabic template (including right-edge alignment or edge-in mapping). (37) illustrates a tentative disyllabic target template for mapping.

[7] English does present a few examples of truncation to a disyllabic foot such as such as Ebenezer > Eben, Alexander > Alex, Leonard > Leo (Weeda, 1995, 182).

(37)



What is more, this template parallels the minimal word for Bengali (as described in Section 6). Cross-linguistically, it has been reasoned that templates commonly make reference to the minimal word (McCarthy & Prince, 1999: 244). Furthermore, while the "minimal word has no actual status as a primitive template" it has been depicted as the most agreeable form of the "prosodic word under the metrical constraints – PARSE SYLL and ALL-FEET-RIGHT/LEFT" (McCarthy & Prince, 1995: 245).

Suffixation as a Strategy for Hypocoristic Formation

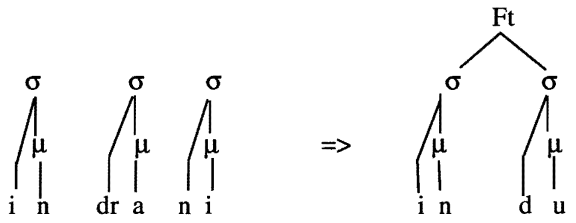
Bengali hypocoristics in their most basic shape are of the form CV.CV. However, it has been shown that the first syllable commonly permits a coda consonant and in rare cases the second syllable permits a closed syllable as well. The hypocoristic template is characterized by a foot consisting of two syllables which pre-specifies the final mora as a vocalic suffix (/-u/, /-i/ or /-a/). The syllables of suffixed hypocoristics are either of the form CV.CV (if all words are assumed to have onsets) or CVC.CV. Similar to Spanish hypocoristics (Lipsky, 1995: 391), both of the two syllables are open with the exception of the "first syllable which ends in a nasal, homorganic with the following consonant". The mapping of the stem melody to the template follows the steps summarized in (38):

(38)

(i) The name undergoes prosodic circumscription to a monosyllable
(ii) The monosyllable (associated with a left or medial edge) is mapped to a foot level template regardless of syllabification.
(iii) A number of vowel alternations occur but they are likely to occur after the addition of a suffix which triggers a process of vowel harmony

If the hypocoristic template is indeed a foot level template (suffix-inclusive), then there should be mapping of more than one post-vocalic consonant. This is exactly what we find. However, the contiguous mapping is limited to a consonant preceded by a homorganic nasal which is likely licensed by the consonant onset. Additionally, as a coda consonant is non-moraic, a second consonant would not disturb the weight of the syllable. This template would justify the most common shape of hypocoristic which is of the form CVN.CV (N being a homorganic nasal) such as /indrani/ which retains the homorganic nasal in its hypocoristic form /indu/ illustrated in (39) below. However, the problem remains as to why the hypocoristic is not of the form */indru/. This suggests that prosodic circumscription takes place first in order to get the monosyllable and then there is mapping to a template.

(39)



Circumscription as a Strategy for Hypocoristic Formation

In addition to suffixed hypocoristics, Bengali also productively generates disyllabic non-suffixed forms, as illustrated in (40) and (41).

(40)	jitendra	(jita + indra)	>	Jiten
(41)	godindra		>	gabin

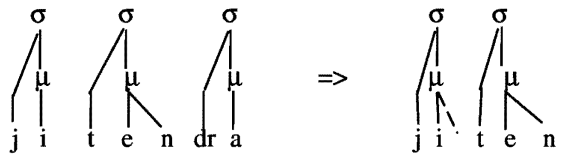
These Bengali hypocoristics are clearly prosodic (as the truncated form crosses a morphological boundary) but do not end in a vocalic suffix. Some of these examples of circumscribed forms do end in vowel such as those in (42) and (43).

(42)	šarmila		>	šarmi
(43)	šumita	(šu + mita)	>	šumi

However, their status as suffixed 'clippings' is somewhat ambiguous. The description of the most productive strategy of suffixing truncated forms in Section 3.1 excludes this form as its rhyme final consonant is not a homorganic nasal. Moreover, the final vowel of the hypocoristic remains the same as the vowel of the base name.

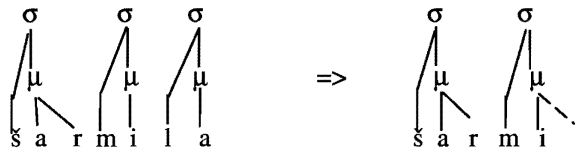
Bengali allows the circumscription of a bimoraic foot (including non-moraic coda consonants) as demonstrated in (44) and (45).

(44)



The first two syllables of a morpheme (associated with a left edge) are circumscribed to two syllables. As demonstrated with other hypocoristics[8] previously, any onset cluster (of the sequence obstruents + liquid) is expected to be simplified through the loss of the liquid.

(45)



Edge-In Strategy for Hypocoristic Formation

Another[9] possible strategy for hypocoristic formation includes what Lipsky (1995) in the tradition of McCarthy and Prince (1996) termed *edge-in mapping*. This process, while less common than simple suffixation and "clipping", is quite productive. While the space constraints of this paper do not allow a detailed discussion of each of these sub-types, an analysis modeled on that of Lipsky (1995) should account for the three related phenomena illustrated by the examples of non-contiguous mapping in (46) to (51).

(46)	kušum	>	kum + i
(47)	rehana	>	ren + u
(48)	gurupriya	>	gu + pi
(49)	binodini	>	bin + di
(50)	kušum	>	kušm + i
(51)	gɔneš	>	gɔnš + a

The result of the non-contiguous mapping appears indistinguishable from the strategy of suffixation developed in Section 4.2 as the template is a mapping target which pre-specifies a vocalic element for the final mora. However, unlike contiguous mapping, the first syllable is not required to be open or end in a nasal, homorganic with the

[8] The template however does not allow complex onsets as demonstrated by the distinguishing feature of morphological and prosodic processes of hypocoristic formation.
(1) /indrajit/ > /indra/ exemplifies truncation based on morphology.
(2) /indrani/ > /indu/ typifies a prosodic process which includes the mapping to a foot template.

[9] One last less productive type is that of reduplication seen in examples such as /diša/ > /diš miš/ and /rafiq/ > /rafu kafu/. These too should be able to be analyzed within a foot template.

following consonant. Yet, Lipsky's (1995) dissection of non-contiguous hypocoristics in Spanish should provide a starting point for the analysis of similar Bengali hypocoristics within a disyllabic foot. An expanded discussion of this strategy will be deferred for argument in future papers.

CONCLUSION

In this paper, I have provided an analysis of a wide range of hypocoristics in Bengali. I argued that these hypocoristics can be accounted for within a theory of Prosodic Morphology. I demonstrated that a monosyllabic template is unsuitable for Bengali hypocoristics and instead proposed a disyllabic, bimoraic foot as the template for mapping which explains the shape of hypocoristics derived through prosodic processes while excluding those which present truncation along morphological lines. I have also established that this template corresponds to the minimal word, the "most harmonic form of the prosodic word under metrical constraints" (McCarthy & Prince, 1995: 245).

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On the Form of Chamorro Hypocoristics

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1 Introduction

Chamorro, the indigenous Austronesian language of the Marianas Islands, has hypocoristic forms usually of either one or two syllables in size; I will examine these forms in terms of Prosodic Morphology (McCarthy and Prince 1996). Reconciling both shapes under a single template is the optimal goal, but I will demonstrate tensions inherent in choosing to describe Chamorro hypocoristics as either sensitive or insensitive to quantity, as in either case a self-contradiction results. I further show that extrametricality cannot be invoked (either across the board or 'as an exception-marking device' (Kager 1996)) to salvage the single-template approach. In order to avoid this dilemma, I claim that Chamorro must possess two distinct templates for its hypocoristics.

2 Background

Chamorro is a phonologically well-described language, having been the subject of several scholarly papers (Chung 1983, Crosswhite 1996, Klein 1997, Klein and Harris 2000, Latta 1972, Seiden 1960, Topping 1968, Travis 2000) and otherwise employed as grist for phonologists' debates (cf. Halle and Vergnaud 1987). Additionally a structural description (Topping 1973) and dictionary (Topping et al. 1975) have appeared.

2.1 Chamorro Phonology Overview

The phonemic inventory (in slightly modified standard practical orthography, based on Topping (1973:16 and 27), Topping et al. (1975:xviii-xix) and Chung (1983:36)) is as follows.

Vowels:		*Consonants:*					
i	u	p	t		k		
e	o	b	d		g	gw	'
æ	a		ch				
			j				
		f	s				h
		m	n	ñ	ng		
			l,r				
		w	y				

ch is an affricate often realized as [tʃ] before nonlow front vowels, otherwise as [ts]. Its voiced counterpart is *j*, which shows similar palatal allophony. *ñ* is a palatal nasal, while *ng* is a velar nasal. Apostrophe ' represents glottal stop. I note that Chung (1983) differs from Topping

(1973) and Topping et al. (1975) in considering that a voiced labialized velar stop *gw* is phonemic, and that the voiced palatal approximant *y* is a phoneme in addition to *j*.

Most Chamorro words consist of sequences of from two to four CV syllables (Seiden 1960:16), though intervocalic geminates and two-member clusters are common, as are word-final codas. In the myriad Spanish loanwords, too, clusters are common. Notably, coda consonants in Chamorro are apt to be realized in various places of articulation, and 'speakers sometimes vary as to the point of articulation which they assign both to these and to nasals: cf. *makmata* or *matmata* "to wake up", and *atman* or *apmam* "long ago" (Chung 1983:38). Nonnasal coda stops are voiceless except when assimilating in voicing to a following obstruent having the same Place feature, e.g. *lepblu* ['lɛbblu] 'book' (op. cit.:37).

Primary stress, realized as low pitch, falls on the penult as a rule. A small number of native Chamorro words and Spanish loans have antepenultimate stress, and some Spanish loans have final stress; examples will be seen in the names discussed below. Vowels lengthen under primary stress, apparently only in open syllables in penultimate position (Chung 1983:37; for a concise treatment of Chamorro stress, see Chung 1983; a more in-depth view can be found in Seiden 1960 or Halle and Vergnaud 1987:204-216).

2.2 Chamorro Hypocoristic Forms

Nicknaming—presumably including hypocoristic use—is said to be a salient feature of Chamorro culture (Thompson 1947; cf. Northern Marianas Online Encyclopedia 2003). 'Most Guamanians are known not by their names but by their nicknames' of various sorts (Thompson 1947:245) and a master fisherman's nickname, inherited like property by his son, also tended to become the name of his fishing group (ibid.:141). Perhaps reflecting the importance Chamorros place on such matters, my main source of Chamorro hypocoristics, Topping et al. (1975), has about 120 subentries under 'nickname' (*fa'na'an*) in its English-Chamorro section. The great majority are clearly hypocoristics, showing obvious phonological relation to the corresponding base forms, as will become apparent. A half-dozen additional hypocoristic forms were gleaned from Pacific Daily News (2004) and from my wife (A. Candaso-Robertson, p.c.). Virtually all base forms involved are names from Spanish.

The most evident commonality among Chamorro hypocoristic forms is their right-edge orientation with respect to their base forms.

