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CODE SWITCHING: THE SEED CONCEPTS

City University of New York

PH.D. 1986

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CODE SWITCHING: THE SEED CONCEPTS

by

UDAY C. NAVAL

A dissertation submitted to the Graduate
Faculty in Linguistics in partial
fulfillment of the requirements for the
degree of Doctor of Philosophy, The City
University of New York.

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Abstract

CODE SWITCHING: THE SEED CONCEPTS

by

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Adviser: Professor Robert Fiengo

Code switching, a systematic and rule-governed process, occurs amongst competent bilinguals who observe well-defined principles while mixing languages at the intra-sentential level.

Since such bilinguals are never instructed in how to deal with the phenomenon and yet they observe the same basic freedoms and constraints, an innate faculty underlying the code-switching phenomenon, analogous to other linguistic universals, may be postulated. The present study seeks to define, delimit and delineate this faculty.

The study is founded on an examination of the code-switched practices of several competent bilinguals in Hindi and English as well as on the native intuitions of the Hindi-speaking researcher. The findings of the study are then assessed in terms of the code-switching principles provided in the literature.

While the study records the existence both of the grammatical categories that can generally be switched as well as those that are strongly impervious to the process, it is discovered that the categorial approach in and of itself does not suffice to explain

the totality of the phenomenon. For within the categories there invariably are exceptions.

To account for the exceptions, a hypothesis termed the "Seed Concepts" is proposed. This hypothesis states that there exists a set of the most fundamental concepts that crystallize during the earliest period of concept-formation in the mind of the young child, a period which is broadly concomitant with the incipient 'lexical acquisition stage' in the child's linguistic development. In addition, the concepts seem to stem from the child's need to distinguish his 'self' from the 'non-self', through the instrumentality primarily of sensori-motor activity.

This approach is found, then, to inject into the inquiry a dimension from the area of developmental psycholinguistics, in addition to that of syntactic structure.

The notion of "Seed Concepts" gives rise, in turn, to the notion of the "Seed Concepts Constraint", an all-encompassing, universal principle. This principle holds that in the intra-sententially code-switched speech of the bilingual the "Seed Concepts" get heavily marked for realization in the morphophonetics of the first language exclusively.

The notion of the "Seed Concepts", it is suggested, receives support from various other quarters, namely, frequency of word-use in children, the single-word acquisition stage of the infant, lexico-statistical studies of the 'permanent vocabulary' of languages, etc.

Additional, though brief and informal, inquiry seems to indicate that the findings of the study are supported by code-switching practices in several other languages as well. The "Seed Concepts Constraint" is thus postulated as a necessary condition for the unification and elucidation of the various code-switching restrictions proposed in the literature.

On the whole, it is shown that the code-switching phenomenon partakes of constraints originating in the areas both of syntactic structure and conceptual thought.

Finally, it is suggested that there might exist a "Seeding Component" of Universal Grammar that defines the code-switching ability of a competent bilingual individual.

Acknowledgments

First of all, I must express my gratitude to the members of the Guidance Committee for their patience, understanding and cooperation. Professor Robert Fiengo, the chair, actively assisted in the clarification of several concepts and the systematization of the theory presented here. He assiduously studied the various revisions of the chapter drafts and put up with several delays with grace and understanding. Discussions with him were always stimulating, resulting sometimes in divergent viewpoints on theory and interpretation, but even when I felt a compelling need to deviate from his approach, I did so with the utmost respect for his scholarship and maturity of judgment. I remain indebted to him, therefore, for his wise counsel and stewardship.

Professor John Moyne and Professor Donald R. H. Byrd, the other members of the Committee, showed a large measure of optimism and faith in my effort and ensured easy transitions of the work from one stage to the next. I am deeply beholden to them for their gracious cooperation.

It is self-evident that a linguistic study involved in an academic dissertation meant to be submitted for a doctoral degree can never be the handiwork of the candidate alone. This applies with greater vigor to an empirical endeavor such as the present one, an endeavor that involved a number of informants who had not

only to repeatedly grapple with scores and scores of linguistic constructions, but who were urged also to come up with additional examples, counterexamples, and at times even theoretical explanations for their intuitions. Anyone who has been subjected to such a process over a period of time knows how very arduous the process can become.

I am therefore most pleased to record my gratitude to the Hindi-speaking informants whose valuable inputs helped shape the present work. Their names and backgrounds are given in Appendix I.

Furthermore, I am profoundly obligated to the several non-Hindi speakers who very graciously cooperated in 'field-testing' the findings derived from the Hindi-English data. They invested a great deal of their time and energies in the endeavor and cheerfully put up with much inconvenience. Appendix II records their names, backgrounds and languages, respectively.

Mr G. P. S. Bains helped with useful comments as well as the loan of materials, for which I am obliged to him.

Finally, I am pleased to acknowledge my wife Himadri's contribution to the project. She most dutifully read the proofs several times over, offered valuable suggestions on matters of organization and presentation, and helped correct several of my own intuitions which on occasions showed vulnerability to pressures that are inevitable in a venture of this kind.

Note on Transcription and Abbreviations

A linguistic study conducted in English that deals with another language has inevitably to contend with the problem of transcription. The optimal solution, of course, is to resort to the International Phonetic Transcription. In practical terms, however, that is not always feasible, for an accurate rendering of a non-European language would require several special characters. And Hindi, as is known, uses the Devanagari script.

Since the focus of the present work lies heavily on the syntactic and lexical, rather than the phonetic or phonological, phenomena, it is felt that a detailed and specialized representation of the sound system of Hindi would at best be redundant, and may in fact distract the reader's attention from the immediate task on hand.

It appears, then, that the non-Hindi reader's burden would be greatly reduced if the orthographic transcription is provided in the Roman alphabet only, with the addition of a few - in fact, just two - additional features. These would be:

- a) long vowel : as in a:g 'fire'
- b) nasalization ~ as in mā 'mother'

Mention may also be made of the proper names used in the Hindi sentences. Since Hindi has grammatical gender and not only

- l) OBL Oblique Case Marker
- m) PASS Passive Auxiliary
- n) PAST PAST Inflection
- o) PERF Perfective Auxiliary
- p) POSS Possessive Particle
- q) PRES Present Inflection

As for the specific terminology employed in the text for describing various aspects of code switching, the following abbreviations would be employed:

- a) CS Code switch, code switches, code switched, code switching, etc.
- b) SL Seed Language, i.e., the basic linguistic medium chosen by the speaker for purposes of code-switched discourse. More often than not, it is his native language.
- c) FL Feed Language, i.e., the second language from which lexical items are drawn for code switching purposes.
- d) UG Universal Grammar. i.e., those grammatical tendencies which are more or less common to most, if not all, languages and which are found to be innate in humans.

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CHAPTER I - INTRODUCTION

Language contact is a phenomenon that has been in operation since perhaps the birth of language itself. When two languages come into close proximity, various things may happen. They may influence each other at one or more levels, i.e., of lexicon, phonology and syntax; they may give rise to new, hybrid languages - called pidgins or creoles - or they may just get systematically intermixed without affecting the fundamental linguistic structure of either.

Code Switching

The last of the above-mentioned phenomena generally occurs when the speakers involved are linguistically competent individuals, possessing a fairly adequate mastery over both the languages. Given this situation, they may want to 'mix' the two languages for functional, pragmatic, communicative or any other reason. The phenomenon is thus a function both of their bilingualism and their desire or need to resort to more than one linguistic code.

When this happens, one of the two languages is retained as the base language, while elements from the other are fed into it to generate the linguistic mixture. The result is not the chemical compound of a new and different, i.e., a third, language, but rather a strictly transient and utilitarian composite, generated by independent and discrete grammars of the

two languages involved. This phenomenon has been characterized as 'code switching'.

It is an observation of global magnitude that when competent bilinguals of diverse backgrounds produce a 'code-switched' utterance in the above sense, they do not produce an entity lacking in well-defined structure. This entity is never a garbled, random pot-pourri of elements from two diverse languages. On the contrary, the product is a fully grammatical configuration that does violence to the distinctive genius of neither of the contributing linguistic codes. Despite its seemingly hybrid nature, it actually is a result of an adroit interaction of two diverse grammars and lexicons, an interaction that acknowledges the distinctive characteristics of the languages involved and thereby maintains their respective integrities.

Innate Faculty

Such being the case, a crucial issue arises. If competent bilinguals in all lands and climes possess the ability to intermix two languages in a systematic manner without doing violence to the integrity of either of them and yet produce an acceptable utterance; and if, furthermore, these bilinguals have never received instruction - in any way, shape or form whatever - as to the principles that govern the generation of the code-

switched utterances, then it is fair to surmise that there probably exists in the human mind an innate faculty of some type that results in the utilization of the speaker's dual linguistic competence, in order to generate an infinity of structures of a third kind, namely, the code-switched sentences.

And if grammar means the utilization of a finite set of rules to produce an infinite number of utterances, then this innate ability appears to be a grammar of some sort.

And, once again, to the extent that this grammar is untaught and unlearned, it may possibly be reckoned as a linguistic universal at par with other linguistic universals.

Is Code Switching a Grammatical Phenomenon?

Code switching can take place at various levels of linguistic structure. One can make lexical switches, phrasal switches, or sentential switches.

As would be shown in a succeeding section, sentential switches are outside the scope of the present study, which is exclusively concerned with lexical and phrasal switches. Concerning the lexical or phrasal switches, there seem to be some crucial questions to examine:

- a) If code-switched sentences are either well-formed or ill-formed, then is it some kind of grammar that distinguishes between them?

- b) If lexical insertion under terminal nodes, such as Det and N, is a syntactic phenomenon - in other words, if the transformation of 'I want NP' to either 'I want my books' or 'I want meri kitabē' (meri = 'my'; kitabē = 'books') is a syntactical event, then is the choice between meri and 'my or between kitabē and 'books' a syntactical, hence grammatical, choice?
- c) In phrasal switches, is it grammar that is involved when the constituent structure of the switched phrase goes into operation in replacement of the divergent constituent structure of the native phrase? For instance, if P + N replaces N + P, what is the nature of the rule that reverses the order of the constituents? Again, if \emptyset + N transforms to Art + N, then is it not grammar again that inserts the article before the N?
- d) When inflectional and derivational processes are forbidden to cross language boundaries, i.e., when a first-language inflection is inaccessible to a second-language morpheme, then are the constraints involved grammatical in nature?
- e) Is there an intimate bond between the grammar of a language and the morphophonetics of its lexicon?

While answers to these questions would be sought in detail in the ensuing chapters, for the present it seems fairly plausible to assume that the above questions are concerned with grammatical

issues, and that code switching may in essence be a syntactical, hence grammatical, phenomenon.

Objective of the Study

It is the objective of this study to examine the proposed hypothesis of the innate faculty (or grammar) involved in code switching and to define its origins and functions.

The Chomskian approach that it is possible to decipher at least some of the significant and essential aspects of linguistic theory through the intensive, in-depth study of any one language is well known. Following that approach, the objectives of this study would be sought by a close examination of the interplay between two languages, namely, Hindi and English. That they happen to be among the most widely-spoken languages of the world and exhibit a rich array of code-switching practices is an additional advantage.

However, once a theory of the innate CS faculty is developed from the Hindi-English data, its findings would also be briefly examined with respect to some other languages in their interaction with English in the code-switching process. However, such examination, being outside the scope of this study, shall not be claimed to be formal or scientific.

Henceforth, for convenience' sake, the abbreviation CS shall optionally be used in this study not only for the term 'code

switching' itself but also for various other related terms such as 'code switch', 'code switches', and 'code-switched'.

Furthermore, in order to capture the distinctive relationship of the two languages involved in the code-switching process, the first, the 'home', or the 'host' language shall be designated as the 'Seed Language' (SL) and the second, the 'alien', or the 'guest' language as the 'Feed Language' (FL).

Code Switching: Why vs How

Bilinguals that possess adequate command over both of their languages code switch, i.e., insert FL elements into the SL base, for various reasons, none of them grammatical. They may wish to indicate the fact that they "know" the second language well - generally the second language is a language of 'prestige' - and thereby claim, however indirectly, a superior social, cultural or educational status. Since, however, they have originally chosen their native language, they also wish to indicate that they are not cultural or linguistic 'renegades' and that they still value their native socio-philosophico-religio-cultural system best represented by their first language. Viewed thus, code switching achieves a psychological balance between the desire to belong and the desire to transcend.

- Another reason for code switching is to capture the subtle nuances of a particular lexical or phrasal entry not quite

available in the SL. Since there are no completely identical synonyms between languages and that while their cores of denotations might mutually converge to greater or lesser extents, there yet is divergence in their respective connotations. Speakers may therefore code switch to bring home the finer nuances of their lexical choices. This would be apparent from the following example:

- 1) mujhe pahar par ek CABIN chahiye
 to-me hills on a need
 'I need a cabin in the hills'

In this structure, the Hindi speaker could easily have used the Hindi word kamra 'room', but the connotation of 'cabin' being considerably far more than that of 'room', it would not have meant quite the same. Instances of this kind form one sub-class of switches, though in many other cases there is no perceptible differentiation between the connotations of the two available morphemes and the choice seems to take place at a level of much greater subtlety.

There is a diversity of other reasons as well. For instance, CS may be resorted to to indicate one's expertise in a specific field, to add emphasis to a statement, or to validate it. The second language being often a language of prestige connotes a certain 'urban' sophistication on the part of the speaker, not achievable by the use of SL alone.

On other occasions, CS is a vehicle for the expression of

emotion. It has been often noticed in India that participants in a conversation resort to the use of English, wholly or partially, when, say, a polemic gets heated beyond a certain measure, for its function then is to 'top an argument'. At other times, CS acts as a vehicle of persuasion, peaceful in this case. A statement made originally in the first language and then reiterated in the second seems to carry greater energy and to enforce better conviction than otherwise.

In situations where communication begins in the second language and then reverts to the first, the motivations are different. They may signal a need for confidentiality in one case, express ethnic solidarity in another, or serve a 'quotative' function in the third. In all such and other similar cases, the speaker starts out, as suggested earlier, by asserting his linguistic sophistication in the second language but then decides to hark back to it to prove that his feet are still rooted in the native soil.

It is obvious that the above are considerations of motivation in code switching. They respond to the question 'why' a speaker resorts to CS. While a fascinating area in psycholinguistics, the thrust of the present investigation would steer away from the question 'why' and head in the direction of the question 'how'.

In other words, the focus of the study would be to examine the 'mechanism' of code switching, the freedoms and constraints

that are involved in the process, the interplay of the grammars of the two languages - and not the reasons that impel speakers to undertake CS in the first place.

Is CS Unidirectional or Bidirectional?

It has been claimed by certain researchers (Sankoff and Poplack (1980:12) that a bilingual speaker may, with equal ease, go back and forth between the two languages over which he has native-like control, making either his SL as the occasion demands. In other words, he is not supposed to show any bias in choosing either of the following models at the intra-sentential level:

- 2) a. Native Language (SL) switched to Second Language (FL)
- b. Second Language (SL) switched to Native Language (FL)

While such freedom of choice is certainly possible in theory, its exercise at least in the Hindi-English situation is so infinitesimally miniscule that it may be said to be virtually non-existent. For native speakers of Hindi, if a choice to speak in English has once been made, plugging in of the Hindi words into an English sentential framework is resorted to only in extraordinarily rare situations. One instance of such situations is when there is no close equivalent available in English, as in (3):

- 3) There would be a PRABHAT PHERI at 5 a.m.
 dawn round

'There would be an early morning round of hymn singing at 5 a.m.'

Another situation would be where an especially powerful linguistic effect is aimed at, as in (4) and (5):

4) the man looked like a JHUDDU:
 fool
 'The man looked like a fool'

5) in such matters, the best solution is the DANDA
 cane
 'In such matters, brute force is the best solution'

Concerning (3), there is a custom amongst certain religious groups in Hinduism to gather outdoors before dawn and go around the area chanting hymns. Prabhat pheri, then, is a certain ritualized activity, which carries its very distinctive connotations and would be representable in English only in an expansive or circumlocutory manner. In sentence (4), the term jhuddu: 'fool' carries a certain vitality and expressiveness for Hindi speakers that neither 'fool', nor 'idiot', nor 'simpleton', nor 'nincompoo', for that matter, does. In (5), danda 'cane' is a term that, stemming originally from the older classroom practices where the teacher would utilize the cane to instill wisdom in the students, has now come to symbolize authoritarian or punitive measures. In each instance, the Hindi entries plugged into English structures meet specific linguistic demands and impart legitimacy to them. In statistical terms though, their occurrence, as stated above, is wholly insignificant. Furthermore, as would be argued later in this chapter, these instances indeed are cases of 'borrowing' (in reverse, in this case) rather than of code switching.

Aprioristically speaking, there perhaps exists a powerful reason why CS from the second to the first language should not make much sense, no matter what the language pairs are. It might be held self-evident that the instinctive tendency for humans is to express themselves in their first language, which comes most naturally and fluently to them. When they opt out to speak in the second language, they do so for compelling reasons. This entails the process of making a choice from among two available alternatives. Now, for speakers wishing to abandon, howsoever briefly, the second language to revert to the first, the switch involves a second choice. If all choices involve decision-making - and hence effort of a kind - then the question is: Having made his first effort in picking his second language as the medium of discourse, why should the speaker subject himself to an additional task in going back to his first language. If economy of effort is a natural, instinctive goal, there obviously seems little motivation for a speaker to undertake the psychologically burdensome and circuitous route of arriving at his first language, even though momentarily in an intra-sentential CS context, after having abandoned it at the beginning in favor of the second.

Be that as it may, however, it is a matter of record that at least amongst Hindi-English speakers, code switching is a preponderantly unidirectional process, going from Hindi SL to

English FL. For purposes of this study and the theory that it would entail it shall be assumed that the SL is, overwhelmingly if not invariably, the native language of the speaker and the FL his second language.

Identifying the Seed Language

As a corollary of the above discussion arises the question of the identification of the seed language. The speaker of course is aware of what his first language is, but supposing we are confronted with a heavily code-switched sentence reduced to black and white, and the information as to the speaker's SL is inaccessible. A situation like this could be exemplified by the following structure:

6) mera BEST FRIEND HOSPITAL mē ADMIT hua
 my in be-PAST-PASS
 'My best friend was admitted in the hospital'

In this sentence of seven lexical items, three are from Hindi and four from English, i.e., statistically it has a preponderance of English words. What is its SL - Hindi or English?

In this connection reference can be made to Sankoff and Poplack (1980) which has despaired of any attempts to decipher the base language in a CS utterance. On the other hand, Klavans (1983) suggests one 'sure-fire' test and Nishimura (1985) a whole battery of a dozen or so criteria that help distinguish the SL from the FL.

We prefer to favor the view that the SL of a CS sentence is predictable. In the pages to follow, indications will be provided on the features that identify the SL.

Code Switching vs. Code Mixing

The notion 'code switching' has been defined above as the insertion of elements of a second language (FL) into the structures of the first language (SL). If 'structure' is confined to the level of the sentence or the phrase, then the phenomenon occurs at the 'intra-sentential' level, i.e., its domain does not extend beyond the single sentence, and whatever switching takes place is restricted to the boundary of the sentence. Thus, a given sentence (of SL) is said to be code-switched if it contains at least one constituent of FL.

However, there is another interpretation of the term 'code switching' which allows the linguistic mixture to exceed the limits of the single sentence in order to encompass the domain of discourse. In this 'inter-sentential' type of CS, the SL and the FL are alternants at the level of the complete sentence and beyond, so that a speaker may utter one or more sentences in SL, then move on to employ similarly complete sentences in FL, and then resume his speech in SL, thus oscillating between SL and FL as frequently as desired. Pfaff (1979:298) characterizes this phenomenon with a new coinage, namely 'code changing', and

speaking of the two languages involved as L-1 and L-2, defines it

as:

"...principally a stylistic device denoting change in affect, addressee, mode, etc.; it must take place between constituent (sic) boundaries and results in sentences which are sequentially L-1 and L-2."

Schematically, the two different versions of CS may be represented by the following model, where S stands for sentence, D for discourse, SL and FL are as stated above, and the slash means 'either...or'.

7) a. Intra-sentential (sentence-bound) CS

S: SL/FL...SL/FL...

b. Inter-sentential (discourse-bound) CS

D: S1 (SL/FL) + S2 (FL/SL) + S3 (SL/FL) + ...

Lately, other scholars have sought to introduce yet newer terminology to distinguish between the 'inter-sentential' and 'intra-sentential' varieties. Kachru (1978:108) uses the term 'code-mixing' for the 'intra-sentential' phenomenon, reserving 'code switching' for the 'inter-sentential' changes. It appears that the purpose of the new coinage is merely to mark the distinction between the two varieties and not to attribute any semantic denotations to the term.

For the purposes of this study, 'code switching' shall continue to be used for intra-sentential changes - for two

reasons. First, there seems to be little theoretical justification in restricting the term 'code' to only complete sentential structures; it would be both logical and preferable to let the term subsume linguistic entities at the lexical and phrasal levels as well as the sentential.

The second and perhaps more important argument is that the term 'switch' seems to do far better justice to the dynamic, systematic and rule-governed process of language interchange that takes place within a sentence. For even though instantaneous and occurring mostly at the unconscious level, the process is yet a rigorous one. The term 'code-mixing', sounding a bit too ineffectual and suggesting a certain randomness or arbitrariness, does not quite capture the vitality and systematicity of the CS phenomenon.

Given this standpoint, there appears hardly anything grammatically significant (except in an extended sense if one speaks of 'discourse grammar') in switches that are inter-sentential. Such switches, as stated by Pfaff above, are 'stylistic devices' that denote change in 'affect, addressee, mode', etc. While they appear thus to be governed basically by functional, pragmatic, communicative or sociolinguistic considerations - and as such provide fertile ground for the study of these factors - their usefulness seems restricted primarily to those areas. They shed little light on the grammatical interplay

between languages and are beyond, therefore, the ken of the innateness factor referred to earlier. Since it is in the latter domain that the interest of the present work exclusively lies, nothing further need be said about the inter-sentential or discourse-bound version of CS.

What CS is not

There are several phenomena that may superficially appear to resemble CS, but which actually are different from it. These involve the following:

- a) Universal Technological Terms
- b) Set Phrases
- c) Borrowings
- d) Assimilations

Universal Technological Terms. As is widely known, there is a varying set of more or less recently developed technological terms, such as 'telephone', 'television', 'radar', 'computer', etc., which have gained universal currency in all parts of the globe. These terms are of English origin and when employed in another language may yield the illusion of code switching. Since, however, there are no natural, uncontrived or viable first-language counterparts of these items, their use can hardly represent a 'switch' of any kind. For the code-switching process, by definition, presupposes that the speaker must have ready

accessibility in both the languages to the required lexical entry. If an entry from the FL alone is available - there being no counterpart obtainable from the SL and the speaker has no choice but to use the former - then the CS situation does not come into existence at all. Similar reasoning applies to general, modern concepts, such as 'relativity', 'women's lib', etc.

Under this heading might also perhaps be included a subset of non-technological expressions that are basically 'social' in nature but have gained widespread currency in societies that interact with English, though they are not as prevalent as the technological terminology. These constitute the daily stock-in-trade of social interchange, expressions like, 'hello', 'thank you', 'sorry' and 'no problem'. These too are employed mechanically and fall outside the category of genuine code switches.

Set phrase. Though found mostly in the discourse of scholarly individuals, there is a body of set phrases and formulas, such as 'ipso facto', 'per se', 'ad infinitum' that are employed for the reason that their first-language equivalents are too long-winded or that the items themselves have come to be regarded as the stock-in-trade jargon of certain professional groups such as attorneys, university instructors, or business executives. They serve the limited purpose of imparting a certain

compactness of expression or stylistic flavor to the language. Alternatively, the items may appear so conspicuously "foreign" that they may be used only for the achievement of a highly specific effect not available through the use of native resources. Hence these, too, cannot be regarded as true instances of CS and must lie outside the scope of our study.

Borrowings. The next category under non-CS phenomena consists of items from another language that are temporarily utilized by an interlocutor in deference to the needs of the listener, out of respect for him, or for purposes of clarity or forcefulness of exposition. This would also happen when either the listener would not understand the native term or when the term would be heavily loaded with certain connotations not capturable by the native counterpart. Examples in this last category are the erstwhile but transient popularity of the German 'blitzkrieg' in WW II or of the Russian 'sputnik' three decades ago. These were 'borrowed' expressions that served a limited purpose and went out of fashion when the need for them ceased to exist. Such expressions are obviously too alien-sounding and too conspicuous to 'blend' in the matrix of the native language quite as 'effortlessly' as is the case with the code switches of the type that constitute the subject matter of this study.

Borrowing, incidentally, can also occur at the dialectal level. For instance, a British speaker might use the terms

word-initial 'sk' cluster found commonly in English. Another case is that of the English 'hospital' which becomes hospita:l in Hindi, since the word-final collocation of 'ti' is missing in the latter language.

To illustrate the point, let us look at the following structures:

- 9) is isku:l ki ima:rat bari sha:nda:r hai
 this school POSS building very grand is
 'The building of this school is very grand'
- 10) is isku:l ki BUILDING bari GRAND hai
 this school POSS building very grand is
 'The building of this school is very grand'

Here, isku:l is an example of 'assimilation' of the term 'school', while 'building' and 'grand' are the switches to English for the Hindi words imarāt and sha:nda:r, respectively. Though there exists no doubt an indigenous word pathshala for 'school', in practice the word has fallen into disuse and has more or less universally been replaced by isku:l. As for 'building' and 'grand', the Hindi native words are equally accessible to the speaker at the moment of speech. When he chooses to use the SL terms, he is speaking exclusively in his first language, as in (8); when he chooses to insert the FL terms, as in (9), he is producing a code-switched utterance. To repeat, the most crucial consideration in determining whether or not a substitution is a 'code switch' or not is the instantaneous availability of both the SL and FL terms to the speaker at the moment the utterance is generated.

On the other hand, where the native phonological system happens to overlap with that of the assimilated foreign word, no rephonologization is necessary. This is shown by scores of words of English origin that have now more or less completely replaced their native counterparts, if there were any. Examples are: parti 'party', kot 'coat', sofa 'sofa', pleit 'plate', gøla:s 'glass', etc.

The reason for the exclusion of the above four categories of words from the CS phenomenon should by now be quite apparent. Actually, the reason is a dual one. For one thing, several of the items cited above are not perceived at all as foreign and have become part and parcel of the host language. For unless scholastically inclined, a speaker is seldom interested in the etymological origins of the words used by him. For instance, in a developing society the younger generations may not even be aware that words like 'television' and 'computer' were unknown to their language just, say, 25 years ago. Actually, there may not even exist the native language counterparts for such items. In fact, this seems to be the case, by and large, with the two categories of 'universal technological terms', and 'assimilations' discussed above.

Diagrammatically, the situation may then be described by the following grid, where CS lies mid-range between the two extremes of total assimilations and transient borrowings:

11) assimilations.....code switches.....borrowings
 [isku:l] [sha:nda:r/grand] [karma]

Non-Fluent Bilinguals

It has been stated time and again that it is a fundamental assumption of the code switching studies that the speaker is a fully competent bilingual in the languages concerned. Everyone is a masterful speaker of his own language, of course; the question is whether he possesses native-like mastery over the second language as well. If he doesn't, then nothing much of linguistic significance can be happening anyway. The discipline of linguistics can hardly have anything to gain by studying the performance or intuitions of an informant who has merely a tenuous grip on the language. This would be true whether one studies a language in isolation or in its interaction with another language, as in code switching. In actual practice, it has been found that those who know the second language imperfectly often produce code-switched utterances that elicit only oblique smiles from knowledgeable bilinguals. Thus, the following sentence produced by a non-competent bilingual would be regarded as highly queer, for the adjective achha 'good' is one of the items that are non-switchable in any context:

_12) *vah bara GOOD admi hai
 he very man is
 'He is a very good man'

Support for the above view is forthcoming from Gingras

(1974:173) who obtained acceptability judgments for a number of Spanish-English code-switched sentences from two different groups of informants. The first was a group of young Mexican Americans born in California, who had gone to high schools where Mexican Americans were in the majority, and who at the time of the study were students at UCLA. The second group comprised mature individuals who had acquired English as a second language after having become adults. Gingras observed that there were radical variations in the responses of the two groups to the data that he tested them on.