(1)	(a)	*Kin*	[kín]	from	Joaquin	[hwa.kín]
	(b)	*Ko'*	[kó?]	from	Francisco	[fran.sís.ko]
				from	Emelia	[e.mé.l(i.)ja]
	(c)	*Lia'*	[lí.(j)a?]	or		
				from	Maria	[ma.rí.(j)a]

Regardless of stress, rightmost syllables are the source for approximately 95% of the hypocoristics.

About 75% of Chamorro hypocoristics are disyllabic and 20% monosyllabic as in (1). The monosyllabic forms are usually (~90%) closed, roughly evenly split between glottal stop and nasal *n* or *ng* codas; it may be assumed that the latter is the place variation already noted in §2.1 for coda nasals. The disyllables usually (~80%) have open σ_1, another ~15% having σ_1 closed by

(homorganic) nasal; σ_2 is routinely (~83%) closed, and about 93% of the time it is again either glottal stop or place-varying nasal which are the coda consonant.

The remaining 5% of Chamorro hypocoristics are tri- or quadrisyllabic as in (2). Of these, most are clearly lexicalized from formations which are productive in Spanish but not in Chamorro, as in (2b).

(2)	(a)	*Pinkile'* [piŋ.kí.le?]	from	Pepe	[pé.pe] (=José)
	(b)	*Marikita* [ma.ri.kí.ta]	from	María	[ma.rí.(j)a]

Various phonological alternations occur from source to hypocoristic, but none are crucial to the argumentation of this paper. It is an interesting but peripheral fact that hypocoristics can be formed from other hypocoristics; the Appendix of this paper contains a representative sampling of forms, for reference.

3 Previous Approaches

While Chamorro nicknames have been documented as noted above, hypocoristics as a specific phenomenon do not appear in the literature on this language, e.g. Topping (1973). An ideal source for comparisons might be published analyses dealing with closely related languages of the Philippine area. However, my literature search failed to turn up such work; only a voluminous list of Tagalog 'nicknames' (Manuel et al. 1965, which will undoubtedly be useful in future work) was found.

For the most closely relatable analysis I have turned to recently published treatments of Spanish-language hypocoristics, which are widely known and easily obtained, and which deal with more or less the same corpus of source names as found in Topping et al. (1975). Thus Colina (1996), Lipski (1995), Pineros (2000), and Prieto (1992) are also valuable as possible views of the Chamorro data. It should be noted that not all Spanish hypocoristic forms can be compared with those found in Chamorro. For example, left-edge-oriented hypocoristics (the subject of Colina (1996) and Prieto (1992), and much of the material in Lipski (1995) and Pineros (2000) [where they are his 'Type A']) are nearly absent from Chamorro.

The right-edge-oriented hypocoristics of Spanish (Pineros' [2000] 'Type B') do resemble, and are sometimes identical to, Chamorro examples, though it appears from Topping et al. (1975) that different subsets of source names are the most common for Chamorro versus Spanish. Lipski (1995), working in a Prosodic Morphology framework, proposes prosodic circumscription (cf. McCarthy and Prince 1995:340-351) as a means of mapping to a disyllabic template for Spanish hypocoristics. Despite its merits (offering the possibility of a unified analysis for all hypocoristics in Spanish), an obvious drawback of this approach is that it renders monosyllabic forms problematic. This already indicates that Chamorro must use distinct processes from those Lipski is trying to represent. Moreover, Lipski's approach crucially relies on multiple applications of a complicated circumscription mechanism to successively varying strings of segments, without clear motivation as to the choice of string in each case or for the change in string choice from one application to the next. Therefore, while I follow Lipski in attempting a unified analysis for Chamorro hypocoristics, I reject his circumscription-based approach.

Pineros (2000) offers an Optimality Theory-based account of right-oriented hypocoristics, which relies on the constraint HEAD(PWd)MAX (3).

(3) HEAD(PWd)MAX: *Maximize the head of the PWd*
Every element contained in the head of the PWd ([i.e.] the main-stressed foot) of [the source form] must have a correspondent in [the truncated form]. (op. cit.:75)

This highly-ranked constraint is used to achieve a template defined by primary stress, yet its application to Chamorro would result in generation of unattested forms. As noted in §2.2, Chamorro hypocoristics are essentially insensitive to source-form stress, so that in an OT framework one would have to posit a more-highly ranked Alignment constraint. Another drawback of Pineros' approach for Chamorro is that he explicitly disallows placelessness of word-final consonants (ibid.), a serious difficulty given the potential behavior of nasals in any Chamorro coda (cf. §2.1 above). Thus, Pineros' analysis would have to be significantly reworked in order to apply to Chamorro. The preponderance of evidence suggests that Chamorro, while its personal names are nearly all from Spanish, applies its own distinct set of phonological processes in forming hypocoristics from them.

4 Chamorro Template Possibilities

If Chamorro needs an account independent of Spanish for its hypocoristic formation, a number of theoretical approaches are available. I make use of Prosodic Morphology in the following discussion, but as will be seen, certain details must be worked out in the course of determining a Chamorro template. In particular, absent any previously published analysis of Chamorro feet, Occam's razor leads me to attempt a unified-template account for Chamorro hypocoristics. The ramifications of this decision are played out in the sections that follow.

4.1 Quantity-Sensitivity

In §2.2 it was observed that three-quarters of the hypocoristics in Chamorro are disyllabic. It follows from general observations of the language's phonology that disyllables are penultimately stressed, i.e. trochees. What template is to be expected, starting from these facts?

If Chamorro is a quantity-sensitive language, then we expect the foot inventory to consist of LL and H, *pace* McCarthy and Prince (1995:321). Given the putative placelessness of coda nasals, and by extension of coda glottal stop (since the latter is defined in feature matrices as lacking place, cf. Harris and Lindsey 2004), it is a simple matter to term codas nonmoraic and thus confirm that feet containing two light syllables are present. Heavy monosyllables are absent, however: Though single-syllable forms are numerous (cf. §2.2) and are nearly all closed, we have already committed ourselves to viewing their codas—all nasals and glottal stops—as nonmoraic. Except for a few interesting monosyllables containing the diphthong *ai*, no segments present themselves as possible postnuclear morae. The monosyllabic hypocoristics then must be viewed as light syllables, yet L is not a recognized metrical foot type or variant. (Alternatively, the monosyllables might be considered as feet shaped $\acute{\sigma}$, but neither is this foot type recognized in the literature; the only quantity-insensitive Ft is σσ.)

So perhaps Chamorro's closed σ hypocoristics must be H, with their codas concomitantly moraic. In that case, we still expect the foot inventory to contain LL. Referring again to §2.2, σ1 is usually open (thus L), but σ_2 is normally closed and thus H in a quantity-sensitive language.

An LH foot must be iambic, if Chamorro is sensitive to quantity, yet σσ́ is virtually absent from the data set. Worse, those disyllables having a closed σ_1 must then be sequences of HH; that is not a foot type either, and is a sequence achievable only by two consecutive feet. This latter represents an undesirable complication, given that most roots in Chamorro are trochaic disyllables, making for a typologically bizarre minimal word.

The presumption of quantity-sensitivity for Chamorro runs into a vicious circle of logic, allowing monosyllables while disallowing attested disyllables, or vice versa. Perhaps, then, this language is not sensitive to quantity.

4.2 Quantity-Insensitivity

Syllabic feet are an accepted feature of Prosodic Morphology (McCarthy and Prince 1995:321), in that the theory expects σσ to be an available template. This accomodates the attested Chamorro syllabic trochee, but the σ forms do not fit that foot shape. Again the difficulty is that no separate monosyllabic quantity-insensitive foot shape occurs in PM. Seemingly a new complication ensues, where in any case two distinct foot shapes must be proposed.

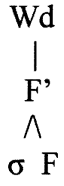
It would be preferable to find a single template for all forms. An idea sometimes advanced to explain penultimate-stress systems such as Chamorro is 'extrametricality as an exception-marking device' (Kager 1996). In the case of Polish (op. cit.:380) the vast majority of words have stressed penults, and the rare antepenultimate stresses can be analyzed as cases of final-syllable extrametricality—thus preserving the generalization about stressed penults. For Chamorro's hypocoristics, however, the disyllables (over three-quarters of the attested forms) would have to be labeled exceptional in having extrametrical syllables, already a suspect claim. Moreover, it is the monosyllabic forms which would have to be considered the template, and in so claiming we lose any inherent motivation with penultimate stress; there is after all no such thing in a single-syllable word.

Under standard sensitivity and insensitivity to quantity, neither a mono- nor a disyllabic template appears to concisely capture the Chamorro facts. An escape from this dilemma has recently been suggested, however, as noted in the following section.

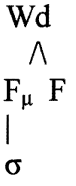
4.3 Weak Layering

To account for 'a large class of templatic formations which are systematically beyond the reach of...templates' based on integer multiples of the unit Foot, Itô and Mester 2003 propose Weak Layering. One approach to stray syllables is to add them in X′ fashion to a 'Superfoot' (4a) or to isolate them in Degenerate Feet (4b).

(4) (a)

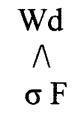


(b)



This would entail complicating the definition of feet. To maintain economy Itô and Mester provide a range of data suggesting that apparently stray syllables remain unfooted, thus

branching directly from Wd as in (5). Thus the label 'Weak Layering': There is no requirement under this analysis for an intervening F node (layer) above a syllable if there is no good motivation for constructing a foot there.

(5)


Taking Chamorro σ hypocoristics as (a heavy) MinWd (only thus can there be stray syllables needing to be fitted into the template—albeit in 75% of the forms[!]): σ_2 of the σσ forms would need to be considered the unfooted one, because it is unstressed. Paradoxically, however, it is exactly σ_2 which is always the Ft-sized (H) syllable, and is thus unable to be termed a single-mora stray. This is a fatal flaw in the application of Weak Layering to the Chamorro data.

4.4 Simple Penultimate Stress

A quantity-sensitivity analysis having failed (§§4.1 and 4.3), I conclude that Chamorro is indeed insensitive to quantity. Recall that a large majority of hypocoristics in this language are disyllables with penultimate stress. Hayes 1995:204-5 notes, 'Some typological support for the syllabic trochee analysis can be found in the propensity of penultimate-stress languages to tolerate exceptional words (e.g. borrowings) with antepenultimate stress, as in [numerous languages including] Chamorro…This pre-empts extrametricality for purposes of accounting for the basic stress pattern'. Thus 'simple penultimate stress' (loc. cit.) is a reasonable label for the metrical structure of this language. As noted in §4.2, quantity-insensitivity entails the simple postulation of two separate hypocoristic templates in the language, σ́ and σ́σ. We must then apparently accept a novel monosyllabic form as an exception to the overall syllabic-trochee structure of Chamorro.

5 Conclusions

Chamorro hypocoristics, like those in many other languages, offer a view of phonological facts otherwise not easily accessible by the researcher (cf. Appendix). The one- and two-syllable forms reveal a fascinating tension between tendencies toward optimal syllables and toward minimal word-length. Tension exists, too, between simple penultimate stress and the possibility for its main exception, the monosyllable, to contain enough segments to be identifiable as (a) the correspondent of its source name and (b) hypocoristic in meaning (by containing certain characteristic coda segments). As a result of such tensions, which readily suggest a future Optimality Theory analysis, I suggest that Chamorro is quantity-insensitive and that there are two distinct and irreconcilable hypocoristic templates in the language.