For instance, sentence (13) which represents a random (hence unprincipled) mixing of Spanish and English was unanimously rejected by all the university students, but accepted by 45% of the mature informants (the sentence, obviously, does not conform to the accepted principles of code switching):

- 13) *El MAN que CAME ayer WANTS John comprar A CAR nuevo
 the who yesterday buy-INF new
 'The man who came yesterday wants John to buy a new car'

On the other hand, while sentence (14) was accepted by 94% of the younger group received acceptance by only 27% of the mature group:

- 14) El OLD MAN esta enojado
 the is mad
 'The old man is mad'

It is obvious, therefore, that there exists a big chasm between the code-switching intuitions of those competent in the

second language as against of those who are not. This study shall take into account the intuitions of only those bilinguals who are adequately competent in both Hindi and English.

Aspects of CS

Having narrowed down our field of inquiry to the grammatical aspects of inter-sentential code switching that will lead us, we hope, into the theory of the 'innate faculty', we would like briefly to spell out the various aspects of the CS process that shall be under scrutiny in this work. These shall consist of the following:

- a) The grammatical categories that are generally held switchable. As shall be seen during the course of the study, there are certain categories that present little obstacle to the CS process. They admit of just a few exceptions and can by and large be described as "free" categories.
- b) The grammatical categories that resist code switching. Again with extremely limited exceptions, these are categories that, in general, are highly impervious to FL intrusions and remain rigorously faithful to the first language.
- c) The various individual constraints as well as generalized models that have been proposed in the literature of code

switching in relation to their applicability to the Hindi-English data.

- d) A common, unifying principle, if any, that may be discovered to underlie the various proposed constraints, the origins that the principle stems from, and the way it functions in constraining the CS processes.

CS and Linguistic Universals

At the beginning of this chapter, we referred to the notion of the linguistic universals and postulated an innate CS faculty as falling into that category. It is well known that the notion of there being certain aspects of linguistic structure that are universally, or almost universally, found in languages of the world has cropped up repeatedly throughout the history of linguistics. What has not been suggested so far, however, is that the CS principles may perhaps also share the property of universality.

In light of the crucial significance of the notion, we would prefer to reiterate here, once again, the reasoning presented earlier in support of the innate hypothesis as it relates to CS:

- 1) If CS is a rule-governed, systematic and well-defined phenomenon, then the question arises whether the competent bilinguals who use it (subconsciously, of course) are ever instructed in its rules. If, having received no such

instruction, they still observe the rules and constraints pertaining to it, then what bearing does the subject have on the innate linguistic capacities of humans?

- 2) Furthermore, if some aspects of language learning process fall within the scope of language universals, i.e., those aspects that are never expressly taught but are automatically acquired by the human mind, then where precisely does CS fit in the matrix of such universals? In other words, is it feasible to postulate a component of the innate CS faculty that sifts the switchable categories from the non-switchable ones and guides the competent bilingual speaker through the rules of the two grammars in active interaction in the CS process and help him generate an acceptable CS sentence?
- 3) Granted tentatively that there does exist a principle of that nature, is the CS faculty fixed and constant for all languages or is it variable for any two language pairs?

Issues to Ponder

In light of the above general discussion, linguistic issues can be formulated in more specific terms that the study would seek to examine. These are the following:

- a) Does the CS phenomenon stem from the grammar only of SL or FL or both?

- b) If CS involves the grammar of either SL or FL, then does that grammar possess a component that generates CS?
- c) In case of (b), does the component vary from one language to another?
- d) If CS involves a third grammar, is the third grammar a product of the interplay between the grammars of SL and FL and hence specific for each pair of languages?
- e) Is the third, i.e., code-switching, grammar language-independent and therefore universal in nature? In other words, is the CS grammar a component of Universal Grammar?

These issues would be looked at in terms primarily of the Hindi-English data. Additionally, the findings would be briefly assayed in their applicability to some other languages as well. No claim, however, shall be made as to the systematicity or scientific nature of the latter endeavor.

Hindi-English CS Data

We have mentioned above that the proposed hypothesis of the innate CS faculty leans heavily on the Hindi-English code switching as practiced over vast areas of the Indian sub-continent. It would be logical to assume then that the source data for the study would come from the sub-continent itself. In practice, however, that need not necessarily be the case. For as

might be known, tens of thousands of Hindi-speaking immigrants have come to settle in this country, especially New York, in just the last decade or two. The fact that these immigrants are fluent and competent bilinguals in both Hindi and English and have tenaciously clung to their native tongue in their personal and domestic lives, while functioning in English, of course, in their public and professional lives, has provided an excellent opportunity for carrying out an empirical study of the Hindi-English CS phenomenon in this country itself. This actually was achieved in New York for the purposes of this research.

Corpus. The study basically consisted of recordings on tape of the Hindi conversations interspersed with English. These conversations were held around the family dining table and in the living room, as well as while driving in the family automobiles. The participants were all well versed in both Hindi and English, being mostly professionals and holding one or two graduate degrees from Indian or American universities. The study lasted off and on for nearly a period of two years, resulting in the accumulation of hundreds, even thousands, of utterances. On several occasions, Hindi-speaking family friends from diverse social, cultural and dialectal backgrounds were also included as participants. The total number of informants came to over a dozen.

Because of the extensive nature of the study and also the fact that over this period a great diversity of topics and

subject matters were spontaneously encompassed, the corpus turned out to be highly rich and comprehensive. Even the rather infrequently employed grammatical categories occurred quite a few times, and the lexical items employed under a majority of them ran into hundreds.

Personal Intuitions. Apart from the collection of empirical data described above, two other devices were also employed. One was the utilization of this investigator's own native intuitions. When certain constructions needed to be enlarged upon, extrapolated from and modified in light of the linguistic analysis applied to them, then it was but natural for the writer's personal judgments - based on decades of Hindi-English code switching - to come in handy. With a hefty measure of responsible introspection and soul-searching, these were accepted as valid input.

Elicitations. The second device was that of using the informants for specific elicitations on structures that had been found to be marginal to begin with, as also those that had not actually occurred but had theoretically been thought to illustrate points of significance. In such and other constructions of suspicious lineage and hence of doubtful acceptability or outright ill-formedness, informants had to be especially canvassed.

In a study of this kind involving a number of informants and

literally scores and scores of different types of linguistic constructions, opinions were bound to diverge, on occasion rather vocally, though these latter situations can be counted on fingertips. At such times, one reliable recourse was to lean on the statistical or majority approach. However, due weightage was also accorded to the informants' respective dialectal and social backgrounds, knowledge of the subject matter, propensity to utilize one language more than the other, educational history, etc. (To tell the truth, in extremely rare instances, factors such as personal integrity, emotional stability for the nonce, reputation for clarity of judgment, penchant for the exaggerated and the colorful, bias for tongue-in-cheek statements, etc., also helped decide a knotty issue.)

The linguistic units that underwent examination during the various phases of the study - spontaneous generations as well as specific elicitations - were analysed on the basis of the following classifications:

- a) Noun Phrase
- b) Prepositional Phrase
- c) Verb Phrase
- d) Sentence Embedding
- e) Coordinate and Subordinate Structures
- f) Inflectional Systems - Number, Tense, Aspect, Degree, Gender, etc.
- g) Derivational Systems
- h) Negative and Interrogative Forms

In the chapters ahead these dimensions of the CS process would of course be examined in detail.

CHAPTER II - CODE SWITCHING THEORY: SURVEY OF LITERATURE

Despite the fairly unambiguous everyday observation concerning the grammaticality of a code-switched (CS) sentence, some scholars such as Labov (1971) and Lance (1975), while examining the code-switched speech of bilinguals, have held that the phenomenon takes place in a random fashion. In other words, their claim is that there are no linguistic reasons why and at what precise points in the stream of speech switches between the seed language (SL) and the feed language (FL) take place, nor that there are any rules, conditions, or constraints governing the process.

This view, however, is fallacious, for, if true, there would be nothing to distinguish between the following two variations of a Spanish-English CS structure (Woolford 1983:521):

- 1) a. No estoy STUBBORN
no am
'I am not stubborn'
- b. *NOT AM STUBBORN
'I am not stubborn'

Yet a competent Spanish-English bilingual would immediately declare (1a) to be acceptable, but not (1b).

Little wonder, then, that the 'randomness' view has been contested by several other linguists, including Sankoff and Poplack (1980:4), Kachru (1978, 1980), Gumperz (1976), Pfaff

(1976, 1979), Shaffer (1978), Singh (1981, 1985), Timm (1975), Gingras (1974), Rivas (1981), Lipski (1978), Woolford (1983), and others. They have discovered that several kinds of constraints do operate on the nature of FL elements that can be plugged into an SL base. They have also presented various explanations as to the mechanism in which the CS process takes place.

Even a cursory examination of the literature, in fact, is enough unambiguously to indicate that the CS phenomenon observed in different languages is highly systematic, predictable and constrained - and can by no stretch of imagination be called random. Grammatical categories that can be introduced from an FL into an SL base are explicitly demarcated, as are others that are specifically debarred from making any inroads into the SL system.

In the following sections, we shall take a look at the various constraints proposed in the literature. These constraints can be viewed from what might be distinguished as two different approaches:

a) The particularistic or discrete constraints approach.

According to this approach, a constraint is identified and spelled out independently of any other(s) that might also have been noted.

b) The generalized or global models approach. Here, a more

comprehensive view is sought and efforts are made to arrive at a generalized, theoretical and abstract model of

the underlying SL-FL interaction. This approach, in fact, seeks to subsume the particularistic constraints in the larger framework of the phrase structure analysis of the two languages.

It may be borne in mind that at this stage the ensuing discussion would be treated strictly descriptively, not evaluatively. Evaluation of the constraints shall be offered in subsequent chapters in conjunction with the presentation of the Hindi-English CS data on which the present research is founded. It seems that that would be the most appropriate stage to weigh the pros and cons of the various formulations as they impinge upon the corpus of this study.

Furthermore, it may once again be reiterated that since the focus of the present work is not directed at functional and pragmatic considerations affecting CS, except perhaps peripherally, no attempt shall be made to grapple with such issues as dealt with in the literature. At the moment, as also for the rest of this study, only the syntactic or grammatical constraints shall be recognized.

The primary object of the present study being CS between Hindi and English, we shall begin with an enumeration of the constraints suggested by scholars working primarily in the Hindi-English area. From thereon we shall proceed to stating other constraints identified by those working on Spanish and English,

languages on which perhaps most of the CS effort has been expended, at least until recently.

We shall deal first with the particularistic constraints and then with the generalized models.

Particularistic Constraints

The particularistic constraints presented in the following sections are:

- 1) Conjunction Constraint
- 2) Complementizer "
- 3) Determiner "
- 4) Adjective "
- 5) Verb "
- 6) Pronominal "
- 7) Rank Shift "
- 8) Wh-Question "
- 9) Neg Placement "
- 10) Pro-Drop "
- 11) Object Clitics "
- 12) Aux "
- 13) Prep Phrase "
- 14) Free Morpheme "
- 15) Equivalence "

1) Conjunction Constraint

The first and perhaps the simplest constraint to be come across in the literature is the conjunction constraint, which actually is comprised of three sub-rules.

First, it holds that FL conjunctions - such as and, but - cannot be used to conjoin SL VPs and NPs. Mentioned among others by Kachru (1978:38) - though Kachru seems to restrict the constraint to the "code-mixing of South Asian languages" - the following Hindi examples illustrate the point:

- 2) *ram AND shyam aye the
 came be-PAST
 'Ram and Shyam had come'
- 3) *mē usko akhbar deta BUT diya nahin
 I him newspaper give gave not
 'I would have given him the newspaper but did not'

Secondly, the constraint takes on a somewhat relaxed form at the level of the compound sentence. Two independent clauses from different languages are permitted to be conjoined with a conjunct "provided that the conjunct is from the same language from which the conjoined clause is introduced" (Kachru,1978). Thus,

- 4) bhai, khana khao AND LET US GO
 brother, food eat
 'Brother, eat your food and let us go'

is acceptable, but not the following because only the second clause has been switched without the conjunction being switched as well:

- 5) *bhai, khana khao aur LET US GO
 brother, food eat and
 'Brother, eat your food and let us go'

Thirdly, if both clauses are from the same language, then again the conjunction alone cannot be switched:

- 6) *Ashok aya tha BUT Sanjay nahin aya
 Ashok came be-PAST Sanjay not came
 'Ashok had come but not Sanjay'

2) Complementizer Constraint

This constraint again has two parts: (a) when the

complementizer alone is switched; (b) when the complementizer and the embedded clause are both switched. Analogously to the case of conjoined sentences, an embedded SL sentence cannot be introduced by an FL complementizer (Kachru:1978).

- 7) *mujhe lagta hai THAT ram kal ayega
 to-me appear be-PRES Ram tomorrow come-FUT
 'It appears to me that Ram will come tomorrow'

However, if the embedded clause is also in FL, then 'preference is given' to an SL complementizer, as in:

- 8) mujhe lagta hai ki RAM WILL COME TOMORROW
 to-me appear be-PRES that
 'It appears to me that Ram will come tomorrow'

This observation, however, has not been reinforced by some of the Spanish-English data, as shown by the following counterexamples:

- 9) I could understand QUE you don't know how to speak Spanish
 that
 'I could understand that you don't know how to speak Spanish'

where the complementizer alone has been switched to Spanish, the matrix and embedded clauses both being in English, and also in

(Sankoff and Poplack 1980):

- 10) En Puerto Rico HE WOULD SAY que cortaba cana
 in that he cut cane
 'In Puerto Rico he would say that he cut cane'

where both the complementizer and the embedded clause are in Spanish.

3) Determiner Constraint

Speaking of the NP construction, Kachru (1978:40) vaguely alludes to 'several constraints' on items in the 'pre-head' positions. His examples relating to demonstrative (deictic) and number determiners demonstrate that an English determiner is not acceptable in a Hindi sentence:

- 11) *tum THIS sundar larki ki ba:t kar rahe the
 you beautiful girl of talk do CONT be-PAST
 'You were talking of this beautiful girl'
- 12) *vahā FIVE sunder larkian parh rahi thī
 there beautiful girls study CONT be-PAST
 'Five beautiful girls were reading there'

Supporting this constraint, Singh (1985) adds the following example to Kachru's:

- 13) *YOUR tinō PIPE-CLEANERS ko fek du kya
 three OBJ throw COMPL INTERR
 'Should I throw away your three pipe-cleaners?'

In this connection, Singh suggests that perhaps "all numbers (numerals) of the specifier system must come from Hindi though the head may be from English". However, he has noted the same unacceptability even with a Hindi head, as in (14):

- 14) *YOUR THREE rumal fek dun kya
 handkerchiefs throw COMPL INTERR
 'Should I throw your three handkerchiefs?'

This may be due perhaps, as suggested by Singh, to the fact that "members of the specifier system in Hindi are inflected for agreement in gender and number with the head and are members of closed-sets" (1985:35), which, of course, is not the case in English.

4) Adjective Constraint

Examining the specifier system in NPs further, Singh notes the complications involved in the switching of Hindi adjectives. According to him, an FL adjective such as 'poor' can easily be inserted in Hindi:

- 15) POOR pradhan mantri presan hai
 prime minister worried is
 'The poor prime minister is worried'

but an adjective like 'new' cannot:

- 16) *tumhare NEW SNOW-BOOTS kahā gaye
 your where went
 'What happened to your new snow-boots?'

The generalization that he arrives at is that "while some adjectives can be switched, others cannot and that if the head is a Hindi word, the adjective must be Hindi unless it is an adjective like poor." He expresses a measure of surprise though that items such as 'colorful' and 'tasteful' are freely switchable:

- 17) bari COLORFUL kamiz pahani hai
 very shirt wear be-PRES
 '(You are) wearing a very colorful shirt'

- 18) bahut TASTEFUL kamra hai
 very room be-PRES
 '(It is) a very tasteful room'

Moving on for a moment to the area of 'Hindi-internal' switches, Singh makes a distinction between the Sanskrit-derived adjectives, such as navin 'new', and the Persian-derived ones, like naya 'new'. He claims that while the former cannot be switched easily, the latter can:

19) *navin VICE-CHANCELLOR
 new
 'new vice-chancellor'

20) naya VICE-CHANCELLOR
 new
 'new vice-chancellor'

Similarly, according to Singh, even in Hindi compound-nouns, while the Sanskrit-derived bhavan 'building' in the following is ruled out, the Persian-derived imarat 'building' is acceptable:

21) *sku:l bhavan
 school building
 'school building'

22) sku:l imarat
 school building
 'school building'

What Singh means is that within Hindi itself there is an asymmetry between the switching of Sanskrit-derived and Persian-derived terms - an issue that is not without interest in the theory to be presented later in this study.

5) Verb Constraint

Examining the Hindi-English data, Singh (1985:40) claims that whenever an English verb is used in an otherwise Hindi sentence, it is always adapted to the native pattern, and the "only pattern allowed is the one that uses the conjugated form of the Hindi karna 'to do' (or hona 'to be') preceded by an English verb."

23) *mē ne khana ATE
 I AGT food
 'I ate the food'

This notion also finds support in Pfaff (1979:314) who categorically states the following:

"Switches to morphologically unadapted English verbs are permitted only when preceded by an inflected Spanish verb, unless tense/aspect is overtly marked elsewhere in the sentences."

In other words, where there are monomorphemic verbs, switches are not likely to occur.

6) Pronominal Constraint

Singh bars the switching of pronouns "because one cannot have a pronominal English subject or object with a Hindi verb", so that the following are impossible:

- 24) *HE gayega
 he sing-FUT
 'He will sing'
- 25) *vah IT layega
 he bring-FUT
 'He will bring it'

The pronominal constraint has been widely attested in Spanish-English CS also, as witnessed in Timm (1975) and Barkan and Rivas (1979). They exclude all switches between a pronoun and a verb, including a pronominal subject and its predicate.

- 26) *YOU comiste
 ate
 'you ate'
- 27) *tu ATE
 you
 'You ate'

Nevertheless, other observers have noted certain exceptions

to this constraint:

28) YOU estas diciendole la pregunta (Sankoff and Poplack 1980)
 you are asking the question'
 'You are asking the question'

29) ...BUT YOU usates mas pa' ir pa' illa (Lance 1969)
 use more gas to go there'
 '...But you use more gas to go there'

Since this situation obtains generally in longer structures, Gumperz (1976) suggests that "length or heaviness (or perhaps even stressability) of the subject noun phrase is directly correlated with the acceptability of a switch between subject and predicate."

7) Rank Shift Constraint

Kachru (1978:39) has mentioned this constraint, but without explanation. From the cited examples below, however, the claim appears to be that an FL relative clause embedded in an SL construction is unacceptable.

30) *vah kitab WHICH IS ON THE TABLE meri hai
 that book mine is
 'That book which is on the table is mine'

31) *mera vah amriki dost WHO LIVES IN CHICAGO
 my that American friend
 'My American friend who lives in Chicago

a:j hamare ghar ayega
 today our house come-FUT
 'will come to our house today'

This claim, however, seems to be at variance with that of Gingras (1974) who has observed the insertion of a complete English relative clause in a Spanish sentence:

- 32) el hombre WHO SAW THE ACCIDENT es Cubano
 the man is Cuban
 'The man who saw the accident is Cuban'

And again by Gumperz and Hernandez-Chaves (1972):

- 33) THE TYPE OF WORK HE DID cuando trabajaba ...
 when he worked
 'The type of work that he did when he worked...'

8) WH-Question Constraint

Referring to relative conjunctions, Penalosa (1980) has observed that CS questions where a WH-expression is in Comp the remainder of the sentence being in English is ungrammatical (Woolford:1983).

- 34) *HOW lo hizo
 it did-he
 'How did he do it?'

- 35) *WHEN vino
 came-he
 'When did he come?'

There are also similarly unacceptable examples of the reverse combination:

- 36) *como DID HE DO IT
 'How did he do it?'

However, the following structure, where the question word is a part of the embedded clause, is acceptable:

- 37) yo se CUANDO HE CAME HOME
 I know when
 'I know when he came home'

An alternative hypothesis presented to explain this set of sentences relies on the PM clash between the languages. Since

English has the 'do-support' rule not found in many other languages, switches, it is proposed (Wollford, 1980), that occur at the locus of the do insertion are ungrammatical.

9) Negative Constraint

Timm (1975) holds that a negating element must be in the same language as the verb negated:

- 38) *I DON'T quiero
 want
 'I don't want'

However, this constraint might be too strong, for an example like the following may be possible (Woolford 1983:534), though it presents a problem in terms of the do-insertion rule referred to in a preceding section:

- 39) el hombre hoven no TOOK THE MONEY
 the man young
 'The young man didn't take the money'

Where languages differ in terms of the surface position of the negatives, a clash of PS rules would preclude the switching of the negative particles. In Spanish, the negative element appears in the first position under AUX, whereas in English the negative occurs after the first auxiliary element. This is illustrated by the following examples:

- 40) *I AM NO terca (Pfaff 1979)
 stubborn
 'I am not stubborn'
- 41) *yo no AM PROUD OF IT
 I not
 'I am not proud of it'

10) Pro-Drop Constraint

This constraint holds that no switch of the subject pronoun can take place between an SL of a pro-drop language and an FL of a non-pro-drop language. Since Spanish is a pro-drop language in which sentences may not always have an overt subject, code-switching between this language and English is unidirectional. Thus, one may have

42) estaba TRAINING para pelear (Pfaff, 1979)
 he was to fight
 'He was training to fight'

but not

43) *WAS TRAINING para pelear
 to fight
 '...was training to fight'

11) Object Clitics Constraint

In studies of Spanish-English CS, several observers - among them, McClure (1977), Timm (1975), Pfaff (1979), Barkin and Rivas (1979) - have noted restrictions on the surface configuration of sentences as to which language an object clitic pronoun can be drawn from and what position it can occupy relative to the verb. So far as these two languages are concerned, Pfaff proposes a constraint that would rule out a Spanish clitic for an English verb.

44) *she sees IO
 it
 'She sees it'

12) AUX Constraint

Timm (1975:) suggests that switching does not occur between auxiliaries and verbs. Hence:

- 45) *I must ESPERAR
 hope
 'I must hope'

But there are others who have offered counterexamples (Pfaff 1979:301):

- 46) su hija hace TEACH alla en San Jose
 his daughter there in
 'His daughter teaches there in San Jose'

- 47) porque te hicieron BEAT UP
 why you they
 'Why did they beat you up?'

13) Prepositional Phrase Constraint

Lipski (1979:253) suggests that "Phrasal elements are atomic entities...and their being used as such in the function of adjectives, adverbs and sometimes even nouns, results in the extreme reluctance with which code switching occurs within their boundaries." He traces the situation to the evolution of Romance languages from Latin, when "frequently an interchange between synthetic single-word forms and analytic multi-word forms" occurred. What he seems to imply, then, is that the kind of constraint that applies to word-internal switches operates in the case of such prepositional phrases as possess a highly compact and integrated internal structure, making them single

semantic units despite their multi-word construction. Though Lipski fails to give any examples, it is perhaps not difficult to see the logic of his argument.

14) Free Morpheme Constraint

Proposed by Poplack (1978, 1979a, 1979b), and regarded by her as one of the two most basic constraints, this constraint bars the occurrence of a switch between a lexical form and a bound morpheme unless the former has been phonologically integrated into the language of the bound morpheme. Thus, one cannot have

48) *runeando
'running'

though

49) flipeando
'flipping'

is permissible. In the former case, the phonology of run is unambiguously English, while that of -eando is unambiguously Spanish. In the latter case, flip seems to have been 'assimilated' into the Spanish of at least the speakers in question and hence can take on the Spanish inflection and gain acceptability. The same seems to be the case with the following:

50) porque estaban CHITiando
because they are cheating
'...because they are cheating'

is not the case in the situation below, where the structures around the switch points are non-grammatical:

55) He gets [*to him] a stomach [Ø] ache

56) [*el] se le da un dolor de barriga

As mentioned earlier, this constraint, originally proposed by Poplack, was later incorporated into a generalized model developed by her in collaboration with Sankoff (Sankoff and Poplack, 1980). As such, it might well provide an appropriate transition point to the discussion of our second category of CS constraints mentioned earlier, namely, the global or generalized models.

Generalized Models

In the following sections, we shall examine some of the proposals that go beyond the scope of the 'local' restrictions that possess only limited applicability. These proposals aim at presenting the CS phenomena in terms of a wider framework involving either the PS rules of the two languages involved or appealing to the more fundamental concepts of language structure. That is why these proposals have been assigned the nomenclature "Generalized Models".

Of the various such models presented in the literature, the following stand out as noteworthy:

- a) Superscripted Symbols Model - Sankoff and Poplack
- b) Overlap of PS Rules Model - Woolford
- c) Rules Interaction Model - Gingras
- d) Syntactic Congruence Model - Lipski
- e) Government Model - di Sciullo, Muysken, Singh

Since all these models are founded on the constituent structure analysis of the languages, considerable overlap may be anticipated in the way they account for the CS phenomenon.

a) Superscripted Symbols Model

Sankoff and Poplack (1980) presents a model of code switching that employs two types of conditions, called the "heritability" and "translatability" conditions, along with a device for indexing grammatical categories described as "superscripting conventions." The following are the salient features of the code-switching grammar under this model:

- a) The CS grammar will have a combined lexicon of the two monolingual grammars, i.e., G1 and G2;
- b) Its grammatical categories will be the grammatical categories of G1 and G2;
- c) There will be two translatability conditions;
- d) The first translatability condition shall require that the non-terminal categories of G1 will have generally corresponding categories in G2;
- e) The second translatability condition shall assume that each rule in G1 can be functionally translated by at least

one rule in G2. For instance, the Spanish rule S - VP NP which results in Spanish postposed subjects can always be translated by the English rule S - NP VP;

- f) Category symbols in a grammatical rule may have a superscript which shall consist of two components separated by a colon, the first indicating a language and the second a terminal category. Thus a symbol X or Y with superscripts may appear, for example, as X^{sp:adj} or Y^{eng:det} ;
- g) Some symbols will remain unscripted;
- h) If a symbol is superscripted, then it must be lexicalized in its designated language;
- i) There would also be two heritability conditions;
- j) The first heritability condition states that when a rule rewrites a symbol, its superscript is transmitted to all the symbols in its output;
- k) The second heritability condition requires that any time a symbol is superscripted with the numeral 1, then on being rewritten by a rule its superscript must be passed on to at least one symbol in the output;
- l) Only three exceptions to the above system have been noted:
- (1) Embedded S nodes do not inherit superscripts;
 - (2) Superscripts originating in equivalence constraints in embedded constituents, or in free morpheme

constraints, supersede those from higher-order equivalence constraints;

- (3) Lexicalization of categories not involved in the superscripting convention is unrestricted as to language.

Citing the case of divergent rewrite rules for NP in Spanish and English - in Spanish N precedes ADJ, while in English it follows ADJ - Sankoff and Poplack (henceforward, SP) presents the following CS version of the rule in terms of their superscripting convention:

$$\text{NP} \rightarrow \text{DET} \begin{matrix} \text{sp:n} \\ \text{N} \end{matrix} \begin{matrix} \text{sp:adj} \\ \text{ADJ} \end{matrix}$$

in order to preclude CS violations that may possibly occur in sentences such as (57) and (58)

57) *THE casa WHITE
house
'The white house'

58) *THE HOUSE WHITE
the house white
'The white house'

And speaking of the higher-order categories, SP suggests the use of the numeral 1, as a part of the application of the heritability condition 2, as, for instance, in the following Spanish rule that sometimes allows a VP to precede an NP:

$$\text{S} \rightarrow \text{VP} \begin{matrix} \text{sp:v} \\ \text{NP} \end{matrix} \begin{matrix} \text{sp:l} \\ \text{NP} \end{matrix}$$

As stated in (k) above, this requires that at least one symbol in the output of the rule must inherit this subscript. Though not specified clearly by an example, the rule appears to mean that, when expanded, anyone of the DET, N, or ADJ nodes could be realized in Spanish (the rule, thus, makes no distinction between the three nodes and regards them switchable with equal ease from one language to another). Thus, one could get:

59) Llego la mama mia
arrived the mother my
'My mother arrived'

where all the three nodes under the NP are entirely in Spanish, but not:

60) *llego MY MOTHER
arrived
'My mother arrived'

where the NP is entirely in English.

Limitations of space prevent us from delving deeper into this model, though it must be noted that SP places immense stress on Poplack's two original constraints - the Free Morpheme constraint and the Equivalence constraint - and believes that all other constraints stem from these two alone. The Superscripted Symbols device, in its view, is nothing but a systematic formalization of those constraints.