Future research might profitably turn to the comparison of Chamorro hypocoristic formations with those of closely related languages. The copious Tagalog data in Manuel et al. (1965), based like the Chamorro 'nicknames' on Spanish source forms, would be a good starting point for such a study. I note that published studies of contact phenomena, as in other linguistic subdisciplines, tend to exclude the domain of names, and Stolz' (2002) otherwise excellent paper leaves open the same gap for Austronesian research. Another particularly promising source of

comparative data could be the Spanish creoles of the Philippines, which are likely to contain elements both of Spanish and of Austronesian phonology.

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Appendix: Representative Samples of Chamorro Hypocoristics[1]

Based on Topping et al. (1975)

Monosyllabic:

Hypocoristic	*Phonetics*	*Immediate Source(s)*	*Ultimate Source (if applicable)*
Bai'	[báj?]	Chum.bai'*	Jesús
Chong	[tʃóŋ]	Con.cep.ción, Con.so.la.ción, A.sun.ción	
Chu'	[tʃú?]	Je.sús	
Ge'	[gé?]	Mi.guél	
Pai'	[páj?]	Jo.sé.fa	
Ton / Tong	[tón / tóŋ]	An.tó.nio	

Disyllabic:[2]

Hypocoristic	*Phonetics*	*Immediate Source(s)*	*Ultimate Source (if applicable)*
Acho'	[?átʃo?]	Ig.ná.cio	
Elo'	[?élo?]	Cor.né.lio, Pé.dro	
Umbai'	[?úmbaj?]	Chum.bai'*	Jesús
Chacho'	[tsátʃo?]	Á.cho'*	Ig.ná.cio
Mame'	[máme?]	Á.me'*?	Cár.men
Biban	[bíban]	Í.ba*?	O.lí.va
Chumen	[tʃúmen]	Chu'*	Jesús
Chumbai'	[tʃúmbaj?]	Chu'*	Jesús
Genge'	[géŋge?]	Ge'*	Miguél
Pileng	[píleŋ]	Pin* / Ping*	José
Pinke'	[píŋke?]	Pin* / Ping*	José
Lole'	[lóle?]	Do.ló.res	

[1] Key: * denotes a hypocoristic which serves as the base for another hypocoristic.
? denotes a presumed, but not yet found, hypocoristic form.
‡ denotes a hypocoristic not derived by the general rules; 'fossilized' or 'conventionalized'.

[2] It is worth pointing out that forms such as *Acho'* and *Elo'* demonstrate simultaneous initial and final truncation, which has not previously been mentioned in the literature on Chamorro. Forms such as *Chacho', Mame', Biban* also demonstrate a species of reduplication C-, distinct from the previously described CV- and -CV species.

Nado'	[nádo?]	Ber.nár.do
Tinung	[tínuŋ]	Faus.tí.no

Trisyllabic:

Hypocoristic	*Phonetics*	*Immediate Source(s)*	*Ultimate Source (if applicable)*
Bénkile'	[béŋkile?]	Bén*? / Béŋ*?	Vi.cén.te
Conchita	[kontʃíta]	A.sun.ción‡	

Tetrasyllabic:

Hypocoristic	*Phonetics*	*Immediate Source(s)*	*Ultimate Source (if applicable)*
Benbenidu	[benbenídu]	Be.na.ven.tú.ra‡	
Marikita	[marikíta]	Ma.rí.a‡	

MAURITIAN CREOLE HYPOCORISTIC FORMATION

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1. INTRODUCTION

This paper presents a study of hypocoristic formation in Mauritian Creole. Mauritian Creole is a language spoken in Mauritius, a small island in the Indian Ocean, off the east coast of Madagascar. Before proceeding to discuss the data and the analysis, I believe that it is important for the reader to understand some of the history of Mauritius.

The island was originally uninhabited, before it was discovered by the Portugese around the beginning of the sixteenth century (Baker 1972: 5). The Dutch took possession at the end of the sixteenth century, and remained there until 1710 (Baker 1972: 5). When they gave up attempts to establish settlements five years later, the French claimed the island as their own, and it was during this time that immigration to Mauritius began (Baker 1972: 5). The majority of arrivals during the French period were Europeans from France or Reunion[1], their African slaves (mostly from Mozambique and Madagascar), muslim traders from West India, and south Indian artisans (Baker 1972: 5,8). It was during this time that Mauritian Creole began to develop, as a means of communication among the slaves (speaking many different east-african languages) and their French-speaking masters.

In 1810, the British captured the island, and although French law, culture and religion were given official sanction, English became the official language (Baker 1972: 8). Before slavery was abolished in 1833, african slaves made up about 76% of the population of Mauritius, but due to the labour shortage which followed emancipation, indentured labourers were brought from India on a very large scale (Baker 1972: 8). In less than 30 years, 365,000 Indian labourers arrived in Mauritius, so that by 1866, people of Indian descent formed more than 2/3 of the population (Baker 1972: 8).

Currently, the largest ethnic groups in Mauritius are North Indian Hindus (35%), Muslims of Indian descent (17%), Creoles (non-white Catholics of African or mixed descent)(28%), people of Chinese descent (3%), and Franco-Mauritians (2%) (Eriksen 1999: 2). This ethnic diversity is reflected very clearly in Mauritian names. Most names in Mauritius tend to reflect ethnic origin and/or religious persuasion, and it is therefore usually possible to tell a person's ancestry from their name alone. For example, a non-muslim Indo-mauritian may have the name *Shalini* or *Rajesh*, while a Creole person or a Chinese christian might have the name *Dominique* or *Claudine*.

Despite the heavy influence of ethnicity on naming practices in Mauritius, I hope to show that all names are treated the same when it comes to hypocoristic formation in Mauritian Creole. Indian names do not follow an 'Indian' pattern of hypocoristic formation, nor do French names show a 'French' pattern of hypocoristic formation; I will show that names in Mauritius show a 'Mauritian Creole' pattern of hypocoristic formation.

2. THE DATA

The data for this research is made up of 90 full names and 83 hypocoristics. The relationship between full name and hypocoristic is not always one-to-one, since in some cases, one hypocoristic may be shared by more than one full name, while in other cases, one full name may have more than one hypocoristic form.

The data comes from three sources. 45 of the full-name/hypocoristic pairs were provided by Brinda Chengadu, a native speaker of Mauritian Creole currently residing in Canada. 33 of the full-name/hypocoristic pairs

[1] Another island in the Indian Ocean and Mauritius' closest neighbor.

are from stories by Dev Virahsawmy, one of the few mauritian authors who writes in Mauritian Creole. The 10 remaining full-name/hypocoristic pairs are from my own knowledge of people's names in Mauritius.

Hypocoristics in Mauritian Creole fall into several different categories: truncation to a monosyllable at the left edge, truncation to a monosyllable at the right edge, truncation to a disyllable at the left edge, truncation to a disyllable at the right edge, and reduplication.

Truncation to a monosyllable at the left edge[2]

Truncation to a monosyllable at the left edge is by far the most common pattern found in the data, with over 50% of hypocoristics falling into this category. With this type of truncation, segmental material at the left edge of the full name (the beginning of the word) is preserved, while everything else is deleted. Out of the 45 hypocoristics in this category, 42 of them are (C)CVC syllables. (C)CVC syllables tend to occur regardless of the syllabification of the base name (ie. a full name with an initial (C)CV syllable will tend to take the onset of the following syllable as its coda in the formation of its hypocoristic). Examples of truncation to a (C)CVC syllable on the left edge are given in (1).

(1)

Brin.da > Brin	(B. Chengadu)
San.dya > San	(B. Chengadu)
Nee.la > Nil	(B. Chengadu)
Ra.jen > Raj (radʒ)	(B. Chengadu)
Sha.li.ni > Shal	(B. Chengadu)
Ruk.sa.na > Ruk	(B. Chengadu)
Do.mi.nique > Dom	(R. Strandquist)
Ka.mi.ni > Kam	(D. Virahsawmy 'Jericho')

Of the three hypocoristics in this category which are not of the shape CVC, two are (C)CV and one is VC. Examples are given in (2).

(2)

Clau.dine > Clo	(R. Strandquist)
Fi.dou > Fi	(B. Chengadu)
Ash.vin > Ash (aʃ)	(B. Chengadu)

Truncation to a monosyllable at the right edge[3]

In this type of hypocoristic formation, segmental material in the rightmost syllable of the name is preserved, while all other segmental material is deleted. Truncation to a monosyllable at the right edge is not nearly as prevalent as truncation to a monosyllable at the left edge. In all of my data, there are only seven hypocoristics that fit this pattern (3).

(3)

i.	Pri.**ty** > Ti	(B. Chengadu)
	Mo.hen.**jo** > Jo (dʒo)	(D. Virahsawmy 'Galileo Gonaz')
ii.	Dee.**raj** > Raj (radʒ)	(B. Chengadu)
	De.**vind** > Vin[4]	(B. Chengadu)
	Dha.**ram** Raj > Ram	(D. Virahsawmy 'Jericho')
	Chris.**tianne** > Tian	(R. Strandquist)
	Da.vi.**das** > Das	(D. Virahsawmy 'Souiv Larout Ziska...')

[2]See Appendix 1.

[3] See Appendix 2.

[4] Although at first glance this form doesn't seem to fit the pattern, in fact it does. Mauritian Creole doesn't allow complex codas, and this form exhibits cluster simplification. I would go so far as to suggest that the full name 'Devind' is likely to be pronounced 'Devin' in Mauritian Creole.

In the above data, we see that the hypocoristics in (3)i. are CV syllables, while the hypocoristics in (3)ii. are CVC syllables.

Truncation to a disyllable at the left edge[5]

In this pattern, the first two syllables of the base name are preserved in the hypocoristic, while the rest of the segmental material is deleted. Truncation to a disyllable at the left edge is the second most common type of hypocoristic formation in my data, with 17 of the forms falling into this category. Some examples of this pattern are given in (4):

(4)	i. Ra.di.ka > Ra.di	(D. Virahsawmy 'Souiv Larout Ziska...')
	Dan.ielle > Da.ni	(R. Strandquist)
	ii. Bel.za.minn > Bel.za	(D. Virahsawmy 'Dr. Nipat')
	Krish.na.dev > Krish.na (kriʃ.na)	(D. Virahsawmy 'Linconnsing Finalay')
	iii. Da.vi.das > Da.vid	(D. Virahsawmy 'Souiv Larout Ziska...')
	iv. An.ge.la > An.gel (an.dʒe.la)	(R. Strandquist)
	v. Au.re.lie > Au.rel	(R. Strandquist)
	vi. A.mau.ry > A.mo	(R. Strandquist)
	vii. Be.a.trice > Be.a	(B. Chengadu)

The most interesting thing about this particular pattern of hypocoristic formation is the lack of uniformity within the category. Seven different combinations of syllable types can be found within this pattern (CV.CV (7), (C)CVC.CV (3), CV.CVC (1), VC.CVC (1), V.CVC (1), V.CV (2), CV.V (2)), making it extremely difficult, if not impossible, to make any generalizations about truncation to a disyllable at the left edge.