In addition to the proposed model, a distinctive feature of the SP study is its statistical enumeration of CS sites based on

data obtained in a Puerto Rican community in New York. The paper seeks to interweave the theory of constraints with the probabilities of switches between Spanish and English languages and arrives at certain tentative inferences which, being outside the range of this study, must be side-stepped.

b) Overlap of PS Rules Model

Ellen Woolford (1980:521) has proposed a model that incorporates in the code-switching process the PS rules of the two grammars involved. The starting point of her proposal is the observation that the generation and interpretation of code-switched sentences must "involve the use of two grammars at once", since it is clear that "bilinguals do not merely merge all portions of their grammars into one during code switching". She argues that if this were the case, "lexical items from one language could appear in a structure unique to the other language". Such, of course, is certainly not the case, as we know so well. What happens in CS sentences is that "fragments in each language appear phonologically, syntactically, and semantically just as they would if the entire sentence were in that language."

The problem, then, is to look beyond the surface strings to determine how one can "switch grammars in mid-tree and still come up with a coherent and interpretable sentence". Assuredly, this question has significance from the point of view of theoretical

linguistics. How can "separate grammars team up to generate a hybrid phrase structure tree, insert lexical items into its terminal nodes, and perform all the other syntactic and semantic tasks that sentences require?"

In order to respond to these and other related concerns, Woolford has proposed a model based on the following lines:

- a) The grammars of the individual languages participating in the code-switching phenomenon are not altered in any way; no hybrid rules of any sort are created;
- b) Each grammar generates only a part of the sentence;
- c) During the construction of a constituent structure tree, the bilingual speaker can switch back and forth between grammars, drawing upon phrase structure rules freely from either language;
- d) The intersecting portion of the two phrase structure trees represents the phrase structure rules that are common to both languages;
- e) If a PS rule is drawn from this area of overlap, it cannot be ascertained whether it belongs to one language or the other, for it belongs simultaneously to both grammars;
- f) The lexicons and word-formation components of the two grammars remain entirely independent of each other;
- g) Each lexicon feeds only the phrase structure created by its own grammar;
- h) Transformations and rules of semantic interpretation

common to both languages appear to apply freely to lexically mixed constituent structure trees;

- i) Since the area of overlap in the constituent structures of the two grammars is indistinguishable as to the language to be employed in that area, both lexicons have equal access to the terminal nodes created by common rules. At such points code switching is possible;
- j) Areas where there is variance between the PS rules of the two grammars, no code switching is possible.

As would readily be noted, Woolford's model delineates the syntactic configurations that regulate the code-switching phenomenon. In sum, it stipulates that code switching is possible whenever a portion of the constituent structure of a sentence is "generable" by the PS rules of both the grammars involved; code switching is impossible where such an overlap is lacking.

Applying the model to Spanish-English code switching, Woolford notes the area of overlap in the PS rules of the two languages as follows:

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S → NP Aux VP
VP → V NP PP
PP → P NP
NP → Det N'

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and then goes on to illustrate, by means of several examples, how the various particularistic constraints can be explained in terms of her model.

Noting that the constituent structure of an NP is partly common between the two languages in that DET precedes the rest of the NP in both, she observes that switches between DET and the rest are possible and, in fact, quite common. The rest of the noun phrase, say N' in terms of the X-bar syntactic theory, however, is generated differently in the two languages. For in Spanish the rule is N' - N A, while in English it is N' - A N. That being the case, switches between Spanish and English at the N' are ruled out.

Without attempting to reproduce here any of her numerous examples explicating her model, suffice it to note the statistical tendency reported in the literature for code switching to occur at major constituent breaks, such as PP, NP, VP, etc. This her model succeeds in accounting for - especially in case of Spanish and English, two languages which possess a number of shared PS rules. As for the 'grey' areas of marginal possibility, such as switches within a verb phrase or a conjoined construction, she claims them to be explicable, too, in the framework of theory:

61) Estaba TRAINING para pelear
 (he) was to fight
 'He was training to fight'

62) la onda IS TO FIGHT y jambar
 the in-thing and steal
 'The in-thing is to fight and steal'

Wh-expressions in COMP in an otherwise Spanish sentence turn out to be ungrammatical.

- 66) *HOW lo hizo?
 it did
 'How did he do it?'

This fact seems to suggest, Woolford says, that the WH-movement rule may be blocked from applying to mixed constructions - even though this may not, she feels, be universally true. She notes that the ungrammaticality of the WH-switch could, alternatively, be due to the different syntactic rules of interrogation. In English the WH-expression must be fronted; not so in Spanish. Furthermore, the distinctively English rule of 'do-support', Woolford conjectures, may also be a confounding factor. Thus, the difference between a language-specific transformation and a language-specific PS rule is another variable that may have to be accorded recognition.

How a language-specific transformation affects the admissibility of a CS sentence may also be illustrated by the following examples:

- 67) Llego el BIG CHIEF
 arrived the
 'The big chief arrived'
- 68) *arrived the GRAN JEFE
 big chief
 'The big chief arrived'

This perhaps is understandable on the hypothesis that while both sentences have been generated by the PS rule

S → NP AUX VP

in (67) the Spanish Stylistic Inversion rule postposing the subject has applied to an English SL sentence, rendering it unacceptable.

Finally, the rule of NEG placement also poses somewhat of a problem, for while (previously (38))

69) I don't QUIERO
 want
 'I don't want'

is out, not so the following (previously (39)):

70) El hombre hoven NO TOOK THE MONEY
 the man young
 'The youngman didn't take the money'

though both required do support. Woolford suspects this kind of anomaly might trigger a reexamination of the various analyses of the AUX node.

c) Rules Interaction Model

Rosario Gingras in a paper written in 1974 sought to interweave the concepts of PS rules and transformational rules in the CS phenomenon. Based on the grammaticality judgments of two groups of informants - (a) young adult Mexican Americans born in California and attending college, and (b) mature adults who had acquired English as a second language after adolescence - his study led him to explore data where specially designed Spanish-English CS sentences were presented to and adjudged by the two groups concerning their acceptability as well-formed sentences.

While, it appears, the judgments of the former group were regarded as more mature and reliable, those of the second group were used chiefly as a contrast to the former, for it was felt that the linguistic intuitions of this group could not be depended upon with confidence in terms of its control of English.

Of the various examples given by Gingras, we shall select one that sheds the most light on his theory. The basic Spanish sentence

- 71) El hombre viejo esta enojado
 the man old is mad
 'The old man is mad'

is presented in its diverse CS incarnations as follows:

- a) *El man old esta enojado
- b) *El man viejo esta enojado
- c) *El hombre old esta enojado
- d) El old hombre esta enojado
- e) The hombre viejo is mad
- f) El old man esta enojado

Offering his comments on the first three versions of the construction that turn out to be starred, Gingras notes that the unacceptability of (a) may be due to the "application of a Spanish movement transformation to the embedded English sentence (NP?), resulting in the postposed adjective"; in (b) the same transformation applies to the NP structure where the head N is an English lexical item; and (c) postpones an English lexical adjective with a Spanish head noun.

On the other hand, sentence (d) "presents no particular

problem" (acceptability judgments: 60% correct) for "the embedded structure is English and has had an English movement transformation applied" to it. It is not exactly clear, though, what precisely is meant by the statement, for taking into consideration both the article and the noun, the NP seems to be Spanish rather than English, except, of course, for the placement of the adjective.

Sentences (e) and (f) are highly acceptable, although, as Gingras mentions a bit ambiguously perhaps, "the determiner appears to be a case of lexical substitution." Anyhow, Gingras speculates that this may probably be due to a fairly late lexical substitution. And here he appeals to the Aspects-model grammars of the period (i.e., 1974), according to which there are two lexical passes. Of these, the first pass inserts lexical formatives, while the second one inserts those lexical items that are introduced by transformational rules.

In code-switching situations, Gingras suspects that there might also occur a "very late third lexical pass". This pass, according to him, "allows substitution from one lexicon to the other for certain formatives that were not introduced by the second lexical pass". Noting that in sentences (d)-(e) the definite article is not in the same code as the head noun he feels that the latter may have been substituted at a very late point in the derivation, particularly because there is gender and

number agreement in (e) and also in (f). In general, Gingras notes that acceptable Spanish-English constructions always observe the number and gender agreement that applies to Spanish adjectives, as, for instance, in the phrase hombre viejo, viejo being the masculine form.

If we attempt to distill a working model of Gingras's concept of the interaction between the rules of the two languages involved in code switching, we come up with the following lineaments:

- a) Lexical entries carry not only phonological and semantic features but also syntactic information;
- b) A transformational rule of one language cannot apply to a structure that has lexical items from the other;
- c) A transformational rule (such as for adjectival positioning) might be ordered after those transformations that mark gender and number agreement.

The same conclusions are supported by Gingras's discussion of the embedded relative clauses, for he holds that "the relativization transformation is blocked if the noun phrase being relativized is not in the same code as the relativization rule." Thus the following sentences were found in his data to be totally unacceptable:

- 72) *THE MAN que SAW el accidente IS CUBAN
 who the accident
 'The man who saw the accident is Cuban'

73) *El hombre WHO vio el accidente es cubano
 the man saw the accident is Cuban
 'The man who saw the accident is Cuban'

It would be observed that Woolford's and Gingras's models are the only two that take into account the theory of transformational rules in explaining the CS phenomena.

d) Syntactic Congruence Model

John Lipski (1978) has offered a model of "Syntactic Congruence" which has two versions - a strong one and a weak one. The latter version is a modification of the first one and is designed to accommodate a greater quantum of the observed data.

The strong or original version required that the syntactic structures of the sentences from the participating languages be identical in their totality for a code switch to occur. Noting, however, that the constraint may be too strong - as evidenced, in particular, by the CS of clitics and verbal elements in Spanish-English data - Lipski revises his hypothesis as follows:

"Given the underlying semantic representation S , let X_1 and

X_2 be actual realizations of S in L_1 and L_2 respectively.

Furthermore, for any point P_n in X_n (where $N = 1$ or 2), let

A_n indicate that portion of X_n lying to the left of point P_n

and B_n that portion of X_n lying to the right of P_n. In order to produce a code-switched utterance by combining X₁ and X₂ with a break at P₁ and P₂, it is necessary that B₁ and B₂ be syntactically equivalent."

In other words, Lipski has divided the structure of a CS sentence into two portions, the site of the switch being the watershed which is critical to his rule. He holds that it is the portions falling subsequent to the point of CS that must be syntactically identical, not those occurring prior to it. He illustrates his principle by adducing a number of examples, some of which are the following:

- 74) No se porque I NEVER USED IT
 I don't know for
 'I don't know for I never used it'
- 75) Tonces salio eso que SHE WANTED TO TAKE MECHANICS
 then it that
 'Then it turned out that she wanted to take mechanics'
- 76) I THINK I WAS MOPPING y me pegue asina
 and myself hit like this'
 "I think I was mopping and I hit myself like this'
- 77) BUT YOUR COMPLEXION se ha compuesto mucho
 adorned much
 'But your complexion has improved a lot'

In each of these while there may be divergences in syntactic configurations preceding the point of switch, there are, Lipski contends, no such differences in structures following the switch

point. And it is this congruence that leads to the acceptability of the switches. He claims that all available data on Spanish-English bilingualism appear to support at least a general version of this hypothesis.

However, Lipski is not wholly dogmatic about his claim. He is aware of structures of the kind where the post-CS portions fail to exhibit perfect syntactic congruence, but he explains them as "personal idiosyncratic lapses" or productive and performance errors which would "not have a devastating effect on the necessity of a higher degree of syntactic compatibility."

Although the psycholinguistic dimension of CS is not strictly within the purview of this study, it might be mentioned in passing that Lipski postulates "a moment of anticipation" at which "at some subliminal level the basic syntactic structures of the remaining portions of the sentence in the two languages are tested for congruence." And code switches "which would in effect combine incompatible syntactic structures are normally avoided, and, when presented to native speakers in experimental situations, are routinely rejected as meaningless or absurd."

To sum up Lipski's viewpoint, the distinction between the structural configuration obtaining before the switch site and that occurring after it is of critical significance. The two languages may diverge in the constituent structure of the sentence fragment prior to the switch but must possess congruence in the portion following it.

e) Government Model

Perhaps the most widely encompassing of the generalized models is that of di Sciullo, Muysken and Singh (hereafter, DMS) developed in 1985 under the title "Government and Code-Switching". Reflecting the most recent developments in the syntactic theory of the day, this model seems to be the most interesting and perhaps also the most challenging one.

As stated by the authors, the model is premised on the dual observation that asymmetries obtain between subjects and objects, on the one hand, and between conjunctions and complementizers, on the other. It is held that while code switching can and does take place between subjects and verbs, this does not happen in the case of verbs and their objects, at least "not in the same way". Similarly, while "complementizers can be in a different language from their sister S...conjunctions are in the same language as the constituent that they conjoin to something else." This observation leads them to conclude that the relation between elements debarred from CS may conceivably be that of government.

In essence, the model claims the following:

"When a government relation holds between elements, there can be no mixing; when that relation is absent, mixing is possible... if X has the language index q and if it governs Y, then Y must have the language index q also."

Schematically,

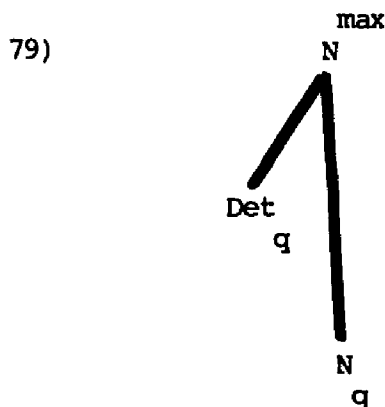
78) If X governs Y, ...X ...Y ...
 q q

Attention is drawn to the stipulation that while in (78) the restriction is expressed sequentially, actually no sequentiality is involved.

This principle is fleshed out with ingenuity through a series of details. First of all, the notion 'government' is defined: "X governs Y iff the first node dominating X also dominates Y, where X is a major category N, V, A, P." Thus, a lexical element X must c-command Y for both to have the same language index.

It must be emphasized here that of the different variations on the definition of government available in the literature, DMS rejects the definition proposed by Aoun and Sportiche (1980). Since the notion of government constitutes the kingpin of the DMS theory, it would be advisable to comprehend exactly what DMS has to say on the subject:

"For the purpose of our analysis the definition proposed by Aoun and Sportiche (1980) for government, in terms of the maximal projection of the governor will not do. In the uncontroversial case of the noun phrase as the maximal projection of the noun, the definition of Aoun and Sportiche predicts that all elements in its domain, including the determiner, will be governed by the head:



In (79), Det would have the same L_q index as the head noun.

In fact, switches between the determiner and the head are exceedingly frequent...Note that adopting Aoun and Sportiche's definition for government will make the notion of L_q vacuous...It is easy to understand why under this definition, as applied to code-mixing, the majority of attested switches would be ungrammatical: all heads in a given configuration (e.g., VP) would have the same L_q index."

At this point recourse is had to the X-bar theory, for the governed item is not a "terminal phrase node but rather a maximal projection." This being the case, the question is: How can a language index q be assigned to it? DMS argues this is achieved by the device of what is called the " L_q carrier" which is defined as "the 'highest' lexical element in a maximal projection that determines the q index of that projection."

As a consequence, if L_q carrier has the index q , then Y_q^{\max}

has also the index q , so that in a maximal projection Y_q^{\max} , the

L_q carrier is the lexical element which asymmetrically commands

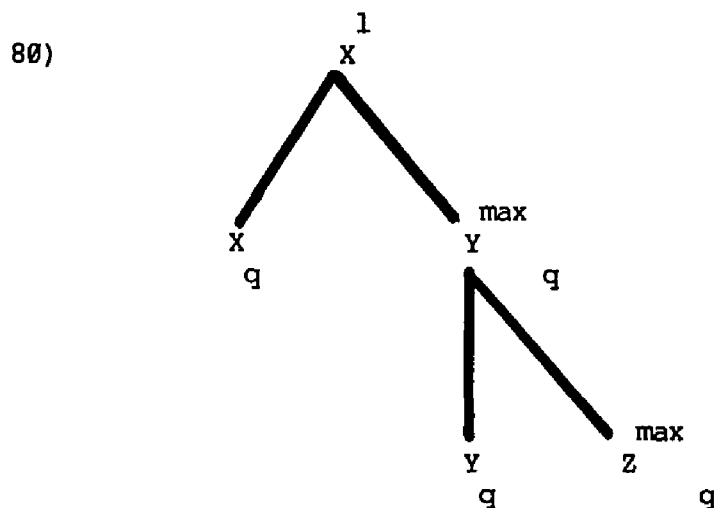
the other lexical elements or terminal phrase nodes dominated by

Y ^{max}_q. This leads one to the practical conclusion that "at least

the L carrier of a governed category must have the same L index _q

as its governor."

The government principle is recursive. In cases where the L _q carrier of the governed category [Z in (80)] is the head of that category and hence a governor itself, a chain of coindexed elements ensues.



Finally, as to the question at what level the government constraint holds, it is assumed to operate at the S-structure, not at the D-Structure. An alternative way of stating this is to say that language indexes, in contradistinction to referential

discrete constraints, namely, the 'complementizer constraint' and the 'determiner constraint' we have discussed above, are redefined in terms of the universal principles of government under the DMS model.

In (c), we have the case of a 'government chain' in operation. While the preposition to is the L_q-carrier of the V + PREP P structure, in the succeeding node it takes on the role of governor itself - by virtue of its membership in the class of governing categories - and thereby generates its own L_q-carrier.

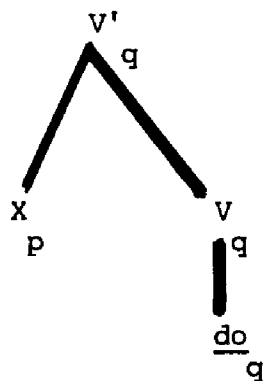
Though in the example cited, Rome being a proper noun hardly admits of a switch, the implication is that the N following the preposition must also have the same language index as that of the preposition.

The third category N as the governor dictates its own limitations. DMS states that if some adjectives as well as PP complements occur at the N' level, "then our theory predicts that these elements must have the same language index as the head noun". In support of this contention DMS cites Pfaff (1976) and Sankoff and Poplack (1980) who note that adjectives are most often switched outside of the immediate domain of the noun they modify, e.g., in their substantive use as predicates and also when an adverb intervenes between the noun and the post-nominal adjective. Since in English adjectives occur pre-nominally while in Spanish they most often occur post-nominally, the effect is attributed to the word-order clash stemming from the

'equivalence constraint'. DMS claims that "the same result follows from our theory...which has the additional advantage of explaining why an intervening modifying adverb will make the switch possible; it functions as L -carrier, even though it _q offends the word order of English as such."

The notion of L carrier, according to DMS, offers an _q interesting explanation for cases involving the phenomenon of what DMS calls "alien verbs". This is a verbal structure consisting of a native L head - the equivalent of a dummy verb _q 'do' - while the 'alien' (or borrowed) verb is either in the nominal or infinitive form. DMS diagrams the structure as follows:

82)



but is not certain whether this configuration is a "product of borrowing or code-mixing."

The 'government' theory of CS, claims DMS, accurately predicts the following contexts permitting switches between items to the left of the dash line and those to the right of it.

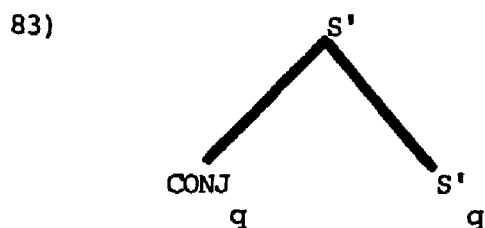
- a) NP - P
- b) AUX - VP
- c) V DET - N
- d) P DET - N
- e) NP Copula - AP
- f) V QP - A
- g) V COMP - S
- h) S' - CONJ S'

DMS cites a number of examples in support of its hypothesis, which we shall have to eschew at this stage. Suffice it to say that they all stem from their notion of how the governor in a configuration controls the language index of the L-carrier,

releasing everything else for potential switches.

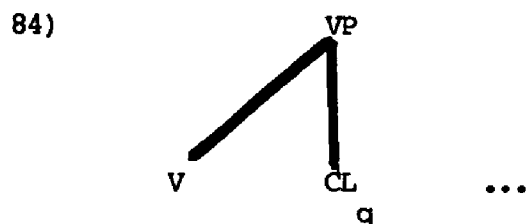
However, there is the downside of the model also, for DMS points to some data that defy explanation in terms of the government mechanism. These include the 'coordinating conjunction', and the 'clitics' constraints.

It has been noted widely in the literature (Gumperz, 1976; Kachru, 1978; Singh, 1985) that coordinating conjunctions appear generally in the language of the second conjunct. Assuming, says DMS, that the structure of the conjunctions is as in:



from the definition of government it offers it does not follow that CONJ and S' in the above phrase-marker have the same index, for since neither of the nodes has membership in the stated category of governors, and hence these conjoined elements cannot govern each other. In such a case the government theory leaves the constituents to choose their own language indexes. How come then that the conjunction constraint still operates? The theory seems to fall short in explaining the dilemma.

The next area where the DMS theory runs into trouble concerns the 'clitics constraint'. Pfaff (1979) notes that clitic pronouns are always in the same language as the element to which they are attached. Baffled by the obvious failure of the government theory to account for the phenomenon straightforwardly, DMS attempts to take recourse to a number of alternative explanations. For one, it suggests that clitics may be said to be dominated by VP and hence governed by the verb as in:



or, alternatively, it might be claimed that clitics form part of the same entry as the verb, in which case the coindexing would be an automatic consequence of lexical insertion.

It would be recalled that one of the factors that led to the postulation of the government theory was the observed asymmetry between the switchability of subjects as against the non-switchability of objects. This basis seems to become questionable by the occurrence of such instances in French-Italian-English CS as the following:

85) non voglio SMOKEMEAT
'(I) don't want smokemeat'

86) ma ci stanno dei SMART italiani
'But there are smart Italians'

DMS explains this situation by postulating that 'smokemeat' may be a case of borrowing instead of switching in (84), and that the adjective 'smart' branches off N", and not N' in (85). Granted this, the theory is in good shape, at least on these counts.

Referring to the Hindi-English data, DMS adduces examples in support of the theory - but then goes on to mention some problematic cases, for which no explanations are forthcoming. Of these, one is that while certain adverbs can freely be switched:

87) UNFORTUNATELY ram kal nahin aya
Ram yesterday not come-PAST
'Unfortunately, Ram did not come yesterday'

others cannot be switched at all:

88) *mujhe swadesh se TOMORROW milna hai
to-me Swadesh with to-meet be-PRES
'I have to meet Swadesh tomorrow'

An additional snag noted in the Hindi-English area is that

while the government theory appropriately constrains the object, it leaves the subject untrammled. Yet in a sentence like the following, the subject, too, behaves as if it were unfree:

89) THE NEW MAYOR kal dilli jayega
 tomorrow Delhi go-FUT
 'The new mayor will go to Delhi tomorrow'

At a loss to offer adequate explanations for this apparent anomaly, DMS suggests that while the government theory does justice to a fairly sizable CS data, there may exist the need to postulate additional language-specific rules to account for the deviations.

*

The foregoing descriptions and explanations have briefly touched upon the various rules and principles proposed in the literature that hinder the free operation of code switching in intra-sentential contexts. In the ensuing chapters, not only would these be assessed in terms of their validity and justification in light of the Hindi-English CS data but alternative hypotheses would also be offered in lieu of them.

CHAPTER III - THE NOUN PHRASE

It is uncontroversial that in any situation of language contact, the category N is among the first to undergo exchange. In fact, no other phenomenon in historical linguistics has been found to be so pervasively widespread as the borrowing, assimilation or relexification of nominals - i.e., nouns in their diverse manifestations - of one language by another. It seems that by virtue perhaps of the fact that they serve essentially a 'naming' function, nominals are more susceptible than other categories to being introduced into another language. And this is especially true of bare nouns rather than of noun phrases as a whole, and the least so, in varying degrees, of certain specific components of the NP, such as determiners, adjectives and prepositional or postpositional phrases. In this chapter we shall examine how the Hindi-English CS process deals with the noun phrase in its various configurations.

The Hindi NP can, as in the case of several other languages, occupy various argument positions in the sentence, such as the following:

- a) Subject
- b) Direct Object
- c) Indirect Object
- d) Object of Postposition (Hindi has postpositions, instead of prepositions)
- e) Subject Complement
- f) Object Complement
- g) Appositive

Because of the specific roles that it plays in different positions, it should theoretically be possible for a NP to undergo CS in one position but not another. In fact, propensities of this nature have been mentioned in the literature, as, for instance, the one that distinguishes the object NP from the subject NP.

Thus an examination of the question of the CS of NP's would necessitate taking into account the following aspects:

- 1) How the various argument positions of the NP affect CS.
- 2) How the various components within the NP structure behave under the switching pressures.

A Caveat

Before commencing an examination of the data in the present as well as the following chapters, it would perhaps be helpful to alert ourselves to a few of the findings that are likely to emerge from the study. These are briefly outlined as follows:

- a) None of the generalized models presented in the preceding chapter on Literature Survey is in and of itself adequate to explain the Hindi-English CS phenomenon.
- b) The foregoing is true especially since the constituent structure analysis on which the models are based fails to exhaustively account for the observed data.
- c) Factors other than the node domination of a morpheme in a

phrase structure tree seem to play a role in determining the CS constraints.

- d) In the area of the Noun Phrase, Hindi seems preponderantly to rule out, with only rare exceptions, the switching of pronominal elements, articles and other determiners, as well as certain postpositions.

With these observations, we can revert now to the scanning of the NP in the Hindi-English code switching environment.

Argument Positions

We shall begin by first considering dimension (1) mentioned above, i.e., how the various argument positions of the NP affect CS. For reasons of simplicity, we shall hold the switched item constant at the bare N level in order to look at its potential induction into the various argument positions. And while we do this we shall randomly vary the noun among its various forms, such as countable and uncountable, singular and plural, abstract and concrete, common and collective, etc.

a) Subject. Not unexpectedly, the subject position in Hindi is found to be freely accessible to replacements from English:

- 1) EXHIBIT kal khatam ho gayee
yesterday end be PERF
'The exhibit ended yesterday'
- 2) is sal meri CLASSES bahut barhia hain
this year my very good are
'This year my classes are very good'

- 3) CARPET ki safai honi chahiye
of cleaning to-be should
'The carpet needs cleaning'

b) Direct Object. As would be recalled from the chapter on Literature Survey (p. xx), the generalized "Government" model claims that Hindi nouns in the object position are not susceptible to CS by virtue of their being governed by the node V. To quote DMS (1985:7), authors of the Government model, "switching may occur between subjects and verbs, but not in the same way between verbs and objects." Thus, the constraint, despite its being diluted somewhat by the phrase "in the same way", is yet rigid enough because of the theory it stems from. A comparable reluctance was noticed in the Spanish-English data as well.

Such, however, is not the case at all as evidenced by the considerable Hindi-English data constituting this study. Our examples abound to the effect that CS between the verb and the object are among the most frequent of switches from Hindi to English:

- 4) mujhe HONESTY chahiye
to-me want
'I want honesty'
- 5) Sanjay ne do naye BAGS kharide hain
Sanjay AGT two new buy are
'Sanjay has bought two new bags'
- 6) larka BALL phenk raha hai
boy throw CONT is
'The boy is throwing the ball'

c) Indirect Object. The same freedom of switching obtains also for the indirect object position:

- 7) ram ne sita ko ROSES diye
 Ram AGT OBJ gave
 'Ram gave Sita roses'
- 8) hum ne Kusum ko PURSE uphar kiya
 we AGT OBJ present do-PAST
 'We presented Kusum a purse'
- 9) guru ne shyam ko TRUTH ka rasta dikhaya
 AGT OBJ of path showed
 'The guru showed Shyam the path of truth'

d) Object of Postposition. In the Hindi postpositional phrases also, the noun is fully susceptible to English substitutions:

- 10) usne LAKE meī chhalang lagai
 he into jump did
 'He jumped into the lake'
- 11) larke ROOF par charhe the
 boys on climb PERF
 'The boys had climbed on the roof'
- 12) mē MEETING se a: raha hū
 I from come CONT be-PRES
 'I am coming from the meeting'

e) Subject Complement. Nouns in the subject complement slot following a linking verb present no obstacles either:

- 13) mere kai dost LAWYERS ban gaye
 my many friends become PERF
 'Many of my friends became lawyers'
- 14) mujhe to vah HYPOCRITE lagta hai
 to-me EMP he seem BE-PRES
 'He seems a hypocrite to me'
- 15) yeh to MEANNESS hogi
 this EMP FUT
 'This would be meanness'

f) Object Complement. Like the subject complement, the object complement slot also forms an easy prey to CS.