Truncation to a disyllable at the right edge[6]

In this pattern, the two rightmost syllables from the base are preserved in hypocoristic formation, while the rest of the segmental material is deleted. Truncation to a disyllable at the right edge is among the least common hypocoristic types in Mauritian Creole. Only six hypocoristics in my data could be classed in this category (5):

(5)	A.ni.ta > Ni.ta	(B. Chengadu)
	Ve.ro.ni.ka > Ni.ka	(B. Chengadu)
	A.man.da > Man.da	(B. Chengadu)
	Ve.ro.nique > Ro.nique (ro.nik)	(R. Strandquist)
	Kle.o.pa.tra > Pat.ra	(D. Virahsawmy 'Dernie Vol')
	Ar.jou.na > Jou.na	(D. Virahsawmy 'Li')

As with truncation to a disyllable at the left edge, disyllabic truncations at the right edge can have several different shapes (CV.CV (3), CVC.CV (2), CV.CVC (1)).

Reduplication[7]

Although it doesn't seem to be a very productive way to form hypocoristics in Mauritian Creole, reduplication occurs in a small number of forms. There are only six examples of reduplicated hypocoristics in

[5] See Appendix 3.
[6] See Appendix 4.
[7] See Appendix 5.

my data, and as with the two previous patterns, there is little uniformity within the category. Reduplicated hypocoristics can have the shape CV-CVC (1), CV-CV (3), or CVC-CVC (2). Examples are given in (6):

(6) i. Bel.za.minn > Be-bel (D. Virahsawmy 'Galileo Gonaz')
ii. Pe.dan > Pe-pe (D. Virahsawmy 'Galileo Gonaz') Jean-Phi.lippe > Jean-jean (ʒv-ʒv) (R. Strandquist)
Kle.o.pat.ra > Kle-kle (D. Virahsawmy 'Dernie Vol')
iii. Zann > Zan-zan (D. Virahsawmy 'Mamzel Zann')
Y.von > Von-von (D. Virahsawmy 'Souiv Larout Ziska...')

Other[8]

Only four of the hypocoristics in my data don't fit into any of the above categories. These are listed in (7):

(7) i. Kor.de.lia > Kord-i (D. Virahsawmy 'Tabisman Lir')
Ja.ne.gy > Jan-i (D. Virahsawmy 'Tabisman Lir')
ii. Mary > May (B. Chengadu)
San.nya.si > Nas (D. Virahsawmy 'Souiv Larout Ziska...')

The examples in (7)i. are monosyllabic truncations on the left edge, but they have an additional suffix –i. The most plausible explanation for these two forms is that they show influence from English, where suffixation of –i is very prominent. The forms in (7)ii. also seem to be truncations, but deletion is either from the middle of the word (Mary > May) or from both edges with additional deletion of palatalization (Sannyasi > Nas).

3. ADDITIONAL OBSERVATIONS

Having looked at all of the different hypocoristic types in Mauritian Creole, and understanding the diverse origins of the names themselves, several questions arise; "Where do these patterns come from?" "Do names that originated in a particular language follow the patterns of hypocoristic formation of that language, or do they all follow the same pattern, regardless of origin?" In a language so heavily influenced by other languages, and, in fact, created by contact among these languages, these are very interesting and relevant questions that must be answered if we are to understand hypocoristic formation in this language. In attempting to answer these questions, I will compare Mauritian Creole hypocoristic formation with hypocoristic formation in the three languages from which most Mauritian names are derived: French, Indo-Aryan languages, and Arabic. Since truncation to a monosyllable on the left edge is by far the most common pattern in Mauritian Creole, I will concentrate on this pattern for comparison.

Let us first look at French. French is the language with which Mauritian Creole shares the most similarities, although this similarity is mostly restricted to vocabulary items. As mentioned above (section 1), French was introduced to Mauritius near the beginning of the 18th century. Although the island was later controlled by the British for over 150 years, French has maintained its status as a prestige language. Since French had a lot of influence on Mauritian Creole's early development[9] and since it is currently so prevalent in Mauritian society, it seems likely that French could have had considerable influence on hypocoristic formation.

Regarding names, French *has* had substantial influence, since most Catholics in Mauritius (and many non-Catholics) have French names. But this influence does not seem to extend to hypocoristic formation. Although truncation to a monosyllable does occur in French, current work on hypocoristic formation in Modern French

[8] See Appendix 6.
[9] It is not entirely fair to compare Mauritian Creole with Modern Standard French, since the French spoken in the early 1700's would have been somewhat different than the French spoken today. But because not much is known about hypocoristic formation in this time period, I believe this to be an accurate enough comparison for present purposes.

indicates that the most common type of hypocoristic formation is reduplication (below (8)), not truncation (Scullen 1993: 228).

(8) FRENCH (Scullen 1993: 228)
bernard >> bebe
joseph >> zeze
brigitte >> guiguitte
albert >> bebert

MAURITIAN CREOLE
dominique >> dom (R. Strandquist)
valerie >> val (B. Chengadu)
pamela >> pam (B. Chengadu)
philip >> phil (B. Chengadu)

As we saw above (6) Mauritian Creole also shows reduplication[10], but on a very small scale. Based on these observations, we can very tentatively conclude that French has had minimal influence on hypocoristic formation in Mauritian Creole.

Another language which has had the potential to influence Mauritian Creole hypocoristic formation is Bhojpuri. Figures from the 1962 census indicate that Bhojpuri was the mother tongue of approximately 50% of the population of Mauritius (Baker 1972: 13); it is by far the most widely spoken Indian language in Mauritius. Although it was unlikely to have had much influence on Mauritian Creole's early development (since the majority of the Indian labourers did not arrive in Mauritius until the mid-1800's), it could easily have influenced hypocoristic formation after their arrival. Indeed, most Mauritian people of Indian descent have Indian names, but whether or not Bhojpuri has influenced their hypocoristics is a separate question.

Since there has been no work done on hypocoristic formation in Bhojpuri, I am forced to choose the next best thing: Bengali. Bengali and Bhojpuri are both members of the Eastern Indo-Aryan language family (Ethnologue), so it seems reasonable to use Bengali hypocoristic formation as a basis for comparison with Mauritian Creole hypocoristic formation. The predominant method of hypocoristic formation in Bengali (and in Hindi (Mehrotra 1994)), is truncation to a monosyllable with the addition of a suffix, either –a, –i, or –u (Anjali Lowe, p.c.) (9):

(9) balram >> bal-a (MC *bal* (D. Virahsawmy 'Tantinn Timi')
neela >> nil-u (MC *nil* (B. Chengadu))
sharmila >> sharm-i (MC *sharm* (B. Chengadu))

Mauritian Creole shows virtually no suffixation in hypocoristic formation (except for the extremely marginal examples given in (7)i.), so it seems that Indian languages have had very little, if any, influence on hypocoristic formation in Mauritian Creole.

As we have seen above, Indian Muslims make up a considerable proportion of the Mauritian population, and not surprisingly, many of these people have Arabic names. Arabic is not spoken by many Mauritians, and as such, has not had much chance to influence the language. Indeed, monosyllabic truncations are extremely rare in Arabic hypocoristic formation, with most hypocoristic patterns exhibiting root-and-pattern phenomena (Khalsa al-Aghbari and Shadiya al-Hashmi, p.c.). In Mauritian Creole, names of Arabic origin are truncated to a monosyllable at the left edge (10):

[10] It may be that these six forms do show influence from French, but this does not detract from the statement that French has not influenced the predominant pattern of hypocoristic formation.

(10) nazima >> naz (B. Chengadu)
ruksana >> ruk (B. Chengadu)
nashrin >> nash (B. Chengadu)

Based on the above evidence, it appears as though Arabic has not had any influence on Mauritian Creole hypocoristic formation.

From what we have seen in this section, it seems that the predominant pattern of hypocoristic formation in Mauritian Creole (truncation to a monosyllable at the left edge) is not a result of the influence of any other language, but is a feature native to Mauritian Creole itself.

4. THE ANALYSIS

Having looked at the data in section 2, as well as the other observations made in section 3, it seems fairly clear that the basic pattern in Mauritian Creole hypocoristic formation is truncation to a (C)CVC syllable on the left edge. What could account for such a pattern? Following Alber (2001) and Lappe (2003), I will claim that truncation to a (C)CVC syllable on the left edge is due to "output-oriented prominence maximization", a type of positional faithfulness whereby prominent positions such as stressed syllables or initial syllables are given special status in words (Alber 2001: 1).

The theory of prominence maximization is couched in Optimality Theory (OT) (first proposed by Prince and Smolensky in 1993), a theory in which possible candidates are evaluated by universal constraints on well-formedness, ranked differently in every language (Schaefer: 1). Constraints are violable, so that "a form violating a constraint can surface if all other possible forms are ruled out by more or more important constraints" (Schaefer: 1). The optimal candidate is that which violates only the lowest-ranked constraints. There are two major types of constraint in OT: *faithfulness constraints*, which ensure identity with the underlying representation, and *markedness constraints*, which "require the output to conform to certain structural patterns" (Schaefer: 1). Basic faithfulness constraints ensure correspondence between the input and the output (IO faithfulness), but this is not the only type of correspondence. Correspondence is also seen between outputs, such as base and truncation (Benua: 1995)(11).

(11) Input
↕
Output ↔ Truncation

Prominence maximization itself was first discussed in Beckman (1998), although it was not used to account for monosyllabic templates (as it will be here) until Alber's (2001) "Maximizing First Positions", in which prominence maximization is used to account for monosyllabic templates in Diyari, Agta, Swedish and German. Lappe's (2003) "Monosyllabicity in Prosodic Morphology: the Case of Truncated Personal Names in English" extended the use of prominence maximization with monosyllabic templates to an analysis of English hypocoristics. It is Lappe's method which I will be following in this treatment of Mauritian Creole monosyllabic hypocoristics.

Beckman (1998) posits a set of constraints which target prominent positions in words, such as initial syllables, stressed syllables and onsets of syllables, protecting these prominent positions from "processes which happen elsewhere" (Lappe 2003: 156). In terms of truncation (ie. truncation to a monosyllabic template) these prominence constraints define what is left over after truncation has taken place (Lappe 2003: 157). The key to this analysis is the following; not only do truncations preserve "elements that are prominent in the base [...], they also tend to display all segmental material they inherit from the base in a prominent position in the output' (Lappe 2003: 157). Under this analysis, monosyllabic words have an advantage over disyllabic words, because all of the segmental material contained in a monosyllabic word is in a prominent position, whereas disyllabic words contain segmental material in non-prominent syllables (Lappe 2003: 157).

The constraint responsible for output-oriented prominence maximization in general is COINCIDE-P (Alber 2001: 3):

(12) COINCIDE-P : every element of the output is in P (P = some prominent

position).

This general constraint can be adjusted to apply to specific prominent positions:

(13) COINCIDE-ONSETσ_1 : every output-element must be in the onset of the first syllable of the root (Alber 2001: 4).

(14) COINCIDE-σ_1 : every segment of the output is in the first syllable of some morpheme (Alber 2001: 10)

(15) COINCIDE-σ_{stress} : every element of the output is in the main-stressed syllable (Lappe 2003: 157)

Which of these prominence constraints is active in Mauritian Creole hypocoristic formation? We know that the dominant pattern of hypocoristic formation is truncation to a monosyllable at the left edge (the initial syllable), so this rules out the constraint COINCIDE-ONSETσ_1 (which only deals with the coda). Stress in Mauritian Creole falls on the final syllable of the word, so if the constraint COINCIDE-σ_{stress} were active, we would see truncation to a monosyllble at the right edge. This is obviously not the case, so COINCIDE-σ_{stress} is ruled out. This leaves COINCIDE-σ_1, which does account for the dominant pattern of hypocoristic formation in Mauritian Creole. In truncation to a monosyllable at the left edge, the material in the initial (prominent) syllable is preserved, while everything else is deleted. COINCIDE-σ_1 is violated when segments in a word appear outside of the initial syllable. Each segment which appears outside of the initial syllable constitutes one violation mark in the tableau (see below).