16) Logõ ne Rajiv ko PRIME MINISTER bana diya
 people AGT to make PERF
 'People made Rajiv prime minister'

17) uski patni usko GOD manati hai
 his wife him consider be-PRES
 'His wife considers him God'

18) panchayat ram ko apna LEADER chune gi
 group Ram OBJ own elect FUT
 'The group will elect Ram as its leader'

g) Appositive. Actually, Hindi does not seem to possess the appositive construction. Nevertheless, speakers having undergone a deal of anglicization may not be averse to utilizing it in highly specific situations. Since, however, the English appositive is more often than not preceded by an article, it would, in our opinion, be preferable to discuss it along with other constructions involving the Det node.

Exceptions

While we have observed that a large variety of bare nouns can occupy almost every argument position in a sentence, some exceptions to the generalization have to be noted. These pertain to words of extremely commonplace occurrence, such as 'man', 'woman', and parts of the body such as 'ear', 'head', etc. Thus, (19) and (20) are sure to sound quite ludicrous. As stated in the section on non-fluent bilinguals in the Introduction, to most

competent bilinguals this would imply that the speaker is virtually an ignoramus so far as English is concerned and is making an effort, quite pathetic, in fact, to 'belong' to the social stratum that is at home in English.

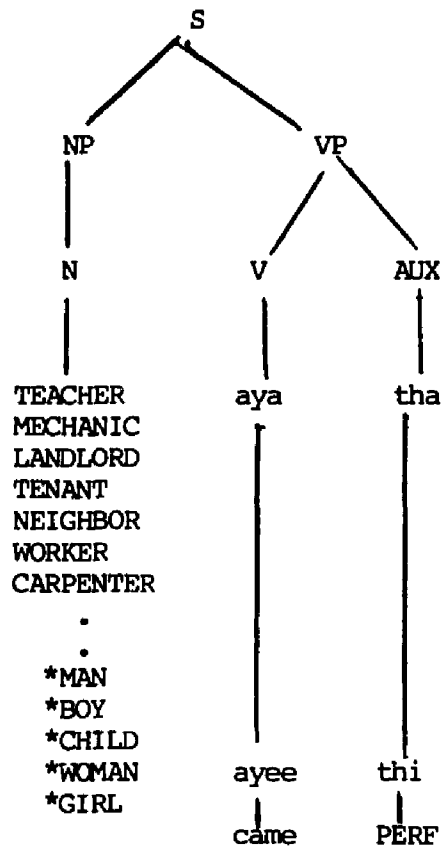
19) *us MAN ko mē janata hū
 WOMAN
 BOY
 GIRL
 that OBJ I know be-PRES
 'I know that man/woman/boy/girl'

20) ?mere EAR meī pira hai
 HEAD
 HAND
 FOOT
 meri EYE
 ARM
 LEG
 my in pain is
 'There is pain in my ear/head/hand/foot/eye/arm/leg'

If a PS marker - viz. (21) - is drawn of a simple Hindi construction of the type N + V, it would be observed that most noun morphemes can be inserted under the N node. On the other hand, there are others that cannot be inserted under the same node at all.

The observation is, as it were, alarming. For every global model of CS processes surveyed in the previous chapter relies on constituent structure, claiming that certain nodes in certain situations give rise to well-defined constraints that are morpheme-neutral, so that once the restrictive node is identified and the right lexical insertion is made, the theory is powerful enough to demarcate the legal switches from the illegal ones. That edifice seems now to be at risk of total collapse.

21)



a) 'Teacher/mechanic/landlord/tenant...had come'

allowing (a) but not (b):

b) *Man/boy/child/woman/girl had come

While a suggestion can be offered to explain this dichotomy, it would perhaps be preferable to defer it for the moment and await the threshing out of some more nodes. Founding an explanation on the observation of a single node may be a bit too premature, if not too presumptuous.

Notwithstanding the exceptions, then, the foregoing data seems enough to establish that an English noun can easily function in all of the various argument positions in a Hindi

sentence - except the appositive for the reason stated already. This finding, as stated earlier, is at variance with the inferences drawn by DMS (1985:7) in relation to Hindi as well as by some other researchers working on other languages. Hindi opens its portals freely to an English N (or NP) in all structural slots.

Other Nominals

We have seen that the conventional N presents no problems in terms of Hindi-English CS. Yet, there are other structures that, though not nouns in the traditional sense, substitute for them and act as de facto nouns. The following structures under this category, added to those of pronouns and quantifiers, shall be examined in the ensuing sections:

- a) Numerals
- b) Gerunds
- c) Infinitives
- d) De-adjectival Class Nouns
- e) Color Terms
- f) Temporals
- g) Pronouns
- h) Quantifiers

Numerals

The situation concerning the numerals is highly interesting, for it further illustrates how an extra-grammatical element impinges on the grammatical element. In this case the element is

the number hierarchy. The data reveal that while the lower-order numerical switches are totally ruled out, not so the higher-order ones. In fact, acceptability climbs steadily with the increase in the numerical value of the item switched. Hence, while the following switches are ungrammatical:

- 22) *parti meĩ ONE aya tha
 TWO aye the
 THREE
 FOUR
 FIVE
 TEN
 party in came be-PAST
 'One/two/three/four/five/ten came to the party'

others involving collective nouns of higher-order numbers, especially in the plural, are not:

- 23) jalse men HUNDREDS aye the
 FIVE HUNDRED
 THOUSANDS
 TEN THOUSAND
 MILLIONS
 meeting in came be-PAST
 'Hundreds/thousands/millions came to the meeting'

Furthermore, there exists a gradation within the latter category itself, for those with lower values, such as

- 24) ONE HUNDRED
 TWO
 THREE

though acceptable, fail exactly to match the superior acceptability of those lying toward the higher values:

- 25) SEVEN HUNDRED
 EIGHT
 NINE

Finally, if it is thought that it is only the well-rounded figures in the higher-number category that facilitate the CS process in numerals, then we note that the following non-rounded figures are more acceptable than even the rounded ones:

26) bhopal ke hadise meī TWO THOUSAND ONE HUNDRED AND
of accident in

NINETEEN mar gaye
die COMPL
'2119 died in the Bhopal accident'

27) mujhe use NINE HUNDRED AND SEVENTEEN (dalar) dene hai
to-me him dollars give be-PRES
'I have to pay him (\$)917'

28) yeh dibba TWO NINETY-FIVE meī mila
this box in got
'This box cost (\$)2.95'

A natural question arises: Where does the watershed between the lower-order and the higher-order numerals lie? Since individuals vary in their intuitions, our data show the cut-off point to be actually a range lying between 10 and 100. Thus,

29) ?jalse meī TWENTY aye the
THIRTY
FORTY
FIFTY
meeting in came be-PAST
'Twenty/thirty/forty/fifty came to the meeting'

Fractionals. Now if we move from integers to fractions within the numeral category, we encounter another surprising phenomenon. For while the number 1 is the most resistant to a switch, not at all the values less than 1, i.e., the fractionals. Here, the rule of number hierarchy collapses, since all degrees of switched

fractionals are cheerfully accepted, except that 'half' (32)

raised some eyebrows:

30) iska ONE-HUNDREDTH to pachhas dalar hai
its but fifty dollars is
'But a hundredth of it is fifty dollars'

31) ONE-FOURTH se hi kam chal jayega
with even work do FUT
'Even one-fourth will be enough'

32) ?HALF to kafi nahin
EMP enough not
'Half is not enough'

33) THREE-QUARTERS jal gaya
burn PASS
'Three-quarters was burnt'

34) gararion ke beech ONE AND ONE-SIXTEENTH ka fasla hai
gears of between of distance is
'There is a gap of $1 \frac{1}{16}$ (inches) between the gears'

Compound Fractions. It appears that a rather challenging situation is presented by example (34), for the number involved is a compound of an integer and a fraction. Since the integer 1 lies at the very bottom of the set of whole integers, its presence is expected to militate against the acceptability of the entire expression. On the other hand, the fractional component is supposed to work in the contrary direction, namely, toward legitimizing it. Since the sentence unanimously was declared kosher in our study, it is obvious that, when in conflict, the rule of the fractionals knocks out the rule of the integers.

For additional evidence, a couple of more examples in this paradigm would not be remiss:

35) sau ka ONE AND THREE-FOURTHS ek sau pachchatar
 hundred of one hundred seventy-five

banata hai
 make be-PRES

'One and three-fourths times 100 is 175'

36) yeh zamin us zamin se THREE AND TEN-ELEVENTHS bari hai
 this lot that lot from big be-PRES

'This lot is 3 10/11 times bigger than that lot'

What inferences can be drawn from these data? Obviously, Hindi packages the fractionals together with the higher-order integers on one side of the fence, leaving the lower-order numbers on the other. Can this lead to a generalization of some sort? It seems we shall have to await the scrutiny of some more data before attempting a viable hypothesis on this score.

Gerunds

The next category of noun substitutes to look at is gerunds. But before we examine their switchability it would be helpful to examine their grammatical status in light of the fact that they are derivatives of verbs.

Webster's Third New International Dictionary (1971:952) defines the gerund as "the verbal noun in -ing that has the function of a substantive (as subject or object of a verb, object of a preposition, or complement of a verb)..." This view is further supported by Zandvoort (1975:24) which states blandly that gerunds are nouns - to quote, "Nouns in ing with verbal meaning, or with verbal meaning and function combined, are called gerunds."

It would be noticed that simple gerunds offer no obstacles in any of the argument positions:

- 37) usko SWIMMING ka bahut abhyas hai
 to-her of much practice is
 'She is well versed in swimming'
- 38) BACKBITING ne usko bahut hani pahunchai
 him much harm caused
 'Backbiting caused him much harm'
- 39) kusum ko DANCING bahut achha lagta hai
 ERG much good seem be-PRES
 'Kusum likes dancing very much'

However, when the gerund was followed by an object the informants' intuitions faltered, most being uncomfortable with constructions such as (40):

- 40) *SINGING FOLKSONGS to mera shugal hai
 but my pastime is
 'But singing folksongs is my pastime'

On the other hand, acceptability improved remarkably when the order of the two terms in the structure was reversed:

- 41) FOLKSONG SINGING to mera shugal hai
 but my pastime is
 'But folksong singing is my pastime'

In the same vein, the following were OK:

- 42) VIOLIN PLAYING meĩ usne apna bahut samay nasht kiya
 in he own much time waste did
 'He wasted much of his time in violin playing'
- 43) kya a:p BACKSTROKE SWIMMING kar sakte hain?
 INTERR you do can be-PRES
 'Can you do backstroke swimming?'

Nonetheless, one wrinkle yet remains. If the phrase 'backstroke swimming' is recast as 'swimming the backstroke', then the tables are turned once again and the sentence tumbles:

- 44) *SWIMMING THE BACKSTROKE duble admi ke liye asan hai
 skinny man for easy be-PRES
 'Swimming the backstroke is easy for a skinny man'

Similarly, the following would crash:

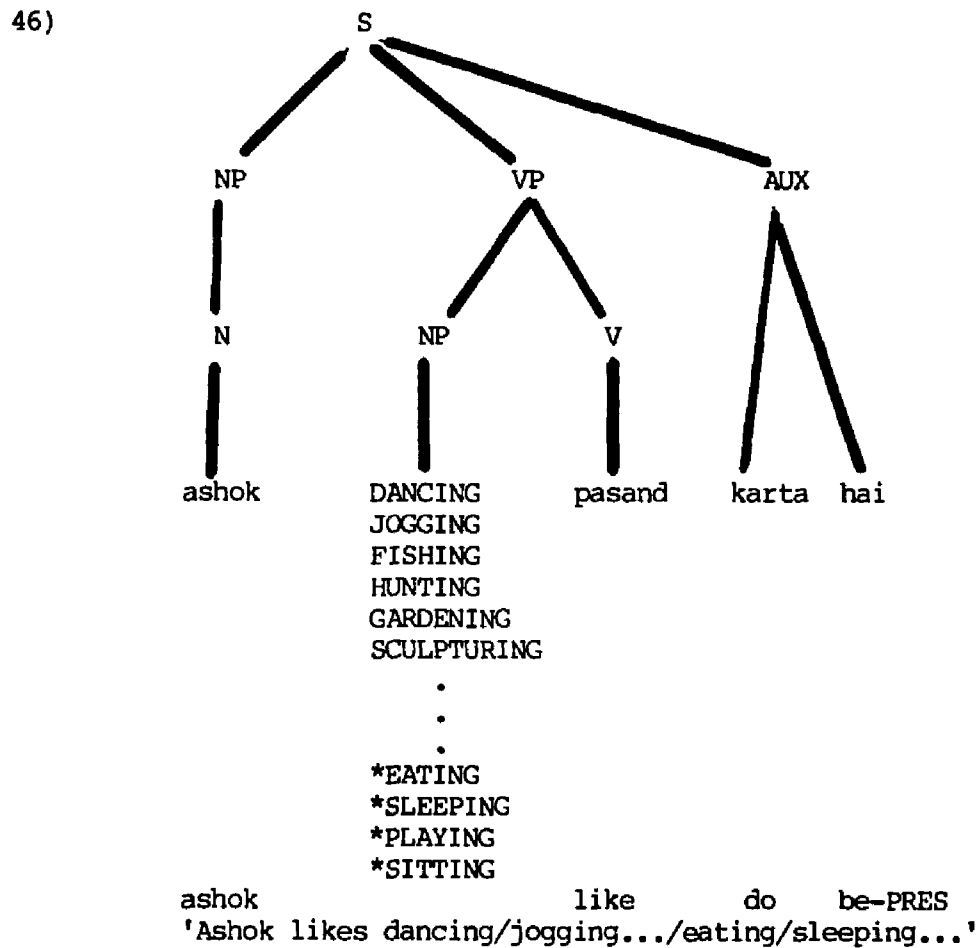
- 45) *sara din usko sivaye WATCHING THE TV ke koi kam nahin
 all day to-him except of any work not
 'He has nothing to do all day except watching the TV'

How can the unacceptability of (44) and (45) be accounted for? Two explanations seem plausible. First, the presence of the definite article in the gerundial phrase may be a ruinous factor, since Hindi possesses no articles and as such is not too enthused when it encounters one. This would become additionally evident when we inquire into the workings of the Det node. Second, if it is granted that a gerund followed by an object has a stronger 'verbal' coloring than either the bare gerund or one preceded by an adjectival, then we confront a problem there rightaway. For, as would be observed in the next chapter, the English verb has never succeeded in making any inroads into a Hindi structure by rights. Whenever it enters, it does so, as it were, by the backdoor only. So, there may well be two strikes against a gerundial with an articulated object trailing it.

Exceptions

Examples (37)-(39) and (41)-(43) could be multiplied any number of times to yield acceptable constructions. One might surmise then that the bare gerundial or the adjective-modified gerundial is practically unrestricted in scope. Yet that is not so. As in the case of bare nouns,

there are exceptions in this area also, for certain gerundial morphemes of English would sound quite awkward when plugged into a Hindi structure. If we resort once again to the device of the phrase marker, then (46) would illustrate the point.



That is to say, we can have (a):

- a) ashok dancing/jogging...pasand karta hai
'Ashok likes dancing/jogging...'

but not (b):

48) *TO SWIM mujhe pasand hai
 to-me like is
 'I like to swim'

49) *TO SING se tum ko ghrina kyun hai?
 from you to hatred why is
 'Why do you hate to sing?'

If we reflect on the fact that simple gerundials and infinitives are both derivatives from verbs and perform functionally parallel roles as substantives and then if we have to confront the observation that while the former can find their way into the CS process, the latter cannot, the conclusion once again is inescapable that the phrase structure approach to CS is by no means a sole or infallible predictor of the switch potentials of Hindi elements.

De-Adjectivals

Strang in her book "Modern English Structures" (1968: 97) has mentioned a number of non-noun elements that function as nominals in certain situations. These include what she designates as 'de-adjectival class nouns', color adjectives and temporal adverbs. The de-adjectivals are formed by the addition of the definite article in front of an adjective, giving rise to a kind of collective noun, such as, 'the rich', 'the brave', etc. Hindi frowns upon such constructions, though, as we shall see later, not always on the bare adjectives on which they are based. Thus, the following are disallowed:

- 50) *THE POOR sabhi jagha nuksan uthate hain
 all places damage suffer are
 'The poor suffer everywhere'
- 51) *THE DESPERATE kuchh bhi kar baithen
 anything EMP do COMPL
 'The desperate may do anything'
- 52) *THE RICH sardion men florida jate hain
 winter in Florida go be-PRES
 'The rich go to Florida during winter'

It appears that, as was the case with the gerundials saddled with an article-bearing object noun, it may be the presence of the article here again that decimates the structure. Granting this at least provisionally, evidence may well be mounting to establish the inadmissibility of articles - and especially the definite article - in Hindi-English CS practices.

Color Adjectives

Most colors, except black and white, are a breeze,

- 53) PURPLE is BLUE ke sath thik nahin rahe ga
 this of with proper not remain FUT
 'PURPLE will not go well with this blue'
- 54) hindustan mein to basant mef YELLOW hi pradhan hota hai
 India in EMP spring in EMP dominant HAB be-PRES
 'In India, yellow is the dominant color in spring'
- 55) ?tum har samay WHITE/BLACK hi kyon pahante ho
 you every time EMP why wear be-PRES
 'Why do you wear white all the time?'

No comments on this topic are called for at this point; the section on adjectives would be the appropriate place to deal with it.

Temporal Adverbs

There is a subset of time-related adverbs that can function as substantives as in the following constructions:

- 56) pandrah tarikh to YESTERDAY thi
 fifteen date but be-PAST
 'But 15th was yesterday'
- 57) DAY AFTER TOMORROW to itwar hai
 EMP Sunday be-PRES
 'Day after tomorrow is a Sunday'
- 58) WEEK jhat bi:t jata hai
 soon pass HABIT be-PRES
 'The week passes soon'

However, 'today' is strongly discouraged:

- 59) *TODAY meri chhuti hai
 my holiday be-PRES
 'Today is my day off'

for the reason to be hypothesized later.

Pronouns

It was noted in the preceding chapter that several scholars, among them Singh (1985), Timm (1975), and Barkin and Rivas (1979) subscribe to the 'Pronominal Constraint' that excludes all switches "between a pronoun and a verb." The constraint has, in fact, been one of the most widely attested in Spanish-English CS data. We quoted instances both by Singh and Barkan and Rivas that ruled out expressions like the following:

60) *HE gayega
 he sing-FUT
 'He will sing'

61) *YOU comiste
 'You ate'

Exceptions to the constraint were also noted as follows:

62) You estas diciendole la pregunta (Sankoff and Poplack 1980)
 'You are asking the question'

63) ...but you usates mas pa' ir pa' illa (Lance 1969)
 'But you use more gas to go there'

Statistically, however, the exceptions possess no significance and may be attributed either to performance lapses or to a verbal strategy that seeks to aim at a rhetorical or sociological goal.

The case of Hindi-English CS offers a forceful corroboration of the pronominal constraint. Hindi severely frowns upon any attempt to induct alien pronominals into its structure. This is categorically true of almost all pronominal sub-classes, except for some instances of what are generally called quantifiers. A few examples would illustrate the situation:

Personal Pronouns. First, the personal pronouns in the nominative case. All of the following are debarred:

64) *I vahan gaya (masculine singular)
 *HE
 *TU
 there went (MASC)
 'I/you/he went there'

- 65) *WE vahan gaye (masculine plural)
 *YOU
 *THEY
 there went (PL)
 'We/you/they went there'
- 66) *I vahan gayee (feminine singular)
 *YOU
 *SHE
 there went (FEM)
 'I/you/she went there'
- 67) *WE vahan gayeē (feminine plural)
 *YOU
 *THEY
 there went
 'We/you/they went there'

The same obtains for pronouns in the objective case:

- 68) *usne *ME ek kitab di
 *US
 *YOU
 *HIM
 *HER
 *THEM
 he a book gave
 'He gave me/us/you/him/her/them a book'

Possessive Pronouns. The possessive pronouns, too, have never been attested in the data:

- 69) mujhe *MY ghar pasand hai
 *OUR
 *YOUR
 *HIS
 *HER
 *THEIR
 to-me house like is
 'I like my/our/your/his/hers/their house'

Some additional examples of sentences ruled out because of the pronominal constraint involving possessives are:

- 70) *MY bahin bimar hai
 sister ill is
 'My sister is ill'

- 71) *OUR mitra bahut achhe log hain
 friends very good people are
 'Our friends are very good people'
- 72) *YOUR kitab mujhe mili nahin
 book me get not
 'I did not get your book'
- 73) *HIS makan tayyar ho gaya
 house ready be COMPL
 'His house became ready'
- 74) *HER beta so raha hai
 son sleep CONT be-PRES
 'Her son is sleeping'
- 75) *THEIR gari ruk gayi
 car stall COMPL
 'Their car stalled'

Interrogative Pronouns. In the same vein, the
 interrogative pronouns are impregnable, too:

- 76) *WHO ne aisa kaha?
 so said
 'Who said so?'
- 77) *Rajiv ne WHOM ko khane par bulaya?
 NOM OBJ meal on called
 'Whom did Rajiv invite to a meal?'
- 78) *WHOSE gari kal chori ho gayee?
 car yesterday stolen PASSIVE PERF
 'Whose car was stolen yesterday?'

Reflexives. The situation concerning the reflexives, however,
 seems not quite so monolithic as of the preceding varieties, for
 an interesting dichotomy appears to emerge in their use. Notice
 that the following are all starred structures:

- 79) *mē ne galati se MYSELF ko chot pahunchai
 I NOM mistake by to hurt caused
 'I hurt myself by mistake'

- 80) *tum YOURSELF ko kya samajhte ho?
 you to what think be
 'What do you think yourself to be?'
- 81) *ve lok THEMSELVES ko imandar kehte hain
 those people to honest say are
 'Those people call themselves honest'

But not so the following, which are acceptable:

- 82) sita ne mujh se yeh prashan HERSELF puchha tha
 me to this question ask PERF
 'Sita had asked me this question herself'
- 83) ashok HIMSELF is bat mein doshi hai
 this matter in culprit is
 'Ashok is himself a culprit in this matter'

If these data are correct, then the explanation for the exception to the general rule of the non-admissibility of pronominal switches seems to lie in the fact that while the former use of 'reflexives' is as true reflexives, i.e., the action of the transitive verb, instead of targeting the object, boomerangs to the subject of the sentence, their latter use is as 'emphatics'.

In other words, this latter function is not strictly pronominal. In this role, these items are the equivalents of the Hindi swayam or apne aap, which mean 'by oneself'. Analogously, they may be compared to English phrases such as 'of his own accord', 'by her own sweet will', 'unaided', 'without external help', etc. This being so, these words may be reclassified as 'adverbials'. And adverbials, as we shall see later, are quite freely switchable in Hindi.

There is another characterization of the reflexives that treats them as appositives (Leech and Svartik, 1975:183; Quirk and Greenbaum, 1973:425). It appears that this explanation, too, helps one understand the dilution of the pronominal constraint concerning this form. If these forms function in apposition to a noun, then - by a sort of reflection, as it were - some of the "essence" of that category, i.e., nominality, might be rubbing off on the reflexives, too, yielding enhanced acceptability. Thus, whether we regard them as adverbials or appositives we do get an insight into why the 'emphatics' are more favored in CS than reflexives.

However, there yet remains a wrinkle in the data. For within the emphatic category itself there is a distinction between the third person entries, on the one hand, and their first and second person counterparts on the other. The latter are not acceptable, so that the following are likely to invoke nothing but smiles from knowledgeable listeners because of their oddity:

84) ?*mē ne yeh tivi MYSELF thik kiya
 I AGT this TV fix did
 'I fixed this TV myself'

85) ?*a:p ne YOURSELF aisa kaha tha
 you agt so said PERF
 'You had said so yourself'

Why are (84) and (85) different from (82) and (83)? One reason that comes to mind is that the latter hark back to proper nouns, as antecedents, while the former have no better than other

pronouns as their co-referents. And as we have observed, Hindi is quite stingy about borrowing the truly pronominal categories from English. On the "reflection" hypothesis presented above, perhaps a pronominal reinforcing another pronominal is infused with more of the quintessential "pronominality" than one that relates to merely a nominal. An intriguing thought - but as the study progresses and more data become available, we shall have occasion to speculate further on this hypothesis.

Demonstrative Pronouns. In a subsequent section, we shall examine in some detail the DET node in relation to the Hindi-English CS practices. However, several of the morphemes under that node are basically pronominal in nature - i.e., they are demonstrative pronouns, possessive pronouns, quantifiers, etc - and therefore can stand alone as nominal substitutes. It would therefore be appropriate to examine in this section how they behave in the bare pronominal context, i.e., bereft of the succeeding N and standing independently under the N node. Little surprise, the following constructions involving demonstrative pronouns are starred:

- 86) *THIS thik nahin hai
 *THAT
 *THESE haĩ
 *THOSE
 good not be-PRES
 'This/that/these/those is/are no good'

Quantifiers

The special class of pronouns known as quantifiers present a fairly murky picture, for our informants had often to introspect with an air of dumbfoundedness - and sometimes reverse their earlier judgments - about several of the items presented to them. It appears that considerable more work would be necessary in this area to help crystallize issues and findings satisfactorily.

Meanwhile, in order to introduce at least a semblance of sanity into the analysis, we shall distribute these pronouns into six sub-classes, using, with certain simplifications, the taxonomy proposed by Quirk et al. (1972:218):

- a) Negatives
- b) Non-assertives
- c) Universals
- d) Assertives
- e) Multal
- f) Paucal

Negatives. Of the various sub-categories in the genre of the quantifiers it was primarily the true negatives as well as those with markedly negative pigmentation that elicited complete unanimity. And the verdict was a resounding 'guilty'. Alien negative universals have, alas, no place in Hindi's heart:

- 87) *NOBODY is bat ko mane ga
 *NO ONE
 *NEITHER
 *NONE
 this thing OBJ accept FUT
 'Nobody/no one/neither/none will accept this thing'
- 88) *rajiv ko NOTHING chahiye
 to needs
 'Rajiv needs nothing'

Non-assertives. These comprise expressions compounded basically of 'any', though some others, too, find a place in this category. First of all, the bare 'any' suffered almost the same fate as the negatives, i.e., they were ruled out unanimously, though with a trifle less vigor:

- 89) *kya aap ke pas itihās ki ANY kitab hai?
 INTERR you of POSS history of book is
 'Do you possess any history book?'

However, expressions which are derivatives of 'any' fared better, for on several occasions there was hung jury.

- 90) ?*kya ANYONE ise kharide ga?
 ANYBODY it buy FUT
 EITHER
 'Will anyone/anybody/either buy it?'

- 91) ?*kya ANYTHING hui hai
 INTERR happen BE-PRES
 'Has anything happened?'

Universals. Expressions built out of 'every', i.e., the universals, by and large, fared better than the negatives and the non-assertives:

- 92) ?EVERYONE sach to nahin bolta
 ?EVERYBODY
 truth but not speak
 'But not everybody/everyone speaks the truth'

But not these:

- 93) *EVERYTHING bigar gayee
 *ALL gaye
 *BOTH
 wrong PERF
 'Everything/all/both went wrong'

Nor 'each':

- 94) *EACH ne apni rai di
 own opinion gave
 'Each gave his opinion'

This shows how the universals, a mixed bag, confound the intellect.

Assertives. Containing the prefix 'some', the assertives have been found to be better than the universals:

- 95) SOMEONE dhoka de raha hai
 SOMEBODY
 EITHER
 deception give CONT is
 'Someone/somebody/either is deceiving'
- 96) SOMETHING to ho gi hi
 but be FUT EMP
 'There must be something'
- 97) SOME ise manē ge SOME nahin manē ge
 accept FUT not accept FUT
 'Some will accept it, some won't'

Multals. It was observed that the superlative form of 'much' was far more acceptable than the positive and comparative forms. Furthermore, 'several' was markedly preferable to 'many':

- 98) *usko mē MUCH nahin janata
 him I not know
 'I do not know him much'
- 99) *mē usko MORE janana chahta hū
 I him know want be-PRES
 'I want to know more of him'
- 100) *MANY is bat ko nahin manen ge
 this thing to not accept FUT
 'Many will not accept this thing'
- 101) MOST is bat ko nahin manen ge
 SEVERAL
 this thing to not accept FUT
 'Most/few/several/enough/some/ will not accept this thing'

Paucals. The same hierarchical order was noticed in relation to 'few' and 'less'; the positive and comparative forms were much worse than the superlative form:

- 102) *aise udaharan to FEW hi ko ge
 such examples but EMP BE FUT
 'Such examples would be few only'
- 103) ?yahā to vahā se FEWER hain
 here EMP there from are
 'There are fewer here than there'
- 104) Rajiv ne FEWEST ko apni bimari ki babat bataya
 NOM OBJ own illness of talk told
 'Rajiv told the fewest about his illness'
- 105) LITTLE hi kafi hai
 EMP enough is
 'A little is enough'
- 106) is ki kimat us se LESS hai
 this of cost that of be-PRES
 'This costs less than that'
- 107) is sambandh meī mē LEAST janata hū
 this connection in I know be-PRES
 'In this connection I know the least'

And 'enough' also created the two camps of the go's and no-go's:

- 108) ?ENOUGH ho gaya hai, ab bas karo
 be PERF PRES now stop do
 'It's enough; stop it now'

From the foregoing it is amply clear that the various Hindi pronominal sub-classes behave in different ways. Yet it is also evident that a vast majority of them is strongly resistant to code-switching to English. The rest, mainly under the non-negative, non-assertive quantifier categories, admit of varying degrees of insertions. The stated exceptions apart, then, it can

safely be claimed that the Pronominal Constraint mentioned in the literature is effectively validated in Hindi. The basic Hindi pronouns are simply not available to the CS processes.