Since we are dealing here with correspondence between a base and its truncated form we also need to make use of the faithfulness constraint MAX-BT (Benua: 1995):

(16) MAX-BT : every segment in the base has a correspondent segment in the truncation.

MAX-BT is a constraint which penalizes deletion from the truncated word. Every segment missing from the truncated word constitutes one violation mark. The tableau in (17) establishes a ranking for COINCIDE-σ_1 and MAX-BT:

(17)

Base: pre.mi.la	COINCIDE-σ_1	MAX-BT
☞ a) prem		***
b) pre		****!
c) pre.mi.la	*!***	

In the above tableau, three candidates are evaluated by our two constraints. Candidate a) is the winner, because it doesn't violate COINCIDE-σ_1. It does violate MAX-BT, but since MAX-BT is ranked lower than COINCIDE-σ_1, the violation is not fatal. Candidate b) doesn't violate COINCIDE-σ_1 either, but it has four violations of MAX-BT, one more than candidate a). This makes candidate b) worse than candidate a), so even though MAX-BT is lowly ranked, the extra violation mark becomes fatal. The candidate in c) violates COINCIDE-σ_1 four times, because four of its segments are not in the initial syllable (although even one violation mark would have been enough to disqualify it).

The tableau in (18) tests another name against the constraints discussed so far:

(18)

Base: ruksana	COINCIDE-σ_1	MAX-BT
☞ a. ruk		****!

💣 b. ruks		***
c. ruk.sa.na	*!***	

As in (17), candidate c) fatally violates COINCIDE-σ_1, because four of its segments are not in the initial syllable. The problem that arises is with candidates a) and b). Based on what we know is the attested form, candidate a) should be optimal. But in this tableau, candidate b) shows up as the optimal form because it has fewer violations of MAX-BT.

This problem is easily solved with the addition of a new constraint. It is a phonological fact of Mauritian Creole that complex codas do not occur[11], which means that there is a constraint active in the language that militates against complex codas. This constraint is called *COMPLEXCODA and is formulated as follows:

(19) *COMPLEXCODA : no complex codas

The following tableau (20) shows the ranking of *COMPLEXCODA in relation to MAX-BT and COINCIDE-σ_1.

(20)

Base: ruk.sa.na	COINCIDE-σ_1	*COMPLEXCODA	MAX-BT
☞ a) ruk			****
b) ruks		*!	***
c) ruk.sa.na	*!***		

*COMPLEXCODA is ranked above MAX-BT, which eliminates candidate b). Candidate a) is therefore the winner, despite its two violations of the lower ranked MAX-BT. *COMPLEXCODA and COINCIDE-σ_1 are unranked in relation to each other, since neither can ever affect the other.

A summary ranking of the constraints responsible for the 'truncation to a monosyllable at the left edge' pattern of hypocoristic formation in Mauritian Creole is given in (21):

(21) COINCIDE-σ_1, *COMPLEXCODA >> MAX-BT

At this point it is important to clear up one final question. Why does COINCIDE-σ_1 not affect regular words in the grammar? Why aren't all Mauritian Creole words monosyllabic? This is due to the highly ranked status of MAX-IO. Take as an example full names in Mauritian Creole. Full names are in correspondence with an input as well as with a truncation (see (11)), and therefore they are subject to input-output correspondence. MAX-IO ranks above COINCIDE-σ_1, ensuring that full names are not subject to truncation, but not affecting hypocoristics at all, since hypocoristics are not affected by input-output correspondence. The tableaux in (22) and (23) illustrate this point:

(22) Deriving Full Names

Input: ruk.sa.na	MAX-IO	COINCIDE-σ_1	*COMPLEXCODA	MAX-BT
☞ a) ruk.sa.na		****		
b) ruk	*!***			

In the above tableau (22), only MAX-IO is important. Since MAX-IO can never be violated, all other constraints are irrelevant.

(23) Deriving Hypocoristics

Base: ruk.sa.na	MAX-IO	COINCIDE-σ_1	*COMPLEXCODA	MAX-BT
☞ a) ruk				****

[11] There are a few exceptions to this rule: eg. fiks 'fixed' and taks 'tax'

b) ruk.sa.na		*!***		

In the above tableau (20), MAX-IO plays no role at all, since truncations are only subject to BT-correspondence, not IO-correspondence.

5. CONCLUSION

In this paper, I have given a description and analysis of Mauritian Creole hypocoristic formation. First, I have shown that there are five patterns present in Mauritian Creole hypocoristics (truncation to a monosyllable at the left edge, truncation to a monosyllable at the right edge, truncation to a disyllable at the left edge, truncation to a disyllable at the right edge, and reduplication), but that truncation to a monosyllable at the left edge is by far the most frequently occurring pattern. Then, I have shown that truncation to a monosyllable on the left edge is a feature of Mauritian Creole itself, not a borrowing from French, Bhojpuri or Arabic hypocoristics. Finally, I have given an analysis of the 'truncation to a monosyllable at the left edge' pattern of hypocoristic formation using 'output-oriented prominence maximization', a theory which claims that truncation is due to the vulnerable status of segmental material outside of prominent positions.

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Appendix 1- Truncation to a Monosyllable at the Left Edge

Hypo-coristic	Full Name	Origins	Gender	Source
/brin/	Brinda	Indian	F	B. Chengadu
/dev/	Devianne	Indian	F	B. Chengadu
/san/	Sandya	Indian	F	B. Chengadu
/ram/	Rama (Ramananda)	Indian	M	B. Chengadu
/dik/	Deekash	Indian	M	B. Chengadu
/krit/	Creeta (Creetananda)	Indian	?	B. Chengadu
/prem/	Premila	Indian	?	B. Chengadu
/ash/	Ashvin	Indian	M	B. Chengadu
/vis/	Vishwanee	Indian	?	B. Chengadu
/raj/	Rajesh	Indian	M	B. Chengadu
/raj/	Rajesh (Rajeshwaree)	Indian	F	B. Chengadu
/raj/	Rajen (Rajendra)	Indian	M	B. Chengadu
/raj/	Raja	Indian	M	B. Chengadu
/raj/	Raju	Indian	M	B. Chengadu
/rav/	Ravin	Indian	M	B. Chengadu
/nil/	Neela	Indian	F	B. Chengadu
/shil/	Sheela	Indian	F	B. Chengadu
/shal/	Shalini	Indian	F	B. Chengadu
/sharm/ [sha:m]	Sharmila	Indian	F	B. Chengadu
/shiv/	Shivananda	Indian	M?	B. Chengadu
/nan/	Nanda	Indian	M	B. Chengadu
/naz/	Nazima	Arabic	F	B. Chengadu
/naz/	Nazbee	?	F	B. Chengadu
/ruk/	Ruksana	Arabic	F	B. Chengadu
/nash/	Nashreen	Arabic	F	B. Chengadu
/yas/	Yasmine	Arabic	F	B. Chengadu
/gay/	Gaetan	French	M	R. Strandquist
/dom/	Dominique	French	M	R. Strandquist
/fi/	Fifi	French	F	R. Strandquist
/fi/	Fidou	?	?	B. Chengadu
/mat/	Maty	?	?	B. Chengadu
/bin/	Binella	?	F	B. Chengadu
/pam/	Pamela	French?	F	B. Chengadu
/val/	Valerie	French	F	B. Chengadu
/fil/	Philip	French	M	B. Chengadu
/clo/	Claudine	French	F	R. Strandquist
/jes/	Jessie	French?	F	R. Strandquist
/mad/	Madli	?	F	D. Virahsawmy (Profeser Madli)
/bal/	Balsaf	?	M	D. Virahsawmy (Profeser Madli)
/kord/ [ko:d]	Kordelia	French	F	D. Virahsawmy (Tabisman Lir)
/jay/	Jaysee	?	?	D. Virahsawmy (Tabisman Lir)
/kris/	Krishnadev	Indian	M	D. Virahsawmy (Linconnsing Finalay)

/kris/	Crisiraj	Indian	?	B. Chengadu
/des/	Desdemona	?	F	D. Virahsawmy (Presidan Otelo)
/tob/	Toby	English?	M	D. Virahsawmy (Sir Toby)
/kal/	Kalibann	?	?	D. Virahsawmy (Toufann)
/mak/	Makbef		M	D. Virahsawmy (Zeneral Makbef)
/kam/	Kamini	Indian	?	D. Virahsawmy (Jericho)
/bal/	Balram	Indian	M	D. Virahsawmy (Tantinn Timi)
/tim/	Timi	?	F	D. Virahsawmy (Tantinn Timi)
/dan/	Danila	?	F	B. Chengadu

Appendix 2- Truncation to a Monosyllable at the Right Edge

Hypo-coristic	Full Name	Origins	Gender	Source
/ti/	Prity	Indian	F	B. Chengadu
/raj/	Deeraj	Indian	M	B. Chengadu
/vin/	Devind (exhibits cluster simplification)	Indian	M	B. Chengadu
/jo/	Mohenjo	Indian	M	D. Virahsawmy (Galileo Gonaz)
/ram/	Dharam Raj	Indian	M	D. Virahsawmy (Jericho)
/das/	Davidas	?	M	D. Virahsawmy (Souiv Larout Ziska...)

Appendix 3- Truncation to a Disyllable on the Left Edge

Hypo-coristic	Full Name	Origins	Gender	Source
/ja.ya/	Jayantee (Jayanteemala)	Indian	F	B. Chengadu
/be.a/	Beatrice	French	F	B. Chengadu
/ro.sy/	Rosy-Ann	French	F	B. Chengadu
/kri.si/	Crisiraj	Indian ?	?	B. Chengadu
/re.be/	Rebecca	French	F	R. Strandquist
/an.gel/	Angela	French	F	R. Strandquist
/au.rel/	Aurelie	French	F	R. Strandquist
/a.mo/	Amaury	French	M	R. Strandquist
/da.ni/	Danielle	French	F	R. Strandquist
/kle.o/	Kleopatra	?	F	D. Virahsawmy (Dernie Vol)
/or.fi/ [o:.fi]	Orfilia	?	F	D. Virahsawmy (Dr. Hamlet)
/ra.wa/	Rawana	Indian	F	D. Virahsawmy (Li)
/krish.na/	Krishnadev	Indian	M	D. Virahsawmy (Linconnsing Finalay)
/bel.za/	Belzaminn	?	M?	D. Virahsawmy (Dr. Nipat)
/lin.fo/	Linforom	?	?	D. Virahsawmy (Dr. Nipat)
/ra.di/	Radika	?	?	D. Virahsawmy (Souiv Larout Ziska...)
/da.vid/	Davidas	?	M	D. Virahsawmy (Souiv Larout Ziska...)

Appendix 4- Truncation to a Disyllable on the Right Edge

Hypo-coristic	Full Name	Origins	Gender	Source
/ni.ta/	Anita	French	F	B. Chengadu
/ni.ka/	Veronika	English	F	B. Chengadu
/man.da/	Amanda	French	F	B. Chengadu

/ti.an/	Christianne	French	F	R. Strandquist
/ro.nik/	Veronique	French	F	R. Strandquist
/pat.ra/	Kleopatra	?	F	D. Virahsawmy (Dernie Vol)
/ju.na/	Arjouna	Indian	F	D. Virahsawmy (Li)

Appendix 5-Reduplication

Hypo-coristic	**Full Name**	**Origins**	**Gender**	**Source**
/pe.pe/	Pedan	?	M	D. Virahsawmy (Galileo Gonaz)
/be.bel/	Belzaminn	?	M	D. Virahsawmy (Galileo Gonaz)
/∞v.∞v/	Jean-Philippe	French	M	R. Strandquist
/zan.zan/	Zann (Jeanne)	French	F	D. Virahsawmy (Mamzel Zann)
/kle.kle/	Kleopatra	?	F	D. Virahsawmy (Dernie Vol)
/von.von/	Yvon	French	F	D. Virahsawmy (Souiv la Route Ziska...)

A PROSODIC ANALYSIS OF DISYLLABICITY IN CHINESE HYPOCORISTICS

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PART ONE DESCRIPTION OF DATA

1. BACKGROUND

1.1. Basic Information on Chinese Names

Chinese names always include two parts, a family name followed by a given name. People are usually addressed with their full name (family name followed by given name) in public situations, such as a classroom or an office. The maximal number of syllables in a family name is two. However one-syllable family names are the most common type of family names. There are no two-syllable family names in my data. Similarly, the number of syllables in a given name can be one or two syllables. In contrast with family name, the most common type of given name is the two-syllable type.

Hypocoristics in Chinese can be formed by using either a family name or a given name. Regardless of family name or given name, the base names for hypocoristics in Chinese can be divided into two types, two-syllable base name and one-syllable base name.

1.2. Source of Data

As no previous studies were found on hypocoristic formation in Chinese, there are no data available to be analyzed. All data presented in this paper are first-hand data collected through questionnaires distributed to native speakers in China.

A questionnaire in Chinese was designed to collect the hypocoristics that are used by others to address the subject in daily life. A detailed explanation and examples are provided. The difference between a nickname and a hypocoristic are also implicitly pointed out in the explanation and claims are made that a phonologically unrelated lexical item which bears on the individual's appearance or personality is not wanted. Only hypocoristics which are formed with phonological relevance should be provided.

Altogether 100 questionnaires were sent out to native speakers in four big cities in China, Beijing, Nanjing, Shanghai and Guangzhou. As people in these areas use Mandarin as well as dialects, they were asked to indicate in what language a provided hypocoristic is used. Seventy-nine questionnaires were

collected.

As both family names and given names are possible base names for hypocoristic formation, there are 158 (79*2) possible base names. Altogether 210 tokens are formed out of these possible base names, and 197 of them are distinct hypocoristics.

2. MORPHOLOGICAL PROCESSES IN CHINESE HYPOCRISTICS FORMATION

Descriptively speaking, four morphological processes are identified in the formation of Chinese hypocoristics, including prefixation, suffixation, reduplication and truncation.

2.1. Prefixation

There are 74 out of 194 hypocoristics that are formed by prefixation. Four prefixes are found in these 74 hypocoristics, *a-*, *da-* 'big', *xiao-* 'little', *lao-* 'old', and *xiao-* which is the most productive. It is used in 49 hypocoristics out of 74.

All prefixes employed in hypocoristics consist of only one syllable. A prefix is usually observed to be attached to a one-syllable stem. This one-syllable stem may come from the one-syllable base name (family name or given name) or a truncated two-syllable base name. Out of the 74 hypocoristics which involve prefixation, 71of them are formed by adding the one-syllable prefix to a one-syllable stem. Only three of them are formed by adding a prefix to a one-syllable-stem with suffixation of *-zi* or reduplication[1].

Table 1 Prefix Types and Distribution in Chinese Hypocoristics

Prefix Type	**No. of Hypo. with prefix + 1-σ stem**	**No. of Hypo. with prefix + 1-σ stem + suffix *zi*-/reduplication**	**Total**
a-	22	0	22
xiao-	46	3	49
da-	2	0	2
lao-	1	0	1
Total	71	3	74

2.2. Suffixation

Suffixation is also used productively in Chinese hypocoristic formation. There are 52 hypocoristics out of 194 that are formed by suffixation. A suffix usually contains only one syllable. It can be found to attach to a one-syllable stem derived from one-syllable or two-syllable base names. Ten suffixes are identified with only two being productive, *-er* and *-zi*. Suffixes with lexical meaning, *-ge* 'elder brother' and *-jie* 'elder sister', are also used in hypocoristics but not necessary still bearing the meaning of being senior. Another suffix deserving special attention is the retroflex *-r*, which is only a feature. Different from other suffixes, retroflex *-r* is the only morpheme in Chinese that is smaller than a syllable (Lin, 2001a). The consequence is that the addition of this suffix to a stem will not increase the syllable number in a

[1] Theoretically speaking, a one-syllable base name with suffixation of retroflex -r is another source for the one-syllable stem, as the suffix becomes part of the stem syllable. However, my data do not show any such examples.

one-syllable hypocoristic.

Table 2 Suffix Types and Distribution in Chinese Hypocoristics

Suffix Type	**Example**	**Number**
-r	Deyong → Yong-r	7
-zi	Jingyan → Yan-zi	12
-zai	Hui → Hui-zai	4
-er	Chang → Chang-er	12
-ge	Yong → Yong-ge	6
-jie	Hao → Hao-jie	5
-tou	Zhu → Zhu-tou	3
other	Qin → Qin-a	3
Total		52

2.3. Reduplication

Reduplication is a very productive way of forming hypocoristics in Chinese. There are two kinds of reduplication, total reduplication and partial reduplication. If the base name is of only one syllable, the reduplication process will be total reduplication. If the base name is of two syllables, the reduplication will only be partial reduplication of one of the two syllables and the other half will be deleted. The syllable that gets "partially" reduplicated is predominantly the right syllable. In two exceptional cases, prefix and reduplication are used together to form hypocoristics.

Table 3 Reduplication Types and Examples in Chinese Hypocoristics

Reduplication Type		**Example**	**Number**
Total reduplication		Cheng → Chengcheng	24
Total reduplication with *-r* suffixation		Jin → Jinjin-r	1
Partial reduplication	of the right syllable	Xiaojun → Junjun	12
	of the left syllable	Guohui → Guoguo	2
Reduplication with prefix		Lin → xiao-Linlin	2
Total			41

2.4. Truncation

Truncation in Chinese hypocoristic formation refers to the process of clipping a two-syllable base name to a one-syllable stem. Forty-six hypocoristics are found to involve this process.

As we have mentioned already, the base names in Chinese can be divided into two kinds, one-syllable base name and two-syllable base name. The major difference between these two kinds of base names is that a two-syllable base name has to undergo truncation before it can go through any of the above mentioned morphological processes, i.e. affixation or reduplication to form a hypocoristic.

The truncation of a two-syllable base name to a one-syllable stem can proceed from left to right OR right to left.

Table 4 Truncation Types and Examples in Chinese Hypocoristics

Truncation Type	**Example**	**Alignment**	**Number**

Truncation without affixation or reduplication	Chunchang → Chang	right	2
Truncation with prefixation	Chunshi → *a*-Chun	left	18
Truncation with suffixation	Chaying → Cha-*zi*	left	12
Truncation with reduplication	Shuanglin → Linlin	right	14
Total			46

3. PROSODIC CHARACTERISTICS REVEALED IN HYPOCORISTIC FORMATION

A closer observation of the data has revealed two prosodic characteristics of Chinese hypocoristics, namely, right-edge alignment and disyllabicity.

3.1. Right-Edge Alignment Truncation

It is pointed out that the truncation of a two-syllable base name in forming hypocoristics can proceed from both directions, left to right or right to left. However these two directions of truncation are not employed with equal frequency in hypocoristic formation. Forty-one hypocoristics are clipped to the right while only five of the hypocoristics involve left-edge alignment in truncation.

Table 5 Left-edge Alignment Truncation Examples in Chinese Hypocoristics

Base Name	**Hypocoristics**	**Alignment**	**Hypocoristics type**
Yuanyuan[2]	Yuan-yuan	left	left-edge alignment truncation and reduplication OR a hypocoristic based on Base Name?
Chunshi	*a*-Chun	left	Prefixation *a*- after truncation
Chaying	Cha-*zi*	left	Suffixation -*zi* after truncation
Guohui	Guo-guo	left	Reduplication after truncation
Xiaojun	Xiao	left	Truncation

It is evident from these statistics that right-edge alignment is the productive method of truncation in Chinese hypocoristic formation.

3.2. Disyllabicity

Another prosodic characteristic revealed by the data is disyllabicity. Of the 197 distinct hypocoristics, 173 are disyllabic. Only seven are trisyllabic and another 17 are monosyllabic.

Furthermore, only three of the seven trisyllabic hypocoristics are formed through common morphological processes, such as affixation or reduplication. Two of the remaining four are dialectal variants. The other two are more like nicknames rather than hypocoristics, because the base name are used to form a new mono-morpheme word with three syllables. Thus, in the following seven examples of trisyllabic hypocoristics, only the first three are relevant for the discussion here.

Table 6 Trisyllabic Examples in Chinese Hypocoristics

Base Name	**Hypocoristics**	**Hypocoristic-Type**	**Hypo. σ Num**

[2] For this hypocoristic, it is unclear whether there is reduplication after left-edge alignment truncation or just the base name is used as the hypocoristic. It is treated in this analysis as a case of left-edge alignment truncation.

Lin	*xiao*-LIN-LIN	Reduplication with Prefixation xiao-	3
Fan	*xiao*-FAN-FAN	Reduplication with Prefixation xiao-	3
Xiao'an	*xiao*-AN-zi	Prefixation xiao- and Suffixation -zi	3
Xiao'an	AN-*wa-zi*	Special (in dialect)	3
Jin	*xiao*-JIN-*guan*	Special (in dialect)	3
Ding	da-tou-DING	Special (form a morpheme)	3
Yang Rong	YANG-mao-RONG	Special (form a morpheme)	3

In addition to the trisyllabic hypocoristics, there are 17 monosyllabic hypocoristics. Among these, 12 are formed by using monosyllabic base names. Only five disyllabic base names are truncated to monosyllabic hypocoristics.

In the 46 cases where disyllabic base names are truncated to one syllable, affixation and reduplication are vigorously employed in 41 cases to recover the two-syllable pattern from the truncated one-syllable stem. The disyllabic tendency of hypocoristics is also obvious from the cases where truncation is involved.

The other tendency in hypocoristic formation is to transform a monosyllabic base name to a disyllabic hypocoristic through various morphological processes. One hundred and eight disyllabic hypocoristics are formed out of the possible 112 monosyllabic base names through affixation or reduplication. In sharp contrast to this is the maintenance of the disyllabic base names. There are 46 disyllabic base names in the 158 possible base names, and 27 of them can used directly as two-syllable hypocoristics without any change. In other words, they can be used as hypocoristics without any morphological processes.

The difference here is very obvious. In order to satisfy the disyllabic pattern of hypocoristics, half of the two syllable base names can be kept intact. But the majority of monosyllabic base names choose to be involved in any possible morphological process in order to satisfy the disyllabic pattern of hypocoristics.