'Familiar' Morphemes

In the preceding sections we have observed the bewildering contradictions in the acceptability values of different entries from the same grammatical categories and sub-categories inserted into a specific node? Some go through; others get stymied. We noted, for instance, that 'teacher', 'neighbor' and 'tenant' are admissible under the N node, but not 'man', 'child' or 'girl'; that 'ninety-three' is a well-behaved numeral, but 'three' is intransigent; that 'swimming' sails through, but 'eating' gets choked; that 'most' and 'least' do splendidly, but 'much' and 'less' are poor cousins. What, one wonders, is the explanation for these anomalies?

Unfortunately, the literature in the field offers little solace. The entire array of generalized models is built exclusively on the constituent structure analysis, which is not discriminating enough and overpredicts. Particularistic constraints, again, fail to deal with the full range of the subclasses within their respective categories and suffer from the same error of overprediction.

One conclusion, as suggested repeatedly, is undeniable: In accounting for the CS data it is imperative to go beyond the nodal specification and lexical insertion approach. To draw up phrase markers and then cease all further endeavors, leaving the nodes open to the untrammelled insertion of the appropriate parts of speech is to invite descriptive inadequacy. There assuredly are other factors to reckon with.

Here, one hypothesis comes to mind, based on the concept of the 'familiarity' of the morpheme involved in CS. It appears that items from the same parts of speech need to be sifted for insertion on the basis of their relative familiarity of use. It seems likely that words of "everyday" use are more difficult to switch, that the more "basic" a word is, or the more "primitive" the concept it represents, the greater its resistance to CS. That may be the reason why 'man' is more obstinate than 'teacher', 'three' more intransigent than 'ninety-three', and 'much' tougher than 'most', for it is fair to assume that of the pair 'man' and 'teacher', 'man' is a more elementary, wider and more inclusive concept. Similarly, the number 3 can be said to be more familiar than 93; and between 'much' and 'most', 'much' seems simpler than 'most'. It appears that the more 'familiar', basic and general idea the morpheme represents, the harder it is to switch.

For the present, then, we shall tentatively accept the hypothesis, characterize it as the Familiar Morpheme Constraint, and rank it among other constraints presented in Chapter 2.

It must be noted, however, that being non-nodal in nature, the Familiar Morpheme Constraint is qualitatively different from the particularistic constraints. Instead of banning the occurrence of switches under different categorial nodes, as the other constraints do, it deals with the categories that are 'free' and 'open' to CS processes and imposes on them restrictions of its own. It warns us that no switch site is completely unfettered, and that a blanket generalization is not enough. There remains another force to contend with.

In the pages to follow, we hope to confirm and further refine and develop the Familiar Morpheme Constraint in light of additional data. Furthermore, we shall also speculate on what other factors, grammatical or non-grammatical, might be involved in imposing restrictions on the CS process between Hindi and English.

NP Constituents

At the outset of this chapter (p. 78) mention was made of the two dimensions essential for the consideration of the Hindi NP for purposes of CS. In the preceding sections, the first dimension, that of the various argument positions into which an English nominal can enter, has been examined. Subsequently, acceptability of the various monomorphemic nominals that supplant the bare N was also scanned.

In the sections to follow, the second dimension, namely, the various components that constitute the NP's internal structure, shall be considered. Assigning the relative clause for discussion to a subsequent chapter, we shall now examine the roles of Det, ADJ and Prep(postp)P in the NP in the context of the CS process.

Determiners

We observed in the preceding sections dealing with the numerals and pronominals that most of the items in that category double as determiners also. This includes possessive pronouns, deictics, various classes of quantifiers, etc, and of course the numerals. It would soon be observed that the constraints governing such elements remain invariant between different nodes. That is to say, the lexical items involved in constraints are debarred from CS irrespective of the node they occur under, be it N or Det. We shall, therefore, discover that the discussion of the Det node retraces largely the ground of the preceding sections to a sizable extent. This approach, however, would be a necessary one in order to further explore and consolidate the emerging concept that the basic entities to deal with in CS are not nodes but morphemes.

Before a perusal of the Det node is undertaken, however, some references to the literature may be indulged in. In the chapter on Literature Survey, we noted that Hindi was subject to the DET

constraint. Recalling the examples given there (now renumbered), we note that Kachru (1978) ruled out the switch of a "pre-head determiner" as in the following starred examples:

109) *tum THIS sundar larki ki ba:t kar rahe the
 you beautiful girl of talk do CONT be-PAST
 'You were talking of this beautiful girl'

110) *vahā FIVE sunder larkian parh rahi thī
 there beautiful girls study CONT be-PAST
 'Five beautiful girls were reading there'

As we notice, in the first example the demonstrative adjective and in the second the numeral under the DET node are debarred from CS. In support of this constraint, Singh (1985) adds the following examples:

111) *YOUR tino PIPE-CLEANERS ko fek du kya
 three OBJ throw COMPL INTERR
 'Should I throw away your three pipe-cleaners'

112) *YOUR THREE rumal fek dun kya
 handkerchiefs throw COMPL INTERR
 'Should I throw your three handkerchiefs'

It appears that in (111) although the N has also been switched the unacceptability of the sentence comes from the English your, while in (112) it comes from both your and three.

Does this situation hold good for other languages as well, notably Spanish-English? Does Spanish also rule out the switching of the DET node? It was found that while both Wentz (1977) and McClure (1977) have stated categorically that "lone determiners in Spanish cannot be switched", most of the other

observers have refrained from specifying the constraint as applicable to the DET node per se; rather, they have stated it in more general terms as operating on "DET-N" constructions. Thus, Lipski says, "In phrases of the type D + N, switching occurs virtually without restraint, unless involving stereotyped combinations of noun and determiner". This formulation obviously is neutral between the switching of a determiner and that of a nominal, which obviously is not too enlightening.

Sankoff and Poplack (1980:42) are more explicit. Giving relative percentages for the various switch sites, they have noted that 13% of the total of switches in their sample are between DET and N or NP. The statement, however, is made more concrete at a later point by the clarification that this is a "finding reflecting the great susceptibility of nouns, not only to be borrowed, but also to be switched..."

If not always the formulations of this Spanish-English constraint, at least the data are unambiguously explicit on the issue. In her study of the Chicano bilinguals, for instance, Pfaff (1979:304) notes that out of 748 Spanish-English switches of the "D + N type", there was only one case with an English DET and a Spanish N; the remaining 747 had the reverse combination of Spanish DET and English N. While Pfaff fails to cite the lone example she came across, Poplack (1979:xx) offers the following interesting and exceedingly rare instance where the

"lone determiner" in an English sentence was switched to Spanish in violation of the Wentz (1977) and McClure (1977) claims:

113) Where are they? LOS language things?
the

Referring to the converse case of English-to-Spanish CS, Klavans (1983:7) buttresses the Det constraint by her own citation of a malformed construction:

114) *EL boy saw the boat
the
'the boy saw the boat'

While examining the Spanish-English situation as described above, it must be noted that there is no indication, whether in the theory or the data presented there, that any entries other than the articles have been considered under the DET node. Yet, if there is a universality about the Det node in the languages of the world, then there should be several sub-categories other than the articles also to be found under the Det node. These somehow have failed so far to find any mention in the literature.

Against the above backdrop, we find that the Hindi-English data support, largely but not comprehensively, the findings of Kachru and Singh, as well as of the Spanish researchers. We notice that the CS of the Det node in a Hindi NP is generally, though not totally, forbidden. Only under rare circumstances can an entry under the Hindi Det node be substituted by its English counterpart.

And, as we shall see later, this holds all across the board for constructions that are Det-initial, i.e., whether the NP structure is Det + N, or Det + ADJ + N. No sooner does a Det node get filled with a Hindi item than the entire NP structure gets commandeered for Hindi, and Hindi alone. The examples presented below would illustrate the claim by examining the diverse realizations of the Det node.

Articles. To begin with, since Hindi is a language possessing no articles, even though it does have the Det node, the issue of switching articles alone in a Hindi sentence is a moot one. To no one's surprise, therefore, a spurious and feigned structure involving a "potential" definite article like the following would be an impossibility:

- 115) *THE larka jo kitab parh raha hai mera dost hai
 boy who book read CONT is my friend is
 'The boy who is reading a book is my friend'

And so would the structures substituting indefinite articles for a hindi numeral ek 'one':

- 116) *mujhe AN anar do
 to-me pomegranate give
 'Give me a pomegranate'
- 117) *sita ne A pankha kharida
 AGT fan bought
 'Sita bought a fan'

Appositives. Examining, at the beginning of the chapter, the various argument positions into which an NP can cast anchor, we noted that the appositive was one of them. However, while we

discussed the accessibility of the bare N in all other positions, we deferred the discussion of the appositive for the reason that in English it seldom occurs unheralded by an article. The present section, then, would be the appropriate place to consider this structure.

Basically, Hindi lacks the appositive construction found in English. Yet the possibility is not hard to envision that extremely fluent English-dominant bilinguals might in some rare cases not be totally averse to employing it. This device would be resorted to solely, of course, to highlight a special feature of the antecedent nominal or to add some kind of special emphasis. The following examples were, therefore, designedly contrived to test the informants' intuitions:

- 118) *mera dost THE LAWYER ise nahin manata
 my friend this not accept-PRES
 'My friend, the lawyer, does not accept this'
- 119) *uske pita A SAINT sabhi ki madad karte hai
 his father all of help do be-PRES
 'His father, a saint, helps everyone.'
- 120) *yeh kitab A GEM mushkil se milti hai
 this book difficulty with obtain be-PRES
 'This book, a gem, is hard to obtain'

Notice that while Hindi lacks the article system, the English examples had to be furnished with an article in accordance with the rules of English grammar. Furthermore, in the interests of fairness to the construction the required intonation - involving pauses - was adequately provided.

While only in a case or two - where the informants were actually instructors of English - was the structure begrudgingly let in, most others rejected it out of hand. This can be attributed to two possible factors. First, the construction is a most infrequent one even in English spoken discourse and hence sounds pompous, to say the least. Secondly, it embraces something Hindi is devoid of, namely the article. In the section on bare nouns, we offered the generalization that all argument positions in Hindi were accessible to CS. While theoretically that continues, in our opinion, to be the case, the obligatory commissioning of the article for building the appositive is certain to confound the generalization. The article constraint in Hindi is expected logically to shoot down any structure that partakes of the article.

Demonstrative Adjectives. Moving on to various other characteristic realizations of the DET node and taking a look at what are traditionally called the demonstrative adjectives, we find the widely recognized Det constraint to be in operation with great vigor in Hindi as well. Thus, if

121) vah dukan
that shop
'that shop'

is the basic Hindi phrase, then the substitution of the determiner 'that' for vah under the Det node fires it off:

122) *THAT dukan
shop'
'that shop'

Similarly,

123) yeh mez
 this table
 'this table'

is fine, but never

124) *THIS mez
 table
 'this table'

nor

125) *THESE kursian
 *THOSE
 chairs
 'these/those chairs'

Possessive Adjectives. And what is true of the demonstrative adjective is also true of several other sub-classes of determiners, such as possessive adjectives, numeral adjectives, quantifiers, and so on. In the following example, it is the possessive adjective that taints the NP:

126) *MY kamiz
 *OUR
 *YOUR
 *HIS
 *HER
 *ITS
 *THEIR
 shirt
 'My/our/your/his/her/its/their shirt'

Numerals. In his paper, "Grammatical Constraints on Code-Mixing: Evidence from Hindi-English", Singh suggests that perhaps "all numbers (numerals) of the specifier system must come from Hindi though the head may be from English". This, as we have noted in the section on numerals, seems not to be borne out by

this study, which indicates that acceptability increases proportional to the numerical value of the item in question; the higher the number, the better it sounds when switched. This principle is reduplicated under the Det node as well. Thus, the following expressions embodying lower-order numeral Dets are repudiated by Hindi:

- 127) *ONE pauda
 *TWO paude
 *FIVE
 *SEVEN
 plant(s)
 'One plant...two/five/seven plants'

But these with higher numbers turn out to be winners:

- 128) HUNDRED paude
 FIVE HUNDRED
 THOUSAND
 TEN THOUSAND
 plants
 'A hundred/five hundred/a thousand/ten thousand plants'

And fractionals as determiners are fully acceptable, just as they were as nominals.

- 129) HALF tukra hi thik ho ga
 piece even correct be FUT
 'Even half a piece would be OK'

- 130) QUARTER chammach dal do
 spoon put COMPL
 'Add a quarter spoonful'

Quantifiers. If we exclude the negative quantifier (the sole example is 'no') and the non-assertives using 'any' (to remind, the terminology is based on Quirk et al. (1972:223)), on which informant judgments are unanimous, we alight, as before, on the

"he loves me, he loves me not" territory, as it were. Nevertheless, discussing this sub-class earlier under the Pronominal section, we had a suspicion we noticed a certain "method in the madness". We felt that in the assertives versus universals battle, the former won over the latter in the Hindi CS structures. It appears the same verdict might be reproduced under the Det node as well. This would become more explicit by the examples following.

First of all, the primordial negative - the one that tolls the bell for all that its fatal gaze falls upon:

- 131) *NO adhyapak 'teacher'
 kanun 'law'
 insan 'human'
 mitra 'friends'
 dharam 'religion'
 jhut 'lie'
 bachhe 'children'
 'No teacher/rule/human/friend/religion/lie/children'

Next, its faithful deputy, the non-assertive 'any':

- 132) *ANY adhyapak 'teacher'
 kanun 'rule'
 insan 'human'
 mitra 'friend'
 dharam 'religion'
 jhut 'lie'
 bachhe 'children'
 'Any teacher/rule/human/friend/religion/lie/children'

The universals, as before, were confusing to most informants:

- 133) *?EVERY drakhat kat gaya
 tree cut PERF
 'Every tree was cut'
- 134) *?uski EVERY yojna safal hui
 his plan successful be-PAST
 'Every plan of his succeeded'

135) *?EACH tasvir par shisha lage ga
 picture on glass put FUT
 'Each picture would have glass put on'

136) *ALL vidyarthi meri jamat meī pas hue
 students my class in pass PERF
 'All students in my class passed'

However, the assertive 'some' as Det was found to be much worse than the same as pronominal:

137) *SOME chini do mujhe
 sugar give me
 'Give me some sugar'

138) *tumhare SOME dost to beiman nikle
 your friends but dishonest emerged
 'But some of your friends turned out dishonest'

But multals of the first and second degrees of comparison were poor:

139) *sita ko MUCH asha hai is bare meī
 MORE
 hope be-PRES this matter in
 'Sita has much/more hope in this matter'

in relation to that of the third degree which was broadly favored:

140) sita ko MOST asha hai is bare meī
 hope be-PRES this matter in
 'Sita has the most hope in this matter'

141) uske MOST rishtedar videsh meī rahte hain
 his relatives abroad in live be-PRES
 'Most of his relatives live abroad'

In the following pair, 'several' is OK, but not 'many'

142) SEVERAL yatri mar gaye the hadise meī
 pilgrims dir PERF be-PAST accident in
 'Several pilgrims had died in the accident'

- 143) *MANY yatri mar gaye the hadise meī
pilgrims die PERF be-PAST accident in
'Many pilgrims had died in the accident'

Similarly, paucals of quantity exhibited the same inter-degree contrast, the first and second degrees being much less desirable than the third:

- 144) ?kamla ke pas LITTLE paisa hai
LESS
POSS own money be-PRES
'Kamla owns little/less money'

- 145) kamla ke pas LEAST paisa hai
PART own money be-PRES
'Kamla owns least money'

The paucals of number were even better than of quantity.

Strangely enough, all degrees were at the near-acceptability level:

- 146) ab FEW kathinaian hi rah gayee hain
now difficulties EMP remain PERF be-PRES
'Only a few difficulties remain now'
- 147) yahā to vahan se bhi FEWER log the
here but there from even persons were
'Here were even fewer persons than there'
- 148) hum sub ke muqabile meī uske FEWEST dost haī
us all of comparison in his friends be-PRES
'Compared to all of us, he has the fewest friends'

Speaking of the 'other' series, the ones with the articles were rejected:

- 149) *a:j ANOTHER hathi dekha
THE OTHER
today elephant saw
'(I) saw another/the other elephant today'

But when followed by the plural the form was held a bit better:

- 150) ?OTHER logō ne hartal kar di
 persons NOM strike do COMPL
 'Other persons went on a strike'

Having examined the various manifestations of the Det node in the Hindi-English CS process, the question arises: What implications do these data have on the CS theory? While the implications seem to be considerable, it would perhaps be best to defer discussing them until we have examined some other aspects of the NP. We now proceed to take a look at the Adj node in the NP.

ADJECTIVE

In terms of CS, Hindi adjectives, like the gerunds and bare nouns, present a mixed bag. In Hindi, as in English, adjectives can be used both attributively and predicatively, though it has been claimed in the literature that the attributive slot is not favored much in code-switching. While this is marginally true of Hindi as well, attributive adjectives in Hindi are found in common use.

Attributive. The following examples show that constructions like the following present no hardship:

- 151) FAT larkian dukhi rahti hain
 girls unhappy remain be-PRES
 'Fat girls remain unhappy'
- 152) BRILLIANT larke prabhavshali hote hē
 boys impressive be be-PRES
 'Brilliant boys are impressive'

- 153) EMBROIDERED sari tum par achhi lagti hai
 sari you on good appear be-PRES
 'Embroidered sari looks good on you'
- 154) SINCERE dost ajkal mushkil se milte hē
 friends nowadays difficulty with get be-PRES
 'Sincere friends are hard to find these days'
- 155) HORRIBLE khabrō se mē ghabra jata hū
 news from I upset COMPL be-PRES
 'Horrible news upsets me'

On the other hand, there are some adjectives that sound very queer (hence unacceptable) in this position:

- 156) *NICE makan bahut mehngē milte hē
 houses very expensive get be-PRES
 'Nice houses are very expensive'
- 157) *GOOD larkian aisi bat nahin kartī
 girls such thing not do
 'Good girls do not do such a thing'
- 158) *NEW chhata bhi tut gaya hai
 umbrella also break PERF be-PRES
 '(My) new umbrella has also broken'
- 159) *krishan ki OLD mā bimar hai
 of mother sick be-PRES
 'Krishan's old mother is sick'
- 160) *BAD admiō se mat uljho
 men with not tangle
 'Don't get into trouble with bad men'

If we notice in the above examples the nature of the adjectives that are switchable and compare them with those that are not, we find that the "Familiar Morpheme" constraint is in operation here as well. For items like 'nice', 'good', 'new', 'old' and 'bad' seem to be more 'familiar' in terms of everyday use than those like 'purple', 'sincere' and 'horrible'.

Contrasts Within Pairs. However, an interesting phenomenon to note is that if we regard antonymic pairs, such as 'long' and 'short', 'large' and 'small', 'more' and 'less', 'many' and 'few' as more or less equivalent inside the 'familiar' category, then there are some differences noticeable internally within these pairs themselves. For example, the following members of the pairs remain unattested in the data:

161) *MORE keemti
valuable
'more valuable'

162) *MANY bachche
children
'many children'

163) *LONG safar
journey
'long journey'

while their opposite numbers sound much better:

164) LESS keemti
valuable
'less valuable'

165) FEW bachche
children
'few children'

166) SHORT safar
journey
'short journey'

The following is also questionable, again perhaps because of the familiarity of the morpheme 'kind':

167) *?is KIND ke log hani pahunchate hain
this of people harm do be-PRES
'People of this kind are harmful'

But the 'non-familiar' replacements of 'kind' are much better:

- 168) is NATURE ke log hani pahunchate hain
 TYPE
 CLASS
 CATEGORY
 this of people harm make-reach be-PRES
 'People of such a nature/type/class/category are harmful'

Predicative. We have suggested above that in common with a similar phenomenon in other languages, a CS English adjective in the predicative position, as in (170) below, might sometimes sound much better than in the attributive position as in (169):

- 169) TEDIOUS safar hai
 journey is
 'It is a tedious journey'

- 170) safar TEDIOUS hai
 journey is
 'The journey is tedious'

Thus, at least a degree of preference for the predicative adjectival position over the attributive is attested in Hindi-English as well.

DET + ADJ + N

In the previous two sections we have observed that determiners are almost impossible to switch, while a certain dichotomy exists in both the adjectival and the nominal classes. A preponderance of the adjectives and nouns are switchable, while a restricted subset under each of these categories is not.

Since an NP can often consist of a Det + Adj + N, the question arises: What happens when a nonswitchable element within

the code-switching of prepositional phrases were mentioned. To recapitulate, he states (1978:253) that "the kind of constraint that applies to word-internal switches operates in the case of such prepositional phrases as possess a highly compact and integrated structure, making them single semantic units despite their multi-word construction." Since no examples have been given, it is not possible to know precisely what Lipski meant, though a fair surmise would bring to mind such formulaic constructions as "out of order", "in touch with", "on one's feet", "off the mark", etc.

However, when talking of code switching, we obviously cannot restrict ourselves to idiomatic set phrases, be they pre(post)positional or any other type of constructions. In examining the universals of CS, it is necessary for us to leave the field open, to examine the PP node in its generality, and to decipher what happens when an FL element intrudes into the SL base.

Speaking of Hindi, we must begin by reminding ourselves once again that as against the English prepositional phrase structure, Hindi has the postpositional mode, so that in a Hindi PP the word order is the following:

[Nominal + Postp] + Head

as in:

- 175) chhati ki bimari
 chest of disease
 'disease of the chest' or 'the chest disease'

If we apply code switching to this configuration, we find that the two nominals in the above example can severally and jointly be switched to English without any difficulty:

- 176) CHEST ki bimari
 of disease
 'disease of chest'

- 177) chhati ki DISEASE
 chest of
 'disease of chest'

- 178) CHEST ki DISEASE
 of
 'disease of chest'

The moment, however, the postposition itself is switched every permutation and combination of the structure gets marching orders. In other words, the language of the postposition becomes the sole criterion for the acceptability of the entire phrase. If the postposition is Hindi, then the phrase has the green signal, subject of course to other considerations; if the postposition is English, then nothing else is of any consequence. Thus, all of these four CS possibilities in the above structure are ruled out:

- 179) *chhati OF bimari
 chest disease
 'disease of chest'

- 180) *chhati OF DISEASE
 chest
 'disease of chest'

- 181) *CHEST OF bimari
 disease
 'disease of chest'

- 182) *CHEST OF DISEASE
'disease of chest'

Since the set of entries in the postpositional category is limited and since the constraint operating on them is indeed rigorous, it would be possible for us to look at more than just a few examples:

- 183) *vah apne ghar FROM aya
he own house came
'He came from his house'
- 184) *main sku:l TO ja raha hū
I school go CONT' be
'I am going to the school'
- 185) *kitab mez ke ON hai
book table OBJ is
'The book is on the table'
- 186) *tum kamre ke OUT chale jao
you room of go IMP
'You go out of the room'
- 187) *Sita talab ke IN thi
pool of did
'Sita was in the pool'
- 188) *kal hum ghar AT hōge
tomorrow we home be-FUT
'We will be at home tomorrow'
- 189) *Ashok apne bhai ke WITH khara tha
Ashok own brother of stand be-past
'Ashok stood with his brother'
- 190) *aurat admi ke AFTER thi
woman man of be-PAST
'The woman was after the man'
- 191) mē tumhare BEFORE khara tha
I your stand be-PAST
'I was standing before you'

- 192) larki sirhion ke UP gayee
 girl stairs of go-PAST
 'The girl went up the stairs'
- 193) larka sirhion ke DOWN aya
 boy stairs of come-PAST
 'The boy came down the stairs'
- 194) pati ne patni ke FOR phul kharide
 husband AGT wife OBJ flowers bought
 'The husband bought flowers for the wife'
- 195) Sita Ashok ke ABOUT ba:t kar rahi thi
 Sita Ashok OBJ talk do CONT be-PAST
 'Sita was talking about Ashok'
- 196) *chor sipahi BY pakra gaya
 thief policeman caught PASS
 'The thief was caught by the policeman'

The tale, however, does not end here. For although a large number of the PP's are non-switchable, there are instances where switched postpositions do yield acceptable constructions:

- 197) vah munshi mere UNDER kam karta hai
 that clerk my work does be-PRES
 'That clerk works under me'
- 198) uska gaon nadi ke ACROSS hai
 his village river of be-PRES
 'His village is across the river'
- 199) yeh sarak jungle ke THROUGH jati hai
 this road jungle of go be-PRES
 'This road goes through the jungle'
- 200) ajkal vah apne malik ke AGAINST bahut bolta hai
 nowadays he own boss of much speak is
 'Nowadays he speaks much against his boss'

How do these exceptions relate to the Familiar Morpheme Constraint proposed earlier? Intuitively speaking, could it be hypothesized that the non-switchable PP's are those that are

subsumed under the 'Familiar Morpheme Constraint' while others are outside its pale? Does it seem logical to assume that somehow 'in', 'on' 'at', etc are more 'familiar' than 'through', 'across' and 'against'? More generally speaking, is it possible to package together in one cluster nouns like 'man', adjectives like 'good', numerals like 'one', determiners like 'this', pronouns like 'my' and postpositions like 'of' in terms of their 'familiarity', frequency of use, or common everyday occurrence? If so, is the support for the proposed 'Familiar Morpheme Constraint' mounting?

Summing Up

If we wrap up our observations on the CS potentials within the Hindi noun phrase, we come up with the following conclusions:

- 1) Nouns and several other nominal substitutes are freely switchable but not the pronouns.
- 2) Demonstrative adjectives, possessive adjectives, and quantifiers are non-switchable.
- 3) English articles have no place in a Hindi CS sentence.
- 4) Excepting some, postpositions are non-switchable.
- 5) The phrase structure approach in defining CS constraints seems not to be enough. Some entries under the same node are more acceptable than others; yet others are totally ruled out.
- 6) Speaking of the Generalized Models:

- i) Not much reliance can be had on the 'Government' theory which is based on the N-bar version of the PS approach
- ii) Nor does Woolford's 'Overlap of PS Rules' model avail much, for it too is based on the phrase structure delineations of the SL and FL.
- iii) By the same token, Lipski's 'Syntactic Congruence' model also falters in so much as it is incumbent on defining the constituent structures of the two languages around the switch site.
- iv) Similar observation also applies to the 'Superscripted Symbols' theory of Sankoff and Poplack because it is based on the PS rewrite rules that expand one symbol into more symbols assigning them superscripts.
- v) Gingras' theory of 'Rules Interaction' shares the same deficiency, for it, too, is based on transformation rules which presuppose PS rules.

In light of the discussion of the NP in this chapter, it seems indisputable that any attempt to understand the Hindi-English CS data exclusively in the framework of the various particularistic constraints as well as the generalized models proposed hitherto in the literature is bound to be futile. The

question, then, is: If none of the suggested approaches and theories deliver the goods, what does?

Perhaps when we have looked, in the next two chapters, at the Hindi verb phrase as well as some other linguistic structures, we might be able to acquire deeper insights into the CS phenomenon.