PART TWO FOCUSED THEORETICAL ANALYSIS

The observed morphological processes and prosodic characteristics in hypocoristic formation can provide valuable insights into the phonological structure of Chinese. In this part, theories and principles of prosodic morphology will be employed to account for the disyllabic pattern revealed by the Chinese hypocoristic formation.

4. THEORETICAL BACKGROUND OF CHINESE LINGUISTICS

4.1. The Salience of Syllable in Chinese

'Word' is a very common linguistic term for a lot of languages, such as English. However, it is not easy to define 'word' in Chinese. The corresponding term 'word' is very misleading and the borderline between 'word' and 'phrase' is hard to draw (Duanmu, 2000). Instead, in Chinese, "there is the term *zi*

'character' — a monosyllabic written graph that in most cases is also a morpheme" (Duanmu, 2000: 96). Furthermore, "[V]irtually all native Mandarin morphemes (i.e. morphemes that are not borrowed from a foreign language)...contain just one syllable" (Lin, 2001a: 52). Thus, 'syllable' serves as a bridge between morphology and phonology in Chinese. The addition of a morpheme is usually equal to the addition of a syllable and vice versa. A word, in turn, contains one or more morphemes, and thus one or more syllables. The relationship between 'word', 'morpheme' and 'syllable' can be shown in the following chart from Lin (2001a:55).

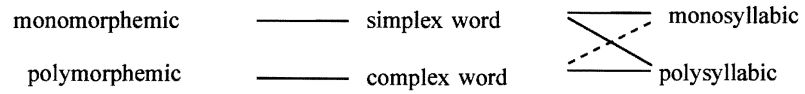

Figure 1 The Relationship between 'Word', 'Morpheme' and 'Syllable'

There are the following 4 combinations that are possible in Chinese.

1. monomorphemic, simple word, monosyllabic: e.g. [ta] 'he'
2. monomorphemic, simple word, polysyllabic: e.g. [jia.na.da] 'Canada'
3. polymorphemic, complex word, polysyllabic:
   e.g. [qian.bi] 'pencil' ([qian] 'lead'+[bi] 'a writing tool')
4. Polymorphemic, complex word, monosyllabic (The dotted line above to show that this is a very unusual case where a complex word can be monosyllabic.):
   e.g. [gai-r] 'lid' ([gai] 'cover'+[-r] 'nominal morpheme')

It is hard to define Chinese names in terms of words or morphemes. Are Chinese names words or phrases? How many morphemes are there in a Chinese name? These questions are hard to answer. It is only certain that a base name has at least one morpheme. In terms of syllable, the base names can be monosyllabic and disyllabic.

4.2. Disyllabicity in Chinese Word Formation

Despite the possibility of the above four combinations, the Chinese language has shown a clear preference for two-syllable words. Different statistical analyses have pointed to the same conclusion: disyllabic words are the most common word form in Chinese (Wang *et al* cited in Lin 2001a; He and Li 1987 cited in Duanmu 2000, 146).

There is a strong interaction between phonology and morphology in Chinese. Word-formation prefers a phonological form of two syllables. Almost all types of word-formation processes, affixation, compounding, reduplication and abbreviation, in Chinese "put together morphemes for no other purpose but to create a two-syllable form" (Lin, 2001a: 82).

As we have observed above, this tendency of disyllabicity is also observed in hypocoristic formation in Chinese.

5. AANALYZING DISYLLABIC HYPOCORISTICS IN PROSODIC MORPHOLOGY

Despite the complexity in hypocoristic formation, this paper will only focus on part of the data where affixation or reduplication are employed as morphological processes to give rise to a hypocoristic with or without the process of truncation. Due to the limitation of length, this paper will only provide an explanation of the two-syllable hypocoristics, ignoring the trisyllabic and monosyllabic hypocoristics.

It has been observed that disyllabicity is an overwhelming phenomenon in Chinese word formation. However, linguists have argued that the increase of disyllabic words in Chinese is a result of homophone-avoidance (Lü 1963; Li & Thompson 1981 cited in Duanmu 2000, 150). It was proposed that the historical decrease of the syllable inventory has created too many homophonous syllables and disyllabic words are thus needed to distinguish meaning.

Feng (1997) argued against this view and provided an analysis to account for the disyllabic tendency as a result of prosodic requirement. The preference for disyllabic hypocoristics provides further counterargument for the homophony-avoidance claim. There is no need to avoid homophones in hypocoristics. Homophones are even preferred in forming nicknames, as can be shown in the formation of the trisyllabic hypocoristic/nickname: *Ding* → *Da tou ding* 'tack'. There is no evidence why people would want to employ affixation or reduplication which form disyllabic hypocoristics to avoid homophones.

The present paper tries to account for the disyllabicity of hypocoristics within the framework of prosodic morphology. It is argued that the preference for disyllabic hypocoristics results from affix-inclusive disyllabic template.

5.1. Defining a Hypocoristic Template

"The Prosodic Morphology Hypothesis requires that templatic restrictions be defined in terms of prosodic units" (McCarthy and Prince, 1995: 320).

In accordance to the principle of prosodic morphology that templates should be defined in terms of authentic units of prosody listed here, there are two possibilities for defining a template for Chinese hypocoristics, in terms of syllable or in terms of foot, a monosyllabic template or a disyllabic template.

Figure 2 Hierarchy of Prosodic Units

5.1.1. Monosyllabic Template

The first proposal is that the hypocoristic template is a monosyllabic template. Subsequent affixation or reduplication is employed to yield a disyllabic hypocoristic.

Figure 3 Monosyllabic Template for Chinese Hypocoristics

For both kinds of base names in Chinese, a monosyllabic template seems to work well. For any monosyllabic base name, the base name is mapped to the monosyllabic hypocoristic template. An example of the formation of a hypocoristic from a monosyllabic base name is the following: *Chang* → *Chang-er*. First, the only syllable in the base name is mapped to the syllable slot in the hypocoristic template. Then, suffix *-er* is added to the template to make the disyllabic hypocoristic. For a two-syllable base name, it is a similar case, e.g. *Jingyan* → *Yan-zi*, can be explained as a process where one syllable of the base name is mapped to the template (note that the directionality will be discussed in later sections), and suffix *-zi* is added to the stem. The formation of a hypocoristic by reduplication after truncation can also be explained in this template. The case of *Guohui* → *Guoguo* is formed by mapping one syllable *guo* from the base name to the hypocoristic template. The stem is then reduplicated to produce the hypocoristic *Guoguo*.

It seems that the monosyllabic template can account for the hypocoristics collected. However, if the template of hypocoristics is monosyllabic, it is not explainable why Chinese hypocoristics are always disyllabic instead of monosyllabic or tri-syllabic.

If the template is monosyllabic, it is expected that affixes are not obligatory and monosyllabic hypocoristics would be the most natural type, as in the case of English hypocoristics where the suffix *-i* is not part of the bimoraic hypocoristic template and is only added afterwards. As a result, bimoraic monosyllabic hypocoristics without suffixes are rightly expected in English as the most common type. However, this is not the case in Chinese hypocoristics. Monosyllabic hypocoristics are very rare compared to the disyllabic hypocoristics.

5.1.2. Disyllabic Template

These problems lead to another possibility: a disyllabic hypocoristic template. As the most common type of hypocoristics identified in data is the disyllabic type, the natural hypothesis for the template would be a disyllabic foot as shown in figure 4.

Figure 4 Disyllabic Template for Chinese Hypocoristics

This template for Chinese hypocoristics is proposed to be a disyllabic morphonologically-headed foot. And the head of the foot will always be the stem. The two syllables in the foot template included a head, which would be the stem, and an affix.

In order to arrive at a same template for reduplication and affixation, it is important to propose reduplication to be a special kind of suffixation. The hypocoristic template can be modified in the following way in order to reflect the discussion above.

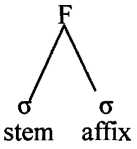

Figure 5 Disyllabic Headed Foot Template

A final point to discuss about the Chinese hypocoristic template is the linear order of the two syllables in the template. If the template consists of the head syllable followed by the syllable for affix, the only possible affix in hypocoristics would be suffixes. As we have observed in the data, not only suffix but also prefix are used in hypocoristic formation.In order to allow the possibility of prefix, we have to propose the template to be an un-ordered concatenation of two syllables. In the following schematic representation of the template, I will use dotted line to indicate the position of affix syllable as unfixed.

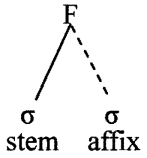

Figure 6 An Un-ordered Disyllabic Headed Foot Template

5.2. Straight Mapping from Base Name

Now that the hypocoristic template is proposed to be a disyllabic headed foot, the next step is to explain how a base name is mapped to this template. A template can be used in a language in two ways in forming hypocristics. In one process, a template is a target for mapping process, regardless of the prosodic structure of a base form (Mester 1990) and in the other process, a template is a delimiter, which circumscribes a particular domain of the base (Lipski 1995, 404). These two processes can be generalized as directly mapping (from a base name to the template) or mapping after circumscription (from base name to the template). Mapping after circumscription will be discussed in the next section. In the present section, I will discuss the possibility of direct mapping.

The first point of concern in direct mapping is directionality. One of the observations in hypocoristic formation in Chinese is right-edge alignment. In order to account for this characteristic, the

direction of mapping is proposed to be from right to left. Furthermore, it has to be stipulated that the mapping will only target for the head syllable in the hypocoristic template. That is to say, whatever is mapped from the base name is going to be the head of the hypocoristic. Subsequently, if prefixation follows, the prefix is going to be ordered on the left side of the head syllable and if suffixation (including reduplication) follows, the suffix is going to be placed on the right side of the head syllable. The example of the mapping of a one syllable base name can be demonstrated in Figure 7.

The directionality doesn't seem to be critical in mapping a monosyllabic base name to the template, as there is only one syllable. However, it is important in mapping from a two syllable base name. The mapping of the disyllabic base name to the template is shown below.

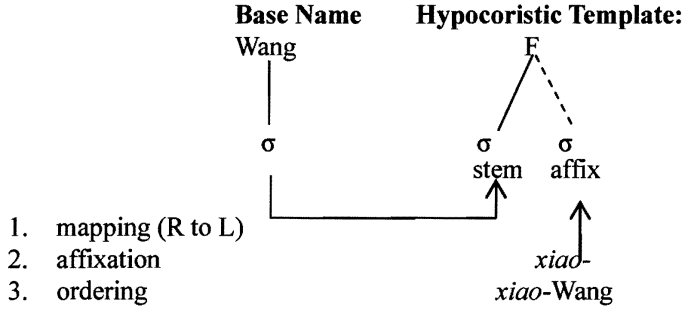

Figure 7 The Mapping Process of a Monosyllabic Base Name

If the mapping direction were from left to right, it would yield untested hypocoristic of **xiao*-Yong for the example in Figure 8. Thus, it is proposed that right to left is the proper direction of mapping.