*

CHAPTER IV - THE VERB PHRASE

CS literature overwhelmingly forbids the switching of verbs. As mentioned in Chapter II, Singh notes how the English verb undergoes a syntactic transformation when code switched in a Hindi utterance. Speaking of Spanish-English data, researchers rule out a switch 'between a Spanish pronoun and an English verb', where Pron is generalizable to NP:

- 1) *Tu ATE (Barkin and Rivas, 1979)
you
'You ate'
- 2) *Yo WENT (Timm, 1975)
I
'I went'

Lipski (1978:251), adding greater specification to the process, claims: "In verb phrases containing auxiliaries, code-switching is normally prohibited":

- 3) *estaba WALKING
was
'He was walking'
- 4) *(he) has VISITO
visited
'He has visited'

Pfaff (1979:314) takes the matter a step further and, bringing out the distinction between various kinds of verbs, holds that this applies especially to "morphologically unadapted English verbs...unless tense/aspect is marked elsewhere in the sentence".

The verb constraint, then, has different versions - which again seemingly are not absolutes, for counterexamples have been

cited in the literature. Yet, the counterexamples themselves may not be taken at their face value.

Spanish-English Verb Constraint

To begin with, the recorded instances of Spanish-English verbal switches - combining all the various kinds - represent only a scant percentage of the total number of switches. For instance, Sankoff and Poplack (1980:39) cite the probability of a switch between NP and VP at a mere 2.3% of the total, while Poplack (1978:16) recorded just 6 such occurrences out of an N equalling 400. In a later study conducted in the Spanish El Barrio in New York, Poplack (1979:31) examined 1835 instances of code switching, with not a single one of these being an auxiliary. Of the others, just 13 were verb switches from Spanish to English and 6 from English to Spanish.

Similar studies done by Pfaff (1979:293) involving the Chicano population on the west coast yielded not a single instance of a verbal switch from English to Spanish, though 71 occurrences were noted of Spanish to English out of a total of 1131, i.e., just above 6%. Out of this latter category itself, Pfaff notes that constructions such as the following were "produced by a single speaker within the space of a few sentences":

- 5) No sabia como TRAINIAR
not knew how train-INF
'He didn't know how to train'

- 6) Estaba TRAINING para pelear
 was to fight
 'He was training to fight'

Of these examples, chances are that sentence (5), instead of signalling a genuine code switch, represents the assimilation of the English verb 'train' into at least the idiolect of the speaker, so that the native infinitival ending could be assigned to it. Instances of such a nature have, in fact, been recognized by researchers where an English verb has been assimilated into Spanish and is thus able to acquire Spanish verbal inflections:

- 7) es posible que te MOGUEEN (Poplack 1979:6)
 is possible that you mug-PASS
 'It is possible that they might mug you'

Referring to the important distinction that must be made between the morphologically adapted and unadapted varieties of English verbal switches, Pfaff (1979:302) discounts the possibility of assigning English inflections to unadapted Spanish verbs. She states:

"There is no evidence that morphological adaptation of English verbs is at present a fully productive device...All the etymologically English verbs which occur with Spanish inflections are to be found in dictionaries of Mexican-American Spanish (Cerdeña et al. 1953, Galvan and Teschner 1975) and appear to be fully incorporated into the Spanish lexicon of the speakers."

As for (6), there exists actually a paradigm of participial switches from Spanish to English, though the argument that they might best be interpreted as adjectival-gerundial switches, rather than verbal ones, is not without force. This point would

merit discussion in a succeeding chapter and may, therefore, be left unelaborated now.

In addition, mention may also be made of the point presented in Chapter I that in order for the CS process to make sense in grammatical or syntactic terms, the presupposition that the speaker must be a fully competent bilingual must hold. Even though the term 'competent' remains undefined in precise terms, the possibility cannot be minimized that the exceedingly small minority of 'verbal' switches found in Spanish-English CS literature might conceivably have come from informants who fail to conform to the 'competence' criterion suggested in this study.

In light of the above discussion, it appears that a considerable degree of further in-depth probing would be necessary to establish whether or not verb switches, on the whole, are permissible in the Spanish-English CS process.

Hindi-English Data

Speaking of Hindi, we noted in the preceding chapter how a large number of nouns and adjectives participate freely in the Hindi-English code-switching processes. Though they never assume the Hindi inflections of number and gender but retain the English inflections, they yet fill the appropriate grammatical slots. Such a situation obtains also for adverbs, as shall be observed in the latter part of this chapter. These three grammatical

categories, i.e., noun, adjective and adverb, form a subset that permits, some well-defined exceptions apart, a large measure of what may be described as "nodal switchability".

When it comes to the switching of verbs, however, the situation is found to be radically different. For it is impossible for a Hindi verb to be switched to English as verb. In other words, no English verb can ever be inserted under the node V in a Hindi sentence.

And, if an English verb is uninsertable under the V node, then, of course, the question of such a verb taking on the indigenous inflections fails, at the very outset, to arise.

What does this really signify? Does it mean that English verbs are never used in Hindi CS speech? Are they, then, in the same class as articles, pronominals, postpositions, etc.?

Curiously enough, the answer is both yes and no. True, English verbs do not find a place in Hindi as verbs; equally true, they are ubiquitously employed in Hindi-English code-switched speech. But only as 'nominals' of sorts, never as verbs. How is the paradox resolved?

Conjunct Verb

In order to comprehend the situation, it is necessary to make a detour here and look at the indigenous verb system in Hindi.

This system has two sub-classes:

- a) "Bare", monomorphemic verbs that fall under the single V node, such as badalna 'to change', sona 'to sleep'.
- b) Compound or bimorphemic verb structures that do not fall under a single node, such as bharosa karna 'to trust', vishvas karna 'to believe'.

Category (b) is, in fact, quite a sizable subset of verb phrases in Hindi and is claimed to consist of either a noun or an adjective (generally of Persian, Arabic or Sanskrit origin) followed by one of a restricted class of verbs, called the 'operators'. These combinations have been variously characterized as 'conjunct verbs' (Kachru 1980:135), 'compound verbs' - to be precise, 'verbs compounded with nouns or adjectives' (Central Hindi Directorate (CHD) 1972:132) - or 'nominal compounds' (Scholberg 1950:170). In other words, they are held to conform to the pattern N + V or Adj + V. For reasons of simplicity, we shall choose the term 'conjunct verb' (hereafter, Con-V) to describe the structure, since some of the other terms, e.g., 'compound verb', are more comprehensive and could be understood to include other complex Hindi VP constructions, such as those consisting of 'polar' and vector' verbs (Hook 1974:2). The latter possess a different configuration from the one under reference here.

It may be mentioned that structures of the type (b), i.e., the "binodal compounds", are found in English as well, structures that are 'near-synonyms' of the corresponding monomorphemic

verbs. Some examples are: 'to make (an) exchange' for 'to exchange', 'to give help' in place of 'to help', 'to make a move' instead of 'to move', etc. Hindi, however, makes use of this class of verbs in a more fundamental sense than English. In fact, the phenomenon is extensively found in Hindi and is not always an alternative replacement for synonymous monomorphemic entities.

This phenomenon of bimorphemic verbal constructions is exemplified by sentences (9)-(15), involving the use of a variety of 'operator' verbs (the capitals representing the 'nominal' element).

- 8) ram sita par BHAROSA karta hai
 on trust do be-PRES
 'Ram trusts Sita'
- 9) ram ko rupaye ki ZARURAT rahti hai
 OBL money of need remain be-PRES
 'Ram needs money'
- 10) tum ko shor SUNAI nahin parta
 you OBL noise hearing not PART
 'You do not hear the noise'
- 11) mujh ko ek sher DIKHAI diya
 to-me OBL a lion view give-PERF
 'A lion was seen by me'
- 12) mujh ko KRODH aya
 me OBL anger came
 'I got angry'
- 13) us ko PYAS lagi thi
 him OBL thirst seem be-PAST
 'He was thirsty'
- 14) shyam ko CHINTA rahi
 OBL worry remained
 'Shyam was worried'

The Hindi verb takes the suffix -na in the infinitive. Reducing the operator verbs in the above examples to their infinitival forms, we come up with the following list, which, according to CHD (1972:133) covers most of the commonly occurring items in the category, though assuredly there are several more (Scholberg 1950:159).

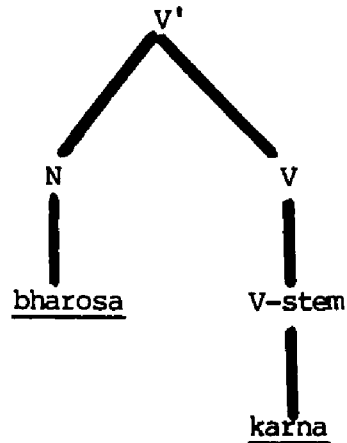
15)	karna	'to do'
	hona	'to be'
	ana	'to come'
	lagna	'to seem'
	rahna	'to remain'
	dena	'to give'
	parna	'to lie'

It might be obvious already that the Hindi Con-V structure is not a monomorphemic entity constructed out of an integrated N+V combination, analogous to the English coinage 'babysit', which possesses an internal cohesion that cannot be tampered with. For instance, it would be impossible to introduce into 'babysit' (word-internally) an adverbial element, such as 'carefully', to generate the structure 'baby-carefully-sit'. If the Hindi Con-V structure were parallel to the 'babysit' structure, then a pattern (vide example (8)) such as bharosa sadahi karna 'to trust always' (sadahi 'always') should be ruled out. That in Hindi is not the case, for the phrase is perfectly legitimate.

Speaking in formal terms, the question is whether or not the Hindi lexicon possesses a straightforwardly lexical V entry, such as bharosa karna, in contradistinction to two separate entries

for bharosa and karna. It is not difficult to see that the structure under discussion consists of two separate entries and is representable by the following phrase marker:

16)



CS of Hindi Verbs

The above discussion has served to illustrate the historical phenomenon how items borrowed from Sanskrit, Persian or Arabic were categorized as some kind of nominals and then integrated into the Hindi VP system with the assistance of 'operator-type' verbal morphemes that bore the burden of tense, mood and aspect. What happens in Hindi-English CS is something analogous to the above, but not exactly identical with it.

In Hindi-English CS, the English verb assumes the status of a bare infinitive rather than a nominal. It would be an interesting question whether the Sanskrit and Persian loans of several centuries ago also originally entered the Hindi system as bare

infinitives and then gradually got assimilated into the language to the extent of being transformed to nominals. If so, then the question arises whether one could countenance the possibility of English verbs also treading the same path over a period of time (perhaps a few centuries). If that happens, then English assimilations of the day may be able to undergo the diverse processes, such as pluralization, topicalization, etc., that a nominal is heir to and that are currently applicable to Sanskrit and Persian entries.

Bare Infinitive as Nominal. Be that as it may, however, there is yet a possibility to interpret the English verb as a nominal of sorts, comparable to what is found in the English structure, such as:

17) All he wanted to do was retire
 where 'retire' seems to be a predicative bare-infinitive-turned-nominal. While the issue needs further elucidation, we shall, for the purposes of this study, treat the recategorized English verb as a substantive nominal of some type or another.

To exemplify the phenomenon, let us examine the Hindi verb badalna 'to change' in the Hindi sentence (18):

18) mausam ajkal badal raha hai
 weather nowadays change CONT' is
 'The weather is changing these days'

We notice that its code-switched equivalent is 'change karna', as in the following:

- 19) mausam ajkal CHANGE kar raha hai
 weather nowadays do CONT is
 'The weather is changing these days'

This nominal element will remain invariant when placed in different contexts of tense and aspect, some of which are illustrated below:

- 20) mausam agle mahine CHANGE kare ga
 weather next month do FUT
 'The weather will change next month'
- 21) mausam pichhle mahine CHANGE kar gaya tha
 weather last month do PERF was
 'The weather had changed last month'
- 22) mausam to bari der ka CHANGE ho chuka hai
 weather but very delay of happen PERF is
 'But the weather has changed long ago'
- 23) mausam garmion me CHANGE karta rahta hai
 weather summer in do HABIT is
 'The weather keeps changing during summer'

That 'change' could very likely be a nominal element in the structure is deducible from some transformations applicable to it. These are offered without comment:

- 24) CHANGE to mausam karta hi hai
 but weather in EMP is
 'But the weather does change'
- 25) jo CHANGE mausam ne ki vah mujhe pasand nahī
 which weather in did that to-me like not
 'I don't like the change that the weather underwent.'

The practice of switching Hindi verbs to the English NP + V (operator) construction is, it must be noted, ubiquitous among competent Hindi-English bilinguals. It would be helpful, therefore, to adduce an example like the following, where the

sentence frame allows for any number of possible verbal switches (kiya being the past form of the operator V karna).

26) sita	ne	ashok	ko	DEFEND		kiya
				PROTECT		
				PERSUADE		
				CONVINCE		
				BELIEVE		
				ASSURE		
				EMBRACE		
				RECOGNIZE		
				APPROVE		
				CONTRADICT		
				.		
				.		
	NOM		OBJ			did
	'Sita defended/protected/persuaded/convinced...Ashok'					

'No-Switch' Verbs

While it is normal to switch, in the manner described above, literally hundreds of verbs in everyday Hindi conversations, switching of this category is not totally unconstrained. There are a few sub-categories of verbs that in actual practice are never switched. In fact, to switch these would invite nothing but embarrassment and ridicule. These sub-categories seem to relate to the following:

- a) Basic Physiological Functions
- b) Basic Human Movements
- c) Basic Cognitive Processes

In the previous chapter we have repeatedly referred to the 'Familiar Morpheme Constraint' as applying to nouns and adjectives. It seems that the same kind of limitation applies to the area of verb switches as well, for in order to qualify for

these sub-categories, the verbs must represent nothing but the most 'familiar', basic, general, and 'undifferentiated' actions.

If this statement sounds too nebulous, a couple of illustrations would help elucidate the point. For instance, if the 'basic' physiological function is, say, 'sleep', then this verb would qualify as a 'no-switch' verb but not its more specific 'refinements', such as 'doze', 'nap', 'snore', 'slumber', etc. Thus, (27) is ruled out, but (28) is fine:

27) *ashok SLEEP kar raha tha
do CONT was
'Ashok was sleeping'

28) ashok DOZE kar raha tha
SNORE
NAP
DREAM
do CONT was
'Ashok was dozing/snoring/napping/dreaming"

Similarly, if the basic human movement is 'go', then 'go' would be constrained, but not 'move', 'shift', or 'depart'. The latter would be permissible:

29) *rohit Chicago ko GO kar gaya hai
to do PERF be-PRES
'Rohit has gone to Chicago"

30) rohit Chicago ko MOVE kar gaya hai
SHIFT
DEPART
to do PERF be-PRES
'Rohit has moved/shifted to/deperted for Chicago'

The same distinctions apply to (31), (33) and (35), on the one hand, and (32), (34) and (36), on the other:

- 31) *usne parsal SEND kiya
 he parcel did
 'He sent a parcel'

But not with any of the substitutes of 'send'

- 32) usne parsal DESPATCH kiya
 MAIL
 FORWARD
 DELIVER
 SHIP
 POST
 he parcel did
 'He despatched/mailed/forwarded/delivered...the parcel'

- 33) *uski bus chhe baje COME kar rahi hai
 his six o'clock do CONT is
 'His bus is coming at 6 o'clock'

- 34) uski bus chhe baje ARRIVE kar rahi hai
 REACH
 RETURN
 his six o'clock do CONT is
 'His bus is arriving/reaching/returning at 6 o'clock'

- 35) *kya sita mujhe vah bat TELL kare gi
 INTERR to-me that matter do FUT
 'Will Sita tell me about that matter?'

- 36) kya sita mujhe vah bat CLARIFY kare gi
 EXPLAIN
 ELUCIDATE
 SIMPLIFY
 INTERR to-me that matter do FUT
 'Will Sita clarify/explain/elucidate...that matter to me?'

And finally, the basic cognitive activity represented by
 'think' is constrained, but not its first cousins, such as
 'consider', 'reflect', 'cogitate', 'ponder', etc.:

- 37) *a:iye is baat ke bare mē THINK karē
 come this matter of about in do
 'Come, let us think about the matter'

Adverbials

In contradistinction to the Hindi verbal system, Hindi adverbial elements, like Hindi nominals and adjectivals, are quite magnanimous with respect to code switching to English. Though certain restrictions do apply in their case, just as they do in the case of other 'free' categories, a large number of them can easily be substituted by their English counterparts.

However, a point of special interest is that, as was the case with quantifiers, adverbials also permit a larger than usual degree of variations in acceptability judgments within a given sentential framework, depending upon what particular expression is chosen to represent a general concept. This may well be due to the fact that the adverbials, as Quirk et al. (1974:231) points out, "do not constitute well-defined classes, and, moreover, neither class is homogeneous". Informant intuitions in the present study reflected, it may be noted, this heterogeneity in specific ways.

Syntactically, adverbials have a wide-ranging function to perform in language. From the modification of the entire clause to the modification of almost every grammatical category, they encompass a broad spectrum of linguistic structures. In the following sections we shall briefly examine their role both as clause modifiers and as category modifier.

clause modifiers and as category modifier.

Clause Modification

Clause modification is obviously qualitatively different from the rest of the adverbial functions, for it encompasses the entire clause or sentence, whereas the other types of modification deal with individual parts of speech. The former category has been subdivided into 'disjuncts' and 'conjuncts' by Quirk et al. (1972: 421), while the latter categories fall under the term 'adjuncts'.

Adverbials that qualify, modify, emphasize, de-emphasize, etc. the clause are either monomorphemic or phrasal. Furthermore, they are either 'attitudinals' or 'emphasizers'. It so happens that Hindi allows all types to be switched - except for the kind of constraint noted hitherto in regard to other categories.

The 'attitudinals' reflect the attitude of the speaker to himself, his utterance, or his listener. In Hindi-English data, no constraints were found to exist in this area. First, some examples of the monomorphemics:

- 44) ADMITTEDLY, us ne is samay bahut rupaya kamaya
 FORTUNATELY,
 NEVERTHELESS,
 PROBABLY,
 POSSIBLY,
 BRIEFLY,
 he NOM this time much money earned
 'Admittedly,..., he earned a lot of money during this time'

The same is true of the phrasal sentence modifiers, for here

- 46) *TODAY barish hogi
 *NOW
 rain be-FUT
 'It will rain today'

But informant opinions flickered uncertainly when the temporals were at just one remove from the present moment:

- 47) *?YESTERDAY barish hui thi
 rain HAPPEN be-PAST
 'Yesterday it rained'
- 48) *?TOMORROW barish hogi
 rain be-FUT
 'It will rain tomorrow'

Traveling farther into time, whether backward or forward, facilitated the switches completely, with no inter-informant dissensions:

- 49) DAY BEFORE YESTERDAY barish hui thi
 LAST WEEK
 TEN DAYS AGO
 LAST MONTH
 LAST YEAR
 rain happen be-PAST
 'It rained day before yesterday/last week...'
- 50) DAY AFTER TOMORROW barish hogi
 NEXT MONTH
 NEXT YEAR
 AFTERWARD
 LATER ON
 RARELY
 rain be-FUT
 'It will rain day after tomorrow/next month/next year...'

Reverting once again to the 'present moment', periphrastic synonyms that were 'less familiar' encountered little opposition:

51) PRESENTLY barish hogi
 JUST THIS MOMENT
 IN A MOMENT
 IN A JIFFY
 AT THIS INSTANT

rain be-FUT

'It will rain presently/just this moment/in a moment...'

In sum, it appears that two factors are in operation here:

- a) Temporal distance from the moment of speech
- b) 'Familiarity' of the morpheme in terms of its everyday occurrence

By and large, the farther a time expression moves from the moment of speech, the better it progressively sounds; it seems that temporal distance improves the switchability of the item.

Secondly, analogous to the occurrence of morphemes under the N or Adj nodes, the 'Familiar Morpheme Constraint' seems to be in operation under the Adv node as well; 'now' is ruled out, but not 'presently'.

Moving on to other related items, the following were found to be debarred:

52) *AGAIN barish hogi
 *QUICKLY
 *SOON
 *SLOWLY

rain be-FUT

'It will rain again/quickly/soon/slowly'

But these were declared much better:

- 53) TIME AND AGAIN barish hogi
 AGAIN AND AGAIN
 OVER AND OVER AGAIN
 TIME AFTER TIME
 OFF AND ON
 FREQUENTLY
 AT ONCE
 SELDOM
 OFTEN
- rain be-FUT
- 'Time and again/again and again... it will rain'

Place Adverbials. In this category, 'here' and 'there' are not acceptable under any circumstances, as in (54), though their 'less-familiar' or periphrastic substitutes, as in (55), present little hardship:

- 54) *rohit HERE baitha tha
 THERE
 sat be-PAST
 'Rohit was sitting here/there'
- 55) rohit NEARBY baitha tha
 CLOSE BY
 FARTHER AWAY
 AT A DISTANCE
 TEN YARDS AWAY
- sat be-PAST
- 'Rohit was sitting nearby/close by/farther away...'

Several postpositional phrases showing place modification that are more or less 'formulaic' in nature are acceptable, but not those which are not. This at least partially corroborates Lipski's view (1978:253) that post(pre)positional phrases can be regarded as 'atomic entities', as in (56):

56) vah mujhe IN THE MIDDLE chhor kar chala gaya
 ACROSS THE BORDER
 IN FRONT OF THE BUILDING
 DOWNSTAIRS

he me leave after went COMPL
 'He left me in the middle/across the border...'

57) *vah mujhe AT THE SUPERMARKET chhor kar chala gaya
 IN THE NEXT ROOM
 ON THE THIRD FLOOR

he me leave after went COMPL
 'He left me at the supermarket/in the next room...'

Manner Adverbials. Once again, some routine adverbial expressions have become so 'standardized' they present no obstacles to switching, even though they involve postpositions that would be constrained if used independently or in other contexts:

58) kya tum BY CAR/PLANE/TRAIN/BUS gaye the
 BY FORCE
 ON FOOT
 ON PURPOSE
 IN A HURRY

INTERR you went be-PRES
 'Had you gone by car...by force...on foot/on purpose/in a hurry?'

On the other hand, non-customary constructions using the same postpositions would not pass muster:

59) *yeh pech BY THE SCREWDRIVER khula
 ON THE CAMSHAFT
 IN THE ENGINE

this screw opened
 'This screw was loosened by the screwdriver/on the camshaft...'

The following are rejected, as also in (55), presumably again on the basis of 'overfamiliarity':

- 60) *hamara naukar SLOWLY kam karta hai
 QUICKLY
 our servant work do be-PRES
 'Our servant works slowly/quickly'

But these replacements are perfectly OK:

- 61) hamara naukar TARDILY kam karta hai
 SLUGGISHLY
 LEISURELY
 LETHARGICALLY
 DREAMILY
 .
 SPEEDILY
 HASTILY
 RAPIDLY
 our servant work do be-PRES
 'Our servant works tardily/sluggishly...hastily/rapidly'

Intensifiers. Speaking of the intensifier adverbs, 'very'

is crashing out, 'quite' just a shade less so:

- 62) *usne VERY achha kam kiya
 QUITE
 he good work did
 'He did very good work'

while others elicited varying responses from our informants:

- 63) ?usne SOMEWHAT achha kam kiya
 REALLY
 TRULY

On the other hand, the following were held flawless:

- 64) usne EXTRAORDINARILY achha kam kiya
 EXCEPTIONALLY
 CONSIDERABLY
 REMARKABLY
 EXTREMELY
 TOLERABLY
 he good work did
 'He worked extraordinarily...well'

Postpositional Modification. It was observed in the chapter on the noun phrase how a set of 'basic', i.e., most commonly used, postpositions, such as 'on', 'in', 'at', etc., resisted CS. It is to be noticed now that when a member of that set is modified by an adverbial, the expanded expression gains far more acceptability. This would be obvious from the following contrasts:

- 65) *vah kamre se OUT chala gaya
 he room from went COMPL
 'He went out from the room'
- 66) vah kamre se RIGHT OUT chala gaya
 he room from went COMPL
 'He went right out of the room'

Again,

- 67) *gairnd surakh ke IN ja para
 ball hole of go COMPL
 'The ball went into the hole'
- 68) gairnd surakh ke STRAIGHT IN ja para
 ball hole of go COMPL
 'The ball went straight into the hole'

Adverb Modification. If an adverb is inadmissible in itself, as 'fast' is for several speakers, then its modification by an admissible adverb, such as 'exceptionally', can turn the situation around, as in (69):

- 69) ajay EXCEPTIONALLY FAST chalata hai
 walk be-PRES
 'Ajay walks exceptionally fast'

But if both of the adverbs fall under the constrained category, then the construction has to be ruled out:

Contrasting Pairs

Because of, as stated already, the great diversity in the nature and function of adverbial expressions, it is possible to multiply examples under this head indefinitely. It is hoped, however, that the materials submitted above should suffice to illustrate that, as in other 'open' grammatical categories, there are certain morphemes under Adv that are constrained in CS, while there are others that are not. We would like to round off this chapter by reproducing a few contrasting pairs. Those in the left column are hard to switch; those in the right, being more or less their synonymous counterparts, are far more tractable:

83) about	almost/nearly
again	repeatedly
alone	by himself/unaccompanied
along	lengthwise
also	additionally
always	generally/uniformly/perpetually
away	far
ever	any time
?just	simply
near	nearby
never	at no time
?once	one time
only	merely/exclusively
then	at that time
since	seeing that
well	satisfactorily

As suggested earlier, in the following chapter we shall investigate the CS phenomenon in relation to the syntactic and morphological structures not covered in the chapters on NP and VP.

CHAPTER V - OTHER LINGUISTIC STRUCTURES

In this chapter, we shall take a look at the various syntactic - also morphological - code-switching processes not discussed in the preceding chapters. These shall comprise the following:

- a) Sentence Types
 - i) Interrogative
 - ii) Negative
 - iii) Imperative
- b) Coordination
- c) Subordination
 - i) Relative
 - ii) Embedded
 - iii) Subordinating Conjunction
- d) Inflections
 - i) Nominal Plural
 - ii) Verbal
 - iii) Degree
- e) Derivations

Sentence Types

Upto this point we have dealt mostly with the statement type sentences in the Hindi-English CS data. We shall now examine the data concerning the non-statement constructions.

Interrogative. The constraint on the CS of an interrogative morpheme is one of the strongest in Hindi. Hence, all of the following are barred.

- 1) *jalsa WHERE hai
 WHEN
 meeting is
 'Where/when is the meeting?'

- 2) *tum HOW vahā gaye
 WHY
 you there went
 'How/why did you go there?'
- 3) *us ne WHAT dekha
 WHOM
 he NOM saw
 'What/whom did he see?'
- 4) *rohit ne WHICH kitab parhi
 WHOSE
 NOM book read (PAST)
 'Which/whose book did Rohit read?'

This constraint is, in fact, so powerful that its infringement has never been attested in the CS experience of any Hindi-English speaker.

Negative. Mention was made of the negative constraint in the previous chapter as well as in the one dealing with literature survey. It might be reiterated here that negative constraint is equally as powerful as the interrogative one. Both 'no' and 'never' are wholly unswitchable:

- 5) *vah kabhi samay par NOT pahunchata hai
 he ever time on arrive be-PRES
 'He does not ever arrive on time'
- 6) *smiti to NEVER florida gayee hai
 EMP gone be-PRES
 'Smiti has never been to Florida'

However, the case with the 'semi-negative' adverbials is different, for almost all of them are permissible:

- 7) ajkal to vah HARDLY hi dikhai deta hai
 SCARCELY
 RARELY
 BARELY
 SELDOM
 INFREQUENTLY
 nowadays EMP he EMP seen PASS be-PRES
 'He is hardly/scarcely/rarely...to be seen nowadays'

Imperative. If verbs as a class are excluded from code switching, then it automatically follows that imperative sentences with CS verbs would be impossible:

- 8) *a:p yahā SIT
 STAND
 WAIT
 COME
 you here
 'Please sit/stand/wait/come here'
- 9) *kripaya mujhe sahayata GIVE
 PROVIDE
 OFFER
 please to-me help
 'Please give/provide/offer me help'

Coordination

In this subsection, the following three kinds of coordinate structures shall be examined:

- a) Coordination within a NP, AdjP, AdvP, etc.
- b) Compound sentences in which only the conjunction is switched
- c) Compound sentences in which the conjunction and the second clause are both switched

It may be stated as a generalization that coordinating conjunctions - 'and', 'but', 'or' - are generally ruled out in Hindi-English CS. This would be immediately noticeable in

examples illustrating structures of the type (a) and (b) above but somewhat less obvious when we examine the (c) type structure:

The following type of coordinate structure within the NP is most unlikely:

- 10) *mistri AND barhai aye the
 mechanic carpenter came be-PAST
 'The mechanic and the carpenter had come'
- 11) *mistri nahin BUT barhai aya tha
 mechanic not carpenter came be-PAST
 'Not the mechanic but the carpenter had come'
- 12) *(ya) mistri OR barhai aya tha
 or mechanic carpenter came be-PAST
 'Either the mechanic or the carpenter had come'

Nor inside the AdjP and AdvP:

- 13) *rohit bara hoshiar AND imandar larka hai
 very smart honest boy is
 'Rohit is a very smart and honest boy'
- 14) *rohit ne hoshiari se to nahin BUT imandari se kam kiya
 NOM smartness with EMP not honesty with work did
 'Rohit worked honestly, but not smartly'

Speaking of clause coordination, structures where the conjunction alone, but neither of the clauses, is switched are also ruled out.

- 15) *ashok saphal hua AND sanjay bhi saphal hua
 successful was too successful was
 'Ashok was successful and Sanjay too was successful'
- 16) *smiti ayee AND deepiti chali gayee
 Smiti came move COMPL
 'Smiti came and Deepti left'
- 17) *ashok saphal hua BUT sanjay nahin saphal hua
 successful was not successful was
 'Ashok was successful but not Sanjay'

- 18) baraf nahin pari BUT barish hui
 snow not fell rain was
 'It didn't snow but it rained'
- 19) *vah (ya) isku:l gaya tha OR bazar gaya tha
 he school went be-PAST went be-PAST
 'He (either) had gone to the school or gone to the bazar'
- 20) ya tum bare mu:rkh ho OR vah bara chalak hai
 or you very foolish are he very clever is
 'Either you are very foolish or he is very clever'

Since all verbs and most postpositions in Hindi are resistant to CS, to begin with, the question of switching the coordinate conjunctions within the VP and PostP does not arise. These, then, would be unlikely:

- 21) *kal ra:t mira ne khana khaya AND so gayee
 last night Mira NOM food ate sleep COMPL
 'Mira ate food and went to bed last night'
- 22) *kamre ke bhitar to nahin BUT bahir andhera tha
 room of in EMP not out dark was
 'There was darkness outside but not inside the room'

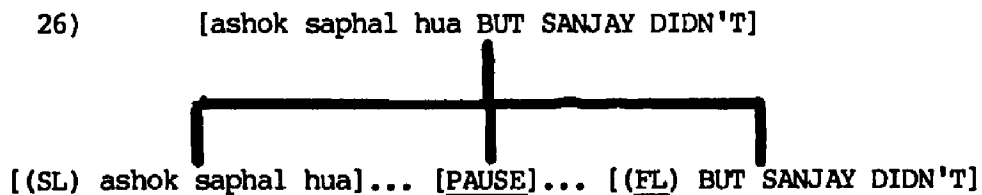
However, in compound structures where the conjunction and the following coordinate clause are both switched the situation is different. In the chapter on Literature Survey (p. 35), mention was made of an observation of Kachru's that in such code-switched structures the language of the second clause as well as of the coordinating conjunction is generally the same. This finding failed to be unambiguously confirmed by the present study, for our informants were rather equally divided on these structures:

- 23) ?ashok saphal ho gaya AND SANJAY DID, TOO
 successful be COMPL
 'Ashok succeeded and Sanjay did too'

- 24) ?vah (ya) isku:l gaya tha OR HE WAS ILL
 he school went be-PAST
 'He (either) went to school or he was ill'
- 25) ?ashok saphal ho gaya BUT SANJAY DIDN'T
 successful be COMPL
 'Ashok succeeded but Sanjay didn't'

Intervening Pause. One thing was certain, though:
 acceptability improved significantly by an intervening pause - a
 split but measurable moment of silence or hesitation - before the
 conjunction. Why so?

It appears that the compound sentence where the conjunction
 and the subsequent clause are both switched seem to be instances
 of inter-sentential, rather than intra-sentential, code
 switching, a process greatly facilitated by the introduction of
 the pause. The speaker, it can be argued, has uttered the first
 clause in the SL, inserts a little pause, and then proceeds to
 present the conjunction as well as the second clause in the FL.
 The pause, then, becomes a pivotal factor in signaling that a
 change of code is in the offing. Graphically, structures like
 (25) may be represented as follows:



We shall presently observe that the pause plays a key role in cases of the relative clause and the embedded sentence constructions as well.

Subordination

In the area of subordination, we might wish to separate the relative clause from the embedded clause, for the two exhibit some variation of behavior.

Relative. Relative conjunctions in a relative clause, again, are subject to one of the severest possible constraints in Hindi-English CS:

- 27) *ram WHO shyam ka bhai hai ajkal yahā hai
 of brother is nowadays here is
 'Ram who is Shyam's brother is here nowadays'
- 28) *vah kitab WHICH mē ne kal kharidi bahut achhi hai
 that book I NOM yesterday bought very good is
 'That book which I bought yesterday is very good'
- 29) *yeh sthan WHERE mere pita guzre mere liye pavitra hai
 this place my father died my for sacred is
 'This place where my father died is sacred for me'

On the other hand, when the entire relative clause is switched, the structure upgrades from the 'asterisked' grade to the hyphenated 'asterisked-interrogated' one, as in (30)-(32).

- 30) *?ram WHO IS SHYAM'S BROTHER ajkal yahā hai
 nowadays here is
 'Ram who is Shyam's brother is here nowadays'

- 31) *?vah kitab WHICH I BOUGHT YESTERDAY bahut achhi hai
 that book very good is
 'The book which I bought yesterday is very good.'
- 32) *?yeh sthan WHERE MY FATHER DIED mere liye pavitra hai
 this place my for sacred is
 'This place where my father died is sacred for me'
- However, (33)-(35) - the same as (30)-(32) but with measurable

intervening pauses - achieve significant acceptability:

- 33) ram ...WHO IS SHYAM'S BROTHER ... ajkal yahā hai
 nowadays here is
 'Ram who is Shyam's brother is here nowadays'
- 34) vah kitab ...WHICH I BOUGHT YESTERDAY ... bahut achhi hai
 that book very good is
 'The book which I bought yesterday is very good.'
- 35) yeh sthan ...WHERE MY FATHER DIED ...mere liye pavitra hai
 this place my for sacred is
 'This place where my father died is sacred for me'

Morphemes, Not Structures. What do we infer from this

situation? We know that the relative pronouns are morphologically identical with the WH-words that grammatically are pronominal NP's. We also know from observations from preceding chapters that almost all pronominals are strictly rejected in Hindi-English CS. It appears then that it is these morphemes per se that are constrained, rather than the structures they figure in. Whether as question-words or clause connectors, they make the utterance unacceptable wherever and whenever they occur.

This fact is of major significance in the theory to be presented in the following chapter. For the present, we would like to include these items also among those affected by the "Familiar Morphemes Constraint."

As to why the utterance becomes acceptable when the entire relative clause is switched, once again the explanation appears to lie in the area of inter-sentential, rather than intra-sentential, code switching. The introduction of the pause, if ever so slight, at the beginning of the relative clause signifies both to the speaker and the listener that a full-sentence switch (a clause grammatically is a sentence) to an FL is impending, and the occurrence of another pause at the end of the clause signals reversion back to the SL. If this explanation is correct, then the apparent dichotomy between the single WH-word switch versus the whole WH-clause switch becomes comprehensible.

Embedded Clause. As stated earlier (Chapter II, p. 36), Kachru and others have noted that in case of embedded clauses, the complementizer (COMP) is generally in the same language as the matrix clause, i.e., the SL, while the rest of the embedded clause is in the FL. This claim was corroborated in our data by a number of examples, where ki is the Hindi COMP morpheme:

- 36) adhyapak ne kaha ki THERE WILL BE NO SCHOOL AFTER TWO
 teacher NOM said COMP
 'The teacher said that there will be no school after 2 (p.m.)
- 37) mē a:p se kehna chahta hū ki THIS WON'T WORK
 I you to tell want be-PRES COMP
 'I want to tell you that this won't work'
- 38) regan yakin karta hai ki SOVIET UNION IS AN EVIL EMPIRE
 Reagan belief do be-PRES COMP
 'Reagan believes that the Soviet Union is an evil empire'

It appears that here also we may be confronting the same type of situation as in the relative clause structure. The switch here seems to be inter-sentential again. This is especially true if the complementizer ki 'that' is held to be the object of the verb and the embedded clause the appositive of the object. In other words, the speaker has completed the matrix clause uttering the subject, verb and object in the SL, and then has decided to switch to an FL, putting the entire embedded (or appositive) clause in that language.

However, mention may be made that it is also possible for the speaker to encode the embedded clause in SL and then code switch a part or parts of it to FL, just as he would do in the case of a simple SL construction. There are no CS constraints that differentiate between the matrix clause and the embedded clause. This is illustrated by the following :

- 39) *deepti janati hai ki vah apna PROMISE nibha nahin sake gi*
 Deepti know be-PRES COMP she own carry not can FUT
 'Deepti knows that she will not be able to carry out her promise'
- 40) *newton ne socha ki APPLE niche kyon gira*
 Newton NOM thought COMP down why fell
 'Newton wondered why the apple fell down'
- 41) *tum ko shak hai ki shankar DISHONEST admi hai*
 you to suspicion is COMP Shankar man is
 'You have a suspicion that Shankar is a dishonest man'

Speaking of the Comp switch, a quite rare phenomenon was noticed in the case of one of our informants. In several of his CS utterances, this informant would start a sentence in English,

pause for a protracted moment, then insert a long-drawn-out ki.i.i... (the Hindi complementizer), add another long pause, and then switch back to English again. This means that in his complex sentences of this type only the Comp morpheme was in Hindi, the rest being in English. Such an utterance would emerge as something like the following:

42) you know ...KI.I.I... Indira got very authoritarian later on
COMP

'You know that Indira got very authoritarian later on'

How to explain this? Two views are possible. First, ki being the object of the verb as suggested in the preceding paragraph, may be regarded a nominal ('I like that') and hence readily switchable (in this case from English SL to Hindi FL, for a change).

Secondly, ki.i.i. may be interpreted as nothing but a 'filler' morpheme, devoid of lexical content, which is inserted in the middle of a sentence to allow the speaker to sort out his next utterance, which in this case is an embedded clause. Notice that in this instance English is the SL and Hindi the FL. The fact that the 'filler' is presented in the morphophonetics of the FL might possibly imply that the thought embodying the embedded clause started out being formulated in the speaker's mind in the FL (Hindi, to repeat), but, once completed, the speaker changed his mind and actually presented it in the SL (English, in this case). That on this alternative hypothesis 'that' is not the code-

switched object of the verb is supported by the fact that the Comp possesses the \emptyset allomorph, both in Hindi and English, as evidenced in (43):

- 43) a. I realize \emptyset Mark is here
I realize THAT Mark is here
- b. vah kehta hai \emptyset a:j chhuti hai
ki
he say be-PRES that today holiday is
'He says (that) today is a holiday'

This shows that the phonetic realization of the Comp as the 'space filler' is not always integral to the surface structure of the sentence; it is dispensable.

Subordinating Conjunctions. Our data show that of the various subordinate conjunctions only a few - 'if', 'because', etc. - may perhaps be the only ones that are genuinely constrained. Hence, the following structures would definitely be ruled out:

- 44) *mē yeh tab karūga IF tum vah karoge
I this then do-FUT you that do-FUT
'I shall do this if you do that'
- 45) *IF vah ghar gaya to usne mujhe nahin bataya
he home went then he me not told
'If he went home, he didn't tell me'
- 46) *mē ne tumhari madad ki BECAUSE tum mera a:dar karte ho
I NOM your help did you my respect do BE
'I helped you because you respect me'

The following, on the other hand, would be variously questioned; though, once again, with pronounced pauses the acceptability would increase significantly:

- 47) ?mē ne tumhe bahut bar pu:chha YET tum ne kuchh nahin bataya
 I NOM you many times asked you,NOM any not told
 'I asked you many times yet you told me nothing'
- 48) ?use bahut bukhar tha HOWEVER vah daftar gaya
 to-him much fever was he office went
 'He had high fever; however, he went to the office'

It was noted, furthermore, that the longer or 'heavier' the subordinating conjunction is, the better it sounds:

- 49) INSOFAR AS ram ki ba:t hai, use kuchh pata nahin
 of matter is to-him any know not
 'Insofar as Ram is concerned, he knows nothing'
- 50) NOTWITHSTANDING ki mē garib hū mera dil bara hai
 that I poor am my heart big is
 'Notwithstanding that I am poor, my heart is big'

In sum, there are several gradations within the subordinating conjunctions: those expressing direct 'causation' are debarred, while others indicating 'concession', 'exception', etc., are admitted to varying extents.

Inflections

As in the case of personal pronouns, interrogatives, full negatives, etc., here again the rule is completely watertight. No Hindi morpheme can under any circumstances take on an English inflection.

English has seven inflections, two major and five minor. The major inflections are the past tense and the nominal plural; the minor ones are the verbal third-person singular, present participle, past participle, comparative adjectival or adverbial, and superlative adjectival or adverbial.

Tense. Insofar as the various tense inflections are concerned - past, present participle, past participle and third person singular - there is little question of their being used in Hindi-English CS, for Hindi permits no CS of any verbal elements to begin with, neither main verbs nor auxiliaries. As observed in the preceding chapter, in those cases where verb switches do actually take place, the English verbal element is redefined as a 'nominal' of sorts and hence cannot undergo inflections that are specific to the verbal system.

Nominal Plural. Concerning the nominal plural inflection, the situation is interesting. Sentences (51) and (52) both have nouns code-switched to English, using a plural Hindi inflectional suffix -ō. Yet, while (51) is grammatical, (52) is not.

51) ISKU:LŌ ko band kar diya gaya
 schools OBJ close do PASSIVE-PAST
 'Schools were closed'

52) *CHILDŌ ne BUKŌ ko parha
 children NOM books OBJ read-PAST
 'Children read the books'

Explanation for this differential treatment of isku:lō (Hindi plural of the assimilation from 'school') on the one hand, and childō and bukō (Hindiized plurals of the unassimilated 'child' and 'book') on the other, lies in the fact that Hindi disallows the use of its nominal plural inflection for nominals

it perceives as alien - in this case 'child' for bachha and 'book' for pustak.

On the other hand, if a noun has been assimilated into the language and is perceived as no more a loan but a nativized word, as, for example, isku:l for the English 'school' (also daktar for 'doctor' and pinsol for 'pencil', etc), then the constraint fails to operate and the Hindi inflection applies. Thus 'child' and 'book' being unassimilated English words cannot take the plural inflection -õ, while words like isku:l, daktar and pinsol having been assimilated as nouns in the Hindi lexicon can do so.

On the other hand, (52) would become fully acceptable if the English noun retains its own inflection and is held as a code-switched entry in an SL framework, as in (53):

53) CHILDREN ne BOOKS ko parha
 NOM OBJ read
 'Children read the books'

The generalization, of course, is that Hindi plural inflection is unavailable to non-assimilated nominal imports from English.

It is of interest to note how sometimes the same noun can be used either as a code-switched item or as an assimilated one. If treated as code-switched, it takes on the English inflection, otherwise the native Hindi one, the difference lying in the degree of formal education of the interlocutor. Here are a few examples:

<u>Noun</u>	<u>Assimilated Plural</u>	<u>English Plural</u>
box	<u>bokse</u>	boxes
hospital	<u>hospitālō</u>	hospitals
lamp	<u>lampō</u>	lamps
pen	<u>penō</u>	pens
pencil	<u>pinsalē</u>	pencils
plate	<u>pleitē</u>	plates
refrigerator	<u>rafrigretorō</u>	refrigerators
store	<u>istorō</u>	stores
telephone	<u>telefonō</u>	telephones

Gender. Hindi possesses grammatical gender, which again is unassignable to nouns code switched to English. The masculine gender marker, in several cases, being -a and the feminine one being -i, it is impossible to get 'chickena' for the rooster and 'chickeni' for the hen, where the Hindi terms are murgha and murghi. Similarly, in adjectives which also inflect for gender, uska kamra 'his room (masculine)' and uski kursi 'his chair' cannot be rendered to the code-switched 'hisa and 'hisi', respectively.

Degree. Hindi uses periphrastic expressions to express adjectival or adverbial degrees, the morphemes being adhiktar 'more' and adhiktam 'most'. Here an interesting observation comes to attention. While the comparative adhiktar is not switchable, not so the superlative adhiktam. Thus, while (54) is excluded from CS, (55) would be significantly better:

- (54) *is ba:t mē tum us-se MORE nipun ho
 this matter in you him competent are
 'In this matter, you are more competent than him'

- (55) ?is ba:t mē tum MOST nipun ho
 this matter in you competent are
 'In this matter, you are the most competent'

And interestingly again, this is also true of the antonymic terms 'less and 'least' - kam 'less', kam se kam 'least' (though both turn out to be better than 'more'). Here again 'least', the superlative form, happens to be more acceptable than the comparative form 'less'.

- (56) ?is ba:t mē tum us-se LESS nipun ho
 this matter in you than-him competent are
 'In this matter, you are less competent than him'

- (57) is ba:t mē tum LEAST nipun ho
 this matter in you competent are
 'In this matter, you are the least competent'

Generally, however, in such constructions not only does the degree morpheme get switched but also the related adjective. When this happens, the acceptability is absolutely beyond reproach:

- (58) is ba:t mē tum us-se MORE COMPETENT ho
 this matter in you than-him are
 'In this matter, you are more competent than him'

- (59) is ba:t mē tum MOST COMPETENT ho
 this matter in you are
 'In this matter, you are the most competent'

On the whole, then, it may be possible to infer that if a relative assessment is made of the comparative and superlative degree morphemes, then the superlative is measurably more favored than the comparative in the Hindi-English CS processes.

As for the class of English adjectives that inflect for degree, almost all entries turn out to be acceptable when they carry English inflections:

- 59) yeh rasta us raste se BETTER hai
 this route that route from is
 'This route is better than that route'
- 60) yadi tum SMALLER kamra lo to thik ho ga
 if you room take then correct be FUT
 'It would be right for you to take the smaller room'
- 61) manzil jitni HIGHER hogi utni hi vahā hava adhik hogi
 storey such be-FUT that EMP there breeze more be-FUT
 'The higher the storey is, the more breezy it will be'
- 62) yahā se drishya FINEST milta hai
 here from view obtain be-FUT
 'The view is the finest from here'
- 63) gandhi ko bahut log GREATEST neta manate hē
 OBJ many persons leader accept be-PRES
 'Many people regard Gandhi as the greatest leader'

It may be noted that while several English nouns have been assimilated into Hindi, no adjectives or adverbs have had that privilege. Thus, whenever the English degree inflections are employed in CS, they always go with the English substitutes. If true, this observation suggests that the ability to carry a native inflection may prove to be a sure-fire criterion separating the true switches from the borrowings.

The same situation obtains also for the adverbial degrees; Hindi adverbs cannot be subjected to the English adverbial inflections. In sum, then, Hindi inflectional processes are inaccessible to English verbs, adjectives or adverbs. Only those etymologically English nouns that are currently perceived as assimilations in - and therefore rephonologized to - Hindi can yield to the Hindi plural inflectional system.

Derivations

In consonance with the Hindi inflectional rules, derivational rules in Hindi also remain strictly earmarked for its native morphemes. It is impossible to switch a Hindi word to English and then subject it to the Hindi derivational system. A couple of examples would help illustrate the situation.

Take for example the prefix - meaning 'not', the Hindi equivalent of the English 'un' that changes a word to its antonym, as, for instance, 'unwise'. This prefix can go only on Hindi words, never on switches to English. Thus, gyan 'knowledge' can become gyan, but no derivation like 'knowledge' can be brought into existence.

Similarly, if the Hindi suffix -i transforms an adjective to an abstract noun, one can have chalaki 'cleverness' from chalak 'clever', but never 'cleveri' from the code-switched 'clever'.

Once again, Hindi suffix -ic serves to convert a noun to adjective, but only the Hindi nouns. Examples are swabhavic 'natural' from swabhav 'nature', arambhic 'preliminary' from arambh 'beginning', sahityic 'literary' from sahitya 'literature' - but never 'naturic', 'preliminaric' or 'literaturic'.

These few examples should suffice to illustrate the generalization that Hindi derivational processes are wholly inapplicable to code-switched English entries.

With this chapter, we wrap up the discussion of the Hindi-English data. While some hints have already been offered in an attempt to suggest explanations for the diverse CS phenomena observed, in the chapter to follow we shall seek to present a comprehensive 'why and wherefore' underlying the individual constraints and suggest how they all might stem from a single source. In the chapter succeeding the next, an informal and brief endeavor to validate the proposed hypothesis on some languages other than Hindi shall be made, and the possibility whether the hypothesis might possess an element of universality shall be examined.

CHAPTER VI - THE SEED CONCEPTS

In the preceding chapters dealing with the Hindi-English CS data we have on several occasions demonstrated that there are certain sets of morphemes under certain specific nodes that resist code-switching and also that there are other nodes or grammatical sub-categories that are impervious to the process in their entirety. The Hindi nodes that are totally outside of the CS domain are, to remind ourselves, V, Aux, and INFL, while those that impose restrictions within a wide range of variability are N, Adj and Adv, on the one hand, and Det, Pre(post)P, Conj, on the other.

Assuming the foregoing to be true, it is apparent, as suggested earlier, that the generalized models incorporating the phrase structure approach exclusively, which in turn is based on the specification of nodes and branches, can hardly meet the requirements of explanatory adequacy in terms of CS. On the other hand, an approach that either merely furnishes a poll of the constrained grammatical categories or does no more than inventory the constrained morphemes individually (both falling under the unilluminating class of 'list grammars') also fails in meeting the demands of normal human curiosity. It is the inherent nature of the human mind, needless to say, to strive constantly in search of a unifying principle underlying the manifest diversity of observed phenomena.

Is it possible, then, to discover a substratum, a bedrock on which to construct the variegated edifice - i.e., the sets of particularistic constraints and generalized models, respectively, proposed in the literature - that regulate the code-switching practice? Might one hope to discover anything common, for example, between the constrained nominals and constrained verbs, between the debarred post(pre)positions and the debarred adverbs, between the rejected determiners and the rejected adjectives in the CS process? Why is it, for instance, that while 'man' and 'sleep' are out, 'human' and 'doze' are in; why 'in' and 'quickly' are rejected, but 'inside' and 'fast' are accepted; why 'this' and 'good' are blocked, but 'proximate' and 'pleasing' go through?

The situation seems, however, not to be totally beyond redemption. For there does, indeed, appear to run a common strand through the considerable variety of the constrained items. It is possible perhaps to locate a single overriding principle that will unravel the tangled skeins and tie them into a unifying, harmonious knot. The present chapter represents an endeavor to unearth such a unifying principle.

To begin with, a review of the terminology used hitherto in isolating the constrained items from the unconstrained ones might be in order. It may be recalled that in earlier chapters the

notion termed 'Familiar Morphemes' has repeatedly been alluded to. In the context of the theory to follow, it would be helpful to rechristen# the notion as the 'Seed Concepts'. The rationale for the departure lies in the need to move away from the terrain of merely catalogued items in order to enter the more hopeful and exciting land of general principles. Names do matter, after all, despite Juliet's famous question: "What's in a name? that which we call rose / By any other name would smell as sweet." As would presently be seen, the term 'Seed Concepts' seems more faithfully to represent the fundamental roots that the CS constraints, in terms of our hypothesis, originate from.

Developmental Psycholinguistics

It might be noted at the outset that in order to arrive at the fountainhead of the constraints it is imperative to journey from the areas of syntactic structure and lexical insertion to that of developmental psycholinguistics. Our investigation seems to lead to the realization that it is at the stage of earliest language acquisition by the child, a period coinciding with late infancy and early childhood, that the groundwork that later on results in code-switching constraints is securely laid. This stage, as will be shown, is characterized by the occurrence of the dual phenomena of concept formation and single-morpheme acquisition. It is hypothesized, furthermore, that the phenomenon

of concept formation possessing relevance to the task on hand is one that helps the young child define, delimit and delineate what may be described as his concept of the 'self' or the 'ego', despite the term sounding a bit too metaphysical for a linguistic study. It is this concept that helps the child increasingly to distinguish himself from all that is 'non-self'.

Emergence of Self-Concept

How is the notion of the 'self' or 'ego' rendered? According to Encyclopedia Britannica (1974, III:806), ego is "That portion of human personality experienced as the 'self' or 'I', which perceives, remembers, evaluates, plans, and in other ways is responsive to and acts in the surrounding physical and social world."

Referring to how the ego goes through the process of development, Britannica mentions the stages which the human organism passes through. At the beginning, "The newborn reacts to but cannot control, anticipate, or alter sources of stimulation, whether arising from the world outside or from biological processes within. Perception is primitive and diffuse, motor activity gross and uncoordinated and self-locomotion impossible." Gradually, however, "The infantile ego develops", says Britannica, "in relation to the external world (emphasis added)." In other words, the growth and configuration of the infantile ego is a product of the child's interplay with and progressive control of the environment.

That language also plays a fundamental role in the process of ego formation is supported by Britannica, as follows: "The acquisition of language, started during the second and third years, provides a powerful tool for the... control of the environment." It is the development of the linguistic ability in the child in conjunction with the emergence of his self-concept that constitutes the core of our CS hypothesis.

The 'Object Concept' Stage

Researchers investigating the field of ego demarcation in the child have discovered another concomitant to the process, namely, the development of what has been described as the 'object concept'. The infant at birth, it is believed, has little sense of the self. He possesses no idea that he himself is an entity distinguishable and apart from the multiplicity of entities that surround him. The universe to him seems an amorphous, undifferentiate# mass of sensations. He is not equipped to realize, at this stage, that he is a distinct entity in his own right. He deems himself co-extensive with the environment he is placed in. The realization of the differentiation of his self from other items - i.e., the 'non-self'- occurs only later and progresses through a series of stages.

It is as a resultant of the series of such stages which the

child passes through that he is able to form the concept of 'objects'. For at this point in his young life cycle, he has acquired the capacity to hold whatever article is presented to him at a distance from himself, turn it around to take a good look at its dimensionality, and 'play' with it in diverse ways. He now begins to perceive that there lies a measure of space between himself and the world of discrete, solid and hard entities that are all around him and that constitute his environment, an environment that he perforce must deal with in an infinity of ways.

Jean Piaget, the Swiss psychologist, in his extensive research lasting over a half century, has defined this stage as the final phase of the six-step 'object concept' period in the child's endeavor to construct reality. The following quote from his work, "The Construction of Reality in the Child" (1954:4), summarizes succinctly the various stages in the delineation of the 'self vs. non-self' distinction:

"Observation and experimentation combined seem to show that object concept, far from being innate or given ready-made in experience, is constructed little by little. Six stages can be discerned, corresponding to those of intellectual development in general. During the first two stages (those of reflexes and earliest habits), the infantile universe is formed of pictures that can be recognized but that have no substantial permanence or spatial organization. During the third stage... a beginning of permanence is conferred on things by prolongation of the movements of accommodation (grasping, etc.) but no systematic search for absent objects is yet observable. During the fourth stage ("application of known means to new situations") there is searching for objects that have disappeared but no regard for their displacements. During a fifth stage (about 12 to 18 months

old) the object is constituted to the extent that it is lpermanent# individual substance...but the child still cannot take account of changes of position brought about outside the field of direct perception. In a sixth stage (beginning at the age of 16 to 18 months) there is an image of absent objects and their displacements."

What this states, to repeat, is that unless and until the child is able to conceptualize that an object might exist even when it is not within his sight, that the 'disappearance' of an object from his sight at any given moment is not synonymous with the destruction of that object, that even though the object may not be visible to him for the moment, it might yet possess the capacity of reemergence, the formulation of the concept of that object is not complete. And what is of significance is the fact that the formulation of the concept of any specific object occurs concomitantly with the realization, to that degree, of the separate identity of the self of the child.

It might be mentioned here that the 'object concept' stage is not confined merely to the formulation of concepts of concrete, physical objects alone. It encompasses also the development of abstract, non-concrete interrelationships between objects themselves, as well as those between objects, the child's own self and his activities.

It can easily be granted, then, that several experiences of this nature involving a diversity of concepts, both concrete and abstract - concrete, such as 'Mommy', 'Daddy', 'doggie', 'chair',

'spoon', 'table', 'baby', etc.; non-concrete involving actions, such as, 'eat', 'fall', 'walk'; and notions, such as 'no', 'gone', 'this', 'here', etc., deemed 'existing' in a spatio-temporal continuum - lead the child progressively to hypothesize, configure, consolidate and crystallize his self-concept in its totality. This accomplished, the child is well-equipped to stake his claim as a distinct-in-his-own-right and equal member of the human syndicate.