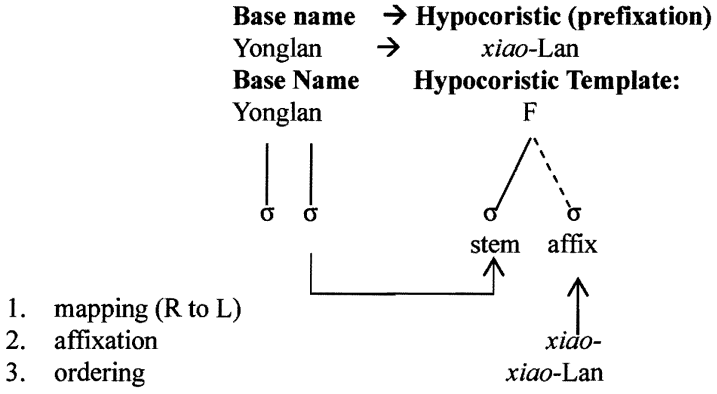

Figure 8 The Mapping Process of a Disyllabic Base Name

However, direct mapping from left to right will create a problem for the base name of *Yuanyuan*[3],

[3] It has to be pointed out that the name *Yuanyuan* is different from a name *YuanYuan*. The first base name is written with two identical Chinese characters and thus represents reduplication. The second is written with two different Chinese characters. It is clear that the second base name is not a reduplication of the first syllable of the base name. Another difference between the two is in tone. In the first base name *Yuanyuan*, the second syllable only bears a neutral tone. In contrast, the second base name, *YuanYuan*, each syllable has its own tone. The Right to Left mapping will not be a problem for the second base name, because, as other names, the right syllable (2nd)

where the base name itself is already a reduplication of the first syllable of the base name. In the base name where there is reduplication, the second syllable is of neutral tone. If the mapping proceeds from right to left, the second syllable in the base name is predicted to be mapped to the hypocoristic. However, it is not what observed in the data. The hypocoristic for *Yuanyuan* can be *Yuan-zi*, where the first syllable is not of neutral tone. In other words, it is not the right syllable of the base name that has been copied to the template, rather the left one. In the following derivation, the tone is represented as a number beside the syllable, with a neutral tone as tone 0.

Right to left mapping will predict the wrong hypocoristic **Yuan0-zi0* for a base name Yuanyuan, as shown above in Figure 9. It is thus concluded that direct mapping can account for all mapping from a monosyllable base name to the template and most two-syllable base names, but the directionality has created obstacles for the base name where there is reduplication.

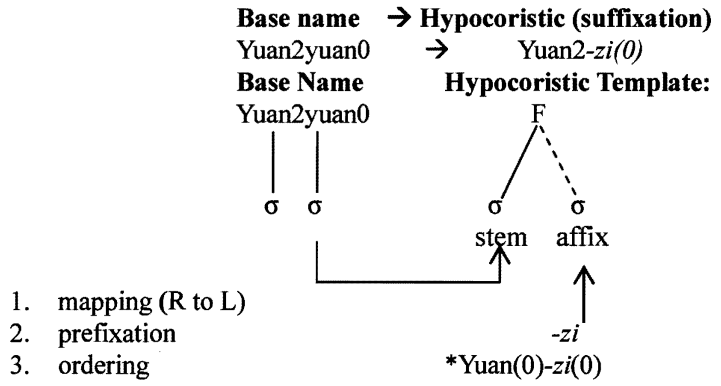

Figure 9 The Wrong Prediction for the Base Name of Yuanyuan

5.3. Mapping after Circumscription

An alternative to straight mapping from the base name is to employ the mechanism of circumscription of a template. A template can also be used "as mechanisms isolating a subdomain within the base form" (Mester 1990, 482). In this way, a template plays a more restrictive role in morphology. It is not only a passive target to which any information in the base can be mapped to freely. The template is actively involved in parsing information out from the base form. Anything not conforming to the template can not be directly mapped.

In the case of Chinese hypocristics, instead of using directionality, we can propose that the rightmost foot of the base name is parsed out by the parsing function and then the leftmost syllable (the first syllable) of the foot is mapped to template by the morphological operation.

McCarthy and Prince (1990) defined an extrametricality function Φ, which yields a constituent C at the edge E of a base B. The results of this function can be expressed in the following formula: B:Φ <C, E>. The residue of the parsing function can be expressed as B/Φ. The base can thus be expressed as a

will be used in hypocoristic formation.

concatenation of the parsing function and the residue: B = B:Φ * B/Φ, where * indicates non-ordered concatenation. Following Lipski (1995) in defining the algorithm of circumscription for Spanish, the Chinese algorithm can be expressed in functional notation in the following way. The parsing function is set to extract the rightmost foot of the base name: B:Φ<Foot, right>. For a base name in the shape of $\sigma_1\sigma_2\sigma_3$, there can be two possibilities: 1. $\sigma_1(\sigma_2\sigma_3)_f$ and 2. $(\sigma_1\sigma_2)_f\sigma_3$. This function will extract $\sigma_2\sigma_3$, if they are in a foot (example 1) and will extract only σ_3 if $\sigma_1\sigma_2$ are in a foot and σ_3 is in a separate foot (example 2). The residue of the parsing function can be expressed as B/Φ<Foot, right>. The residue of example 1 and 2 above will be σ_1 for example 1 and $\sigma_1\sigma_2$ for example 2, respectively. The deletion function operates on the residue: DEL(B/Φ) and the deletion function is thus: DEL/Φ(B)=B:Φ<Foot, right>*DEL(B/Φ). For example 1, the deletion function will delete σ_1 from the base name and for example 2, $\sigma_1\sigma_2$ will be deleted. At the present stage, the output of the above functions on example 1 will be $\sigma_2\sigma_3$. The output of example 2 will be σ_3. A second application of Φ<syl, left> will function on the output of the last round and parse out the left most syllable of the output of the previous functions. The process can be expressed as (DEL/Φ(B)):Φ<syl, left>, the output (DEL/Φ(B)) is submitted to the parsing function of Φ<syl, left>. This syllable parsing function will parse out the left syllable in example 1, thus σ_2 from $\sigma_2\sigma_3$. The parsing function will operate vacuously in example 2 and parse out the only syllableσ_3. The morphological operation can be defined as a function M which maps the extracted melody to the head syllable in the Chinese hypocoristic template. This process can be expressed as Φ<syl, left>((DEL/Φ<foot,right>):M.

Operating on both types of Chinese base names, monosyllabic and disyllabic, the algorithm will produce right output. I will demonstrate this in the following paragraphs.

For a one syllable base name, e.g. *Wang*, the parsing function B:Φ<Foot, right> will take the rightmost foot and that is *Wang*. There is no residue and the deletion function is applied vacuously here. The mapping function then takes the left syllable of the parsed foot, which is again *Wang*, and maps it to the head syllable in the hypocoristic template.

Two-syllable base names are more complicated. In order to parse out the rightmost foot in the base name, we have to introduce the stress pattern in the base names. There are two kinds of stress pattern for two-syllable base names[4].

In an ordinary full name which contains a one-syllable family name and a one-syllable given name, *Zhu Yonglan*, there are two feet, (Zhu Yong)(lan). The second syllable of the given name forms a degenerate foot of its own (Feng, 1997). In other words, the two syllables in the base name *Yonglan* are in the domain of two different feet. Based on this analysis, the Φ<Foot, right> will parse out the second syllable from the two syllable base name, *Yonglan*: B=B:Φ*B/Φ=lan*yong. Then, DEL/Φ(B) will delete the remaining syllable, i.e. the first syllable of the given name: DEL/Φ(B)=B:Φ*DEL(B/Φ)=lan*{Yong}, where *Yong* will

[4] Monosyllabic base names are always stressed. These come from monosyllabic family names or monosyllabic given names. A family name in any full name is always stressed. A monosyllabic given name is also stressed. Thus, a full name consisting of 1-syllable family name and a 1-syllable given name will have 2 feet instead of 1 and the family name and given name will be in 2 separate feet.

be deleted by the DEL function. After submitting the result of the DEL function to a second round of Φ<syl, left>, the result will still be [lan]. It is then submitted to the Mapping function and [lan] is mapped to the template. Together with affixation, this fills up the template and result in [*xiao*-lan].

There is another kind of stress pattern in a two-syllable given name. When the given name itself is already in reduplicated form, the stress pattern is different. In a full name of [Liu2 Yuan2yuan0], the family name [Liu] is in a foot and [Yuan2yuan0] is in another foot. The two syllables in the base name *Yuan2yuan0* are in a trochaic foot. As a result, the algorithm will yield different result for the given name [Yuan2yuan0]. First, the parsing function Φ<Foot, right> will parse out the foot consisting of two syllables from the two syllable base name, B=B:Φ*B/Φ=Yuan2yuan0*{ø}. This is different from the case of *Yonglan*. The residue of this function is ø because the only foot in the base name is parsed out. Then, DEL/Φ(B) will function vacuously. The result is submitted to a second round of parsing function Φ<syl, left> and (DEL/Φ(B)):Φ<syl, left>*(DEL/Φ(B))/Φ<syl,left>=Yuan2*yuan0. The parsed out part is [Yuan2] and the mapping function will only operate on the parsed output of Φ<syl, left>. Thus [Yuan2] is mapped to the template and together with affixation, fills up the template. The result will be [Yuan2-*zi0*].

The derivation in Figure 10 for all three kinds of base names will show that the mapping after circumscription will produce the right output in every case, and that the output of every step is different.

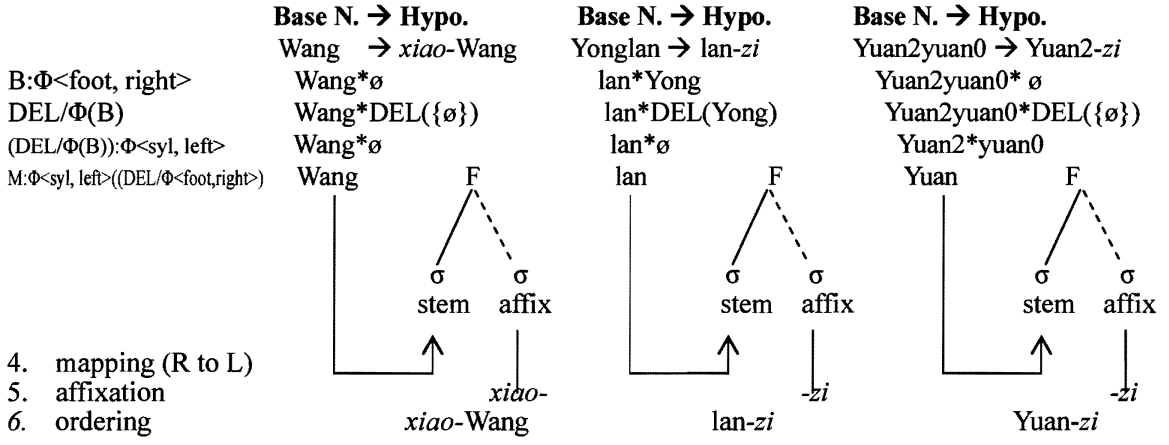

Figure 10 Deviation of Mapping after Circumscription for Three Base Names

6. CONCLUSION

Based on data collected through a questionnaire, this paper focuses on the formation of disyllabic Chinese hypocoristics which involve affixation and reduplication with or without truncation. The characteristics of the hypocoristics are analyzed within the framework of prosodic morphology.

It is proposed that the hypocoristic template is a disyllabic headed foot and that the affix is

included in this template. This template is more appropriate than a monosyllabic template because it accounts for the disyllabicity revealed in hypocoristic formation. Furthermore, it is shown that direct mapping to the template is problematic for one kind of base name which is already reduplicated. The mechanism of circumscription is argued to be more powerful in that it is able to account for the problematic base name as well as all other kinds of base names. It is thus concluded that the present Chinese hypocoristic data support the analysis of mapping to a template with the mechanism of circumscription.

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