Seed Concepts

Against the backdrop offered above, it is necessary to postulate that not all concepts acquired by the child are of equal significance in the delineation of his self. For there is a restricted set of mental structures that are infinitely more critical than others. These are structures that define his individual self not so much in the 'psychological' sense as in the 'existential' one; they make it possible for him to tell himself apart from the universe of objects, persons and events that he inhabits. Possessing them, he realizes his self-identity, an identity that makes him discover that he is an x that is expressly distinguishable from everything that is non-x.

It is precisely these mental structures that constitute what was earlier termed as the 'Seed Concepts'. As the name might imply, these structures are basic, primitive entities, the chief

resource by which the child's self-identity, his configuration of the existential ego is attained.

Yet, what precisely is the notion of the 'Seed Concepts'? In order to specify the idea, we need to explore two basic questions:

- 1) What is the specific content of the Seed Concepts?
- 2) How and when does this body of knowledge originate?

Sub-Components

To respond to the first question, it seems that the basic structure of the Seed Concepts is comprised of a number of sub-components. These may tentatively be identified as the following:

- a) Sensori-motor Activity: Every action that the human organism is likely to perform or experience at any stage of its existence. This includes not only the class of actions called 'physical' but also cognitive, volitional, and affective experiences of various types. Examples would be verbs like 'climb', 'contemplate', 'decide', 'imagine', etc.

Furthermore, this category includes features that accompany actions - those denoting temporality, continuity, completion, modality, etc. - and which are represented in language by tense, aspect and modal auxiliaries.

Of special significance within this vast category is a restricted subset which is essential for the existential survival of the organism. These include activities such as 'eat', 'drink', 'sleep', 'breathe', etc., as well as those of a 'non-physical' or 'comprehensive' nature, such as 'think', 'hope' 'live' and 'die'.

- b) Everyday/General Objects: A minimal set of concrete 'objects of daily encounters' that broadly sustain the 'physical survival' of the organism. These would include items like 'food', 'water', 'home', etc. From the animate world, examples would mean 'man', 'woman', 'person', etc., and body parts, such as 'head', 'eye', 'hand'.
- c) Terrestrial and Astronomical Entities: A strictly limited number of them that possess life-sustaining properties, such as 'earth', 'sky', 'sun', etc.
- d) Pronominals: Terms that generically, not specifically, identify the various interactants and referents in the universe of discourse - i.e., the speaker, the interlocutor or interactor, and the vast array of objects and activities that can be referred to. examples: 'I', 'you', 'she', 'it', 'his', 'yourself', etc.
- e) Positionals: A limited set of entities that define basic interrelations among individuals, concrete objects and sensorimotor activities. Examples: 'in', 'at' 'over', 'on', etc.

- f) Attribution: A group of the most fundamental and 'undifferentiated' attributes of the universe of animates, objects and actions that impinge on the individual's potential for survival. These are exemplified by concepts such as 'good', 'well', etc.
- g) Deixis, Temporality, Spatiality. A set of terms that help differentiate one object, one action or one attribute from another. These separate the proximate from the distant, the here-and-now from the there-and-then. Examples are : 'this', 'here', 'now', 'that', 'there', 'then'.
- h) Interrogation. Terms that help the organism to question the nature of things; of the time and place of occurrences; of interrelations between animate and inanimate objects; of causation; of modality, etc.
Examples: All Wh-words.
- i) Augmentation: Structures that characterize the notions of augmentation and plurality, including contrast, and signified by discrete terms such as 'and', 'but', 'more', as well as by 'bound' units such as grammatical morphemes.
- j) Negation: Terms that define negation, absence, denial or non-existence, i.e., items like 'no', 'not' and 'never'.
- k) Causation. Terms that signify the most basic relations lying in the areas of causality, inferentiality and logic.
Examples: 'if', 'because', etc.

It appears that the realization of these notions on a practical plane results in the achievement of the fundamental distinction between the 'I' and the 'not-I', between the self that experiences and the non-self that is experienced, between consciousness, on the one hand, and everything else that is the object of that consciousness, on the other. The claim, then, seems to be that it is by the set of Seed Concepts that the distinction between self and non-self is mediated.

The attempt to answer the second question - namely, how and when the body of Seed Concepts comes into existence - appears to lead us into the field of sensorimotor activity, for it is by the exercise of such activity in its broadest sense (including cognitive and affective activity) that the Seed Concepts arise in the mind of man. And it is mostly during the period of late infancy and early childhood that the process is hypothesized to acquire a recognizable configuration.

Existential, not Psychological, Self

Earlier in this section, we hinted at the distinction between the 'existential' and 'psychological' dimensions of 'self-concept'. Though it may well be argued that the acquisition of self-awareness is really never consummated, but continues through the entire span of human life, it appears that this would be true of the deeper psychological, or psychic, levels, rather than the

existential one that we are concerned with at this point. At the stage of early childhood, the organism seeks only to establish his self-identity at just the 'plinth' level, as it were, to make it distinct from the universe around it. For the moment, he is not interested in the refinements and growths of this self-identity, which assuredly would keep on occurring steadily for the remainder of his life.

Survival Value

The question arises: What is so distinctive about the 'Seed Concepts' and why are the components that constitute their make-up happen to be that way? The question may, in fact, be hard to answer and, indeed, outside the scope of this study. Yet, existentially speaking, it may be possible to hypothesize that the 'Seed Concepts' may have a kind of 'survival value' for the human organism. Stemming perhaps from the innate mechanisms developed over aeons of time, they appear to help the child intuitively select those mental structures that are crucial for his physical survival, in the broadest and most fundamental sense, in a hostile or at least an inhospitable world. Thus, if 'home' represents a Seed Concept, while 'school', 'store', or 'synagogue' do not, then it may not be wholly illogical to infer that this may be so because the term 'home', understandably enough, signals for the organism a 'survival value' that the

latter terms do not. While this notion shall be exemplified further in the ensuing sections dealing with different code-switching practices observed in the Hindi-English data, for the present we shall accept the premise as valid for our purposes, leaving the onus of disproof on those who may have a contrary view.

The Word

Earlier in the chapter, the quote from Britannica (p. 184) mentioned the critical role of language in ego demarcation. The period of 'object concept' is also the time when the child is developing the articulatory musculature to be able to produce sounds beyond the babbling, crying and screaming stage. He has been, of course, silently listening to the unceasing chatter of the language community around him, presumably in an effort to sort out in his mind the confounding array of different sounds. Until now, however, he did not possess the muscular or neurological wherewithal to launch into the production of community speech sounds of his own.

In fact, the synchronization of the development of the object-concept in his incipient cognitive evolution with the growing articulatory preparedness in his incipient language evolution is most propitious. For the child's mastery over the immense diversity of object-concepts in his universe would not be

complete unless he has found a 'word', a 'name' to go with each concept and, furthermore, unless that 'word', that 'name', has in countless repetitions been personally articulated and internalized.

And, to be sure, the earliest manifestations of language happen in conjunction with the child's increasing employment of his sensorimotor capabilities, which, in turn, help generate his concept of the 'self'. As Britannica (Vol 14:992) puts it, "The child learns to use his muscles and senses to deal with external objects and events while his language begins to form (emphasis added)." Thus, the child at this moment is passing through a stage which is trinitarian in nature, involving (a) increased muscular activity, (b) self-demarcation through the formation of object concepts, (c) single-morpheme acquisition.

It must be recalled, once again, that the term 'object-concepts' in this sense is not restricted merely to the concrete, tangible and substantive entities occurring in the three-dimensional space of the child's world; it also includes among its referents the physical movements and cognitive activities undertaken or experienced by the child.

And from the countless interactions between the substantive and concrete entities comprising the child's environment, on the one hand, and his physical movements in the three-dimensional space, on the other, emerge the various notions of spatiality,

directionality, deixis, plurality, temporality, negation and interrogation, etc., mentioned earlier in the section titled 'Sub-Components'.

In ascribing a 'name', however, whether to an object, an action, an attribute, or an abstract concept (henceforward, all these shall be referred to generically as 'concepts') the child is never innovative, unless by innovation is meant temporarily skewed-up imitation. At this stage, the child mechanically and unquestioningly borrows from his linguistic mentors the concept-sound 'nexus' for each specific item prevalent in his speech community. The child, at this time, is a consummate mimic, if ever there was one.

Furthermore, the child is not aware, though the linguist is, that there are in actual existence on this planet literally thousands of different concept-sound nexuses corresponding to any specific item in his experience and that each of these is theoretically 'available' for him to choose from. The child is ignorant of the fact that had he been reared in a different speech community he would have been presented with a totally or partially different concept-sound nexus for the item in question. In other words, there exist several thousand languages in the world, each of which has its own separate vocabulary to represent concepts, objects and experiences and all of which are theoretically available to the child for acquisition.

Nor does the child know, as the linguist does, that there exists a distinct and tightly organized morphophonetic system in the speech of each of the world's communities, including the child's own, and that the concept-sound nexus that he is presented with in respect of each item of his burgeoning experience of self is but a fragment of the larger system. At this stage, the child is unaware that this system is soon to extend not only to individual words of his speech-to-be but also to their derivational forms and the collocations of those forms. For at this stage, his concern is not with grammar; that would come later, though not much later. For the nonce, he is preoccupied with the task of defining of the self, and finding its points of contrast with the non-self, in which the acquisition of appropriate vocabulary plays a role of incalculable significance.

Carved in Stone

Simultaneously with the development of the self-concept and the ability to articulate speech sounds, an exceptionally unique event occurs. This event is, of course, unbeknownst to the child, but bids fair to be a true marvel for the linguist. The concept-sound nexus that the child is presented with around this stage in his development gets morphophonetically carved in stone, as it were, in his mind. He has accepted it without demur and without

delay he would begin enthusiastically to utilize it as a preliminary faltering step toward claiming his birthright as an equal member of his speech community. But for the rest of his life it would have a special niche in his heart. It is his for keeps; there is nothing else that will ever match it in his affections.

What is the magnitude of such devotion in terms of the multiplicity of concept-sound nexuses that the child would soon come across? To the myriads of notions in the world of objective reality and subjective experience that he would be confronted with, will his loyalty be doled out in equal measure? The answer is a resounding no. The child offers his devotion only to a clearly demarcated solid core of the concepts, those that are intimately intertwined with the survival of his physical self and with the maintenance of his ego. These are the Seed Concepts referred to earlier; they constitute a set of well-defined entities and are limited in number.

What flows from this situation? During the progressions of his life, the child might one day competently acquire more than one language. And if he does so, then suiting his needs of the moment he might at times wish to utilize a language different from his first. Furthermore, instead of communicating exclusively in one language or another, he might, on occasion, exercise the option of mixing, i.e., code switching, elements from another

language (FL) into the first (SL). It is in a situation such as this that his loyalty to the Seed Concepts would come into play. He would always and vehemently resist the tendency to switch items signifying the Seed Concepts from SL to FL.

The Seed Concepts Constraint

It is at this moment, then, that we witness the awesome birth of the one and only code-switching constraint that there is, the constraint that encompasses or dispenses with all other constraints, and the one that is independent of the language the child acquires first. It is the "Seed Concepts Constraint." Magnificent in its simplicity, it states that in a code-switching environment, morphemes representing the Seed Concepts must not be switched.

In the following paragraphs, we shall take a look at the different manifestations of the constraint and examine it in its applicability to the various sub-domains of linguistic structure dealt with in the previous chapters.

Verbals. It appears that the child at the earliest stage of language acquisition holds each and every action of his as sacrosanct. There are simply no exceptions, and one attempts to understand the reason why. It is by activity of various kinds - physical, cognitive, affective - that the child distinguishes his

personal self from the non-self. When he experiences, for instance, the fact that it is he who does the pushing of a toy-cart and that it is the toy-cart that is the target of his activity, and thereby moves, he takes a step forward on the road to self-identity, for he becomes aware that he is not the toy-cart. When he repeatedly drops and picks up a ball, he again establishes his distinctness from the ball. When he hugs Mommy and then the hug ceases, he realizes that Mommy and he are not the same creature. And so on. Thus the verbal concepts of 'push', 'drop', 'pick', and 'hug' are for him the instrumentalities by means of which he develops a growing awareness of himself and his potential powers to control the environment.

Curious as it may seem, it appears that the child has determined that out of the vast storehouse of possible activities that he has already experienced or may experience in the years ahead, there is not one that he can jettison as being inconsequential to the enhanced development of his self-concept. Each of them is, for him, a Seed Concept in the sense defined above. Later, much later, when he has achieved relatively greater maturity and has acquired competence in another language, and has options available to him, he will still religiously choose not to utilize the second language for the expression of these concepts, once he has decided to commandeer his first language for purposes

of communication. These verbal concepts were capable of being realized in the morphophonetics only of the Seed Language, and nothing but.

In the case of Hindi (and several other languages), however, an interesting circumvention of the above principle is noticeable. As mentioned earlier, in the course of its historical development, Hindi came across a number of verbal concepts from Sanskrit, to begin with, and later from Dravidian languages and also from Persian and Arabic which it wanted to and, in fact, did borrow and then assimilate to itself. (The same situation obtains also with respect to Hindi's interaction with English.) But, to be sure, it was faced with a considerable dilemma. On the one hand was its need to adhere loyally to the Seed Concepts Constraint as it applied to verbs; on the other was its desire for language enrichment. The two forces were evenly balanced.

To resolve the conflict, the innovative device employed for reconciling these opposing trends with was indeed remarkable. As already noticed in the chapter on the Verb Phrase, Hindi recategorized the alien verbs as nominals and then added on additional 'operator' auxiliaries to deal with the issues of tense and aspect. By doing so, it was able to kill two birds with one stone, as it were; it could commission the alien verbs into service, but without doing violence to its native genius or the universality of the Seed Concepts Constraint.

However, there yet is a solid core of verbals that are denied even this privilege of being rechristened. These are the ones that intimately represent to the child his most basic survival values. To recapitulate, they are the concepts of 'eat', 'drink', 'sleep', 'breathe', etc. This state of affairs indicates that Hindi subdivides the entire slate of verbal concepts into two categories: (a) those that yield to CS, but as nominals; and (b) those that do not. The latter represent the Seed Concepts.

Postpositions. Closely tied to the system of verbs is that of post(pre)positions. If a movement of any kind has to be made by the child, it has to be in a certain direction or it must result in a certain change of position. Though this is obviously true of overt physical movements, it may perhaps also be true of activities of cognition and affection. Thus, it is but logical that the broad concept of 'throw', for instance, would remain purposeless unless it specifies whether it is throw 'up' or throw 'down', throw 'in' or throw 'out', etc. In order for the child to carry out the activity in a meaningful sense, he must become aware that he cannot ignore the element of directionality. Without the specification of this element, the movement will have no specific goal, no precise end to secure; it would just be play.

The same would apply to several other pre(post)positions, resulting in significant distinctions of meaning when used with

the same basic verb. No wonder then that most of the post(pre)positions fall into the category of Seed Concepts and get constrained.

However, not all Hindi postpositions are seeded. There are some, as observed earlier, that do fall out of the category and are susceptible of realization in the FL. It appears that such items are those that are acquired relatively later by the child and partake of not a 'simple' but a 'complex' relationship with the activity in question. Thus, to cite but one instance, while 'to' represents a simple destination or target, 'through' has the added dimension of penetration or, as Webster's Third International Dictionary (1972:2384) puts it, it indicates "passage within, along, or across an object, substance or space usually from one side or surface to the opposite one". It appears that the child's mind is aware of the difference between the simplicity of one and the complexity of the other - and for reasons best known to it and which we at this stage can only vaguely surmise - marks the former for the SL, leaving the other open to an FL, should the speaker ever wish to exercise the option. That is to say, the child denies the postposition 'through' the status it grants to 'to'. Thus 'to' is a constrained postposition in Hindi, but not 'through'.

Adverbials. The adverbial entities that obey the Seed Concepts Constraint are those qualities of the verbals that the child's mind adjudges as uniquely basic to its survival in the sense defined. In the chapter on the verb phrase it was noticed (example (52) that Hindi speakers regarded the adverb 'quickly' as a constrained term, while its near-synonym 'expeditiously' was held freely switchable. The reason for the distinction seems to lie, once again, in the relative complexity of their connotations, perhaps even denotations. Appealing, again, to the Webster's (1972:799), we find that 'expeditiously' has the additional features of 'promptness' and 'efficiency' that 'quickly' possessing the basic feature of 'haste' alone, lacks. The inference has to be that the child's mind seems to recognize the difference.

Nevertheless, the example engenders speculative thought. If the hypothesis about the Seed Concepts possesses any merit, then it must be inferred that the human organism has somehow determined that while the attribute of 'haste' is essential for survival, not so the attributes of 'promptness' or 'efficiency'. Speculating about the aboriginal cultures of pre-history, for instance, it may be possible to grant that if taking to heels, shorn of the element of 'haste', could imperil a human life in face of an onrushing predator, the performance of an action that lacked either 'promptness' or 'efficiency' was declared by the

mind as unfraught with survival-threatening consequences. After all, who has not witnessed individuals (that is, counting oneself out of the category) chugging merrily through the mess of their lives giving no more than two hoots to either promptness or efficiency.

Now let us, for a moment, allow our imagination to roam somewhat. If in the decades (or centuries) ahead, the human mind decides, through the processes of survival of the fittest and of natural selection, that the traits of 'promptness' and 'efficiency' have become equally worthy of attention because they too enhance prospects of survival in the complex world of the day, then perhaps the contemporaneous child might reconsider his position and might wish to mark these terms also as members of the set of Seed Concepts. For the time being, the child has pronounced them peripheral.

Nouns. It appears that the distinction that the child makes between the entities called nominals in his environment and those called verbals is a profound one. It has indubitably determined that for the survival of his self no activity of the category V that he undertakes is inconsequential. For it is the sensorimotor activity that mediates the process of self-demarcation. The class of objects under N does not share that honor; only a few of them are of critical significance to the self. It is obvious that

concepts such as 'redhead', 'radio' or 'radish' can hardly meet the criteria of criticality. The child can very well do without them and yet continue to exist. Hence, such concepts remain unmarked for seedness and are switchable.

On the other hand, there are some generic concepts that he cannot ignore. He may not existentially be interested in the concepts of bananas, barley or beef, but, existentially, he cannot for sure do without the larger concept embodied in 'food'. Again, he may not mightily care for an RV or a motel, but he must needs, existentially again, cherish the crucially protective shelter called 'home'. Similarly, he may be unconcerned whether the human he has to deal with is a mechanic or a Mongol, but he cannot ignore the primitive, all-embracing concept 'man', not in the sense 'male' but in the sense 'human'. Nor can he be indifferent to 'water', though he may very well survive by shunning beer or fruit-punch. Concepts such as these, then - 'food', 'home', 'man', 'water' - are the ones that are assigned a place, rightfully it seems, in the list of Seed Concepts under the category N.

Pronominals. In the category of the personal pronouns, the situation could hardly be more unambiguous. All of them, whether in the nominative, objective or possessive case, occupy the very nucleus of the Seed Concepts structure. And it is not difficult

to imagine why that should be so, once the notions of self-identity and survival of the organism are accepted.

Since the child is born into and must on an ongoing basis transact with groups of humans for his survival, his self-concept cannot develop until he is able to separate his own identity from that of others. It is inessential for him to compile a 'who's who' of individuals, but it is imperative that he realize the difference between 'I' and 'you' to begin with, and then proceed to capture the further distinction between 'we' (i.e., 'I' plus 'you') and 'he' or 'she' or 'it'.

Soon he must further comprehend the differentiation of agent and patient, between one who gives and one who receives, resulting in the Seed Concepts of 'me', 'us', 'you', 'him', 'her' and 'it' (i.e., the objective case). Finally, comes the stage when the child must develop the notions of the possessor versus the possessed that generate the genitive forms of the pronouns, i.e., 'my', 'his', etc. All these, it seems, are adjudged vital by the child in the enactment of his transactions of self-concept and are therefore accorded due status on the roster of Seed Concepts.

Determiners. Deixis obviously is a fundamental instrumentality in the sifting of the self from the non-self. At first, the self is 'this' and the non-self is 'that'. Then the

non-self is further distinguished by the proximate becoming 'this' and the yonder served by 'that'. No wonder, these too terms constitute the very core of the field of Seed Concepts.

Next of kin in this area are the universal pronouns 'all' and 'every', which the child's mind holds to be important enough to be bracketed with other Seed Concepts. This may be because they help the child learn that extrapolation from tokens to types is a necessary stage in concept formation, besides its practical utility in dealing with the world of objects around him. As for other entities in this genre that lie at one or two removes from the foregoing - items such as 'someone' and 'anyone' - the situation is fluid and varies from one psyche to another. In some minds, these terms get marked for seedness, but not in all. Furthermore, the marking, when it occurs, is not always in heavy shades.

Conjunctions. A somewhat different form of grouping from the above is the notions of plurality and contrast, again a basic fact of existence. And so is causality. In order to comprehend his environment, the child must learn that more things than one can undergo the same processes, that one operation can be the cause of another, and that things sometimes are found in opposition to each other. Hence it is that the concepts 'and', 'because', 'if' and 'but' are also held 'seeded' by the child.

This, however, does not apply to items such as 'nevertheless' or 'in spite of', etc, for these are held inconsequential to the child's goals of self-demarkation or survival.

Interrogatives. The child's burgeoning delineation of self must, of course, begin with curiosity and wonderment. In order to learn, he must first question. He must ask, for example, about the existence and nature of things, using the concept 'what'; their location, using 'where'; their temporality, using 'when'; the identity of humans, using 'who'; the reasons for happenings, using 'why'; and the way things happen, using 'how', etc. Little wonder, these concepts again go to the very root of the 'seedness' issue and get prominently slated on to the class of constrained items.

Negation. Who has not heard the young toddler's primordial 'no' (later 'not') as a marker of differentiation and an indicator of individual will. With a little more maturity, this would encompass the wider scope of 'never' as well. Without these, how could he ever hope to establish an independent entity for himself? Some more candidates, then, eminently qualified for membership in the 'Seed' club. As for the semi-negatives - 'hardly', 'scarcely', etc. - the child feels he could very well do without them.

Adjectives. It is not difficult to imagine that once the child has begun to identify objects, he soon must realize that objects have attributes, some of which are more critical for his survival than others. For instance, when hungry and Mommy not being around, he may indeed panic, sensing a threat to his existence, a threat that gives embodiment to the notion that Mommy is 'bad'. On the other hand, when fed, warm, cuddled and secure in the arms of a loving adult, he might realize the concept 'good'. Thus, it seems, the child realizes how the concepts of 'good' and 'bad' are crucial to the promotion of his physical survival and psychic well-being. Hence, these attributes get understandably entwined with the various other Seed Concepts that are emerging at this stage of his life.

Non-Seed Concepts

It is apparent that if there exist Seed Concepts, then there must exist non-Seed concepts, too. It has been stressed time and again that the Seed Concepts are sanctioned by the child's need for survival. It may be argued that in an extended sense every concept can at time become critical to survival. True, but in his evolutionary wisdom, the child - i.e., the human organism - seems not to take that position. The child sifts the concepts through the sieve of survival and self-demarkation, and separates the seeds from the rest.

In discussing the category of adverbials in a preceding section, it was noticed how 'quickly' was declared a seed but not 'expeditiously'. From similar observations concerning the Seed/Non-Seed distinctions in other categories, it is easy to infer that the child's mind is innately structured to recognize the existence of various gradations within a large, inclusive, 'generic' and undifferentiated class. It is the large, inclusive class alone that gets seeded, not its subtler gradations. It would be helpful to examine the matter further in order to sharpen the distinction between Seed and Non-Seed Concepts.

To revert to the concept 'good' of the preceding section, there are available in language several terms roughly synonymous with it that possess increasing measures of specificity and refinements in the different dimensions of 'goodness'. Thus, in one context, a specific denotation of 'good' may mean 'affable', in the second 'helpful', in the third 'virtuous', and so on. It seems that the child does not care much for these subtleties of meaning, for they presumably have not much to do with the survival issue at the deepest levels of his existence. Thus, when the question arises later on of possible code switching to an FL, the morpheme 'good' representing the concept 'good' would be marked for the SL, but not its subtler and more precise refinements, such as 'affable', 'helpful', or 'virtuous'. Hence, in Hindi-English we may not get (1), though (2) would be no problem:

(1) *rohit ek GOOD admi hai
 a man is
 'Rohit is a good man'

(2) rohit ek AFFABLE admi hai
 HELPFUL
 VIRTUOUS
 a man is
 'Rohit is an affable/helpful/virtuous man'

Choosing another example, from the area of the verb this time, 'eat' being a Seed verb is completely ruled out as a switch, while its more specific substitutes are held non-Seed by the child. These are perfectly switchable - subject, of course, to the process of recategorization as required by the genius of Hindi. This is clearly established by the following contrast:

(3) *deepti ne seb EAT kiya
 apple did
 'Deepti ate an apple'

(4) deepti ne seb NIBBLE kiya
 CHEW
 DEVOUR
 MASTICATE
 apple did
 'Deepti nibbled/chewed/devoured/masticated an apple'

We notice once again, then, that in the areas of N, V (when recategorized), Adj and Adv, non-Seed concepts, being available in abundant synonymous refinements of the Seed Concepts, are well-disposed toward code-switching to an FL.

On the other hand, there are Seed Concepts falling under other nodes for which there are just no 'synonymous' substitutes at all, and hence no CS is possible. These nodes, therefore, get exclusively marked for CS constraints. What substitutes can one

find, for instance, for the various Aux morphemes of tense and aspect, be it Hindi or English? One can either take them or leave them, but never replace them.

Similarly, for the deictic terms 'this', 'that', 'these', and 'those', under the Det node. Webster's Third International gives only long-winded paraphrases for them, never one-word substitutes. And Roget's Thesaurus does not even list them in its index. The same goes for all the personal pronouns, too. The terms 'speaker' or 'writer' are not the same as 'I', nor are 'the person spoken to' and 'the person referred to' gladsome alternatives for 'you' and 'he'. If monomorphemicness is the basic condition for CS replacements, then there is little hope of finding substitutes for the Seed Concepts under these classes.

Seed Concepts and Phrase Markers

It is at this juncture, then, that the Seed Concepts Constraint interacts with the various phrase structure constraints proposed in the literature. Those constraints rightly claim that the verbs and auxiliaries and pronominals, among other word-classes, are resistant to code switching, but they fall short of stating the reason why. The underlying theology in that approach is that it is the characteristics of a node per se that determine the related constraint stemming from that node. In other words, they hold that the constraints are fully explicable in 'syntactical' terms.

That, as the data presented in this study establishes, is not the case. In addition to being partly 'syntactical', the nature of the constraints is 'conceptual' as well. This becomes abundantly clear, as stated repeatedly, in the categories of purportedly 'open' nodes, for no nodes whatever are unreservedly open. Every so-called 'open' node can be blocked by certain specific morphemes.

This is so because under every node lie 'closed' items belonging to the cross-category group of Seed Concepts. The 'Seed Concepts Constraint', then, cutting across the nodal categories, not only unifies the various particularistic and generalized constraints, but also possesses immeasurably greater explanatory power in accounting for the CS phenomenon. There is no doubt that the notion of the Seed Concept Constraint is a radical notion. Steering the inquiry from the area of syntax to that of developmental psycholinguistics and early language acquisition it represents a conceptual leap of considerable proportions.

Supporting Evidence

However, it is not all roses and honey yet. The arguments involving the development of self-concept and mental structures tied to the organism's survival strategies are issues that seem to lie more in the region of metaphysical thought and less in the

area of 'mainstream linguistics', especially syntax. Under the circumstances, a degree of scepticism concerning the enterprise of Seed Concepts may not be misplaced. True, there are 'internal' justifications stemming from the data itself, but can recourse be had to corroborating evidence of any kind?

The answer is yes. While early childhood developmental psychology provides the basic infrastructure, as it were, for the notion, there are additional sources that provide at least indirect sustenance. Some of these to be examined in the following sections include:

- a) 'Lexicostatistics', including 'glottochronology' (admittedly, a little known area in present-day linguistics);
- b) Word-use frequency among first-grade children; and
- c) Studies of first-language acquisition in early childhood

Lexicostatistics. It is axiomatic that languages change and that linguistic entities are both gained and lost over a period of time. 'Glottochronology' is concerned with the phenomena of the diachronic rates of loss of certain types of vocabulary items, and of retention of other types. The broader term 'lexicostatistics' is used for the statistical study of vocabulary. These sub-disciplines have identified a set of lexical entities across languages that show considerable

permanence in face of historical change. As Lehmann (1973:104)

states:

"These studies have shown that during the course of language change there are certain terms that are better maintained than others and these include the lower numerals, pronouns, items referring to parts of the body and to natural objects - animals, plants, heavenly bodies, and so on. These items are referred to as the basic core vocabulary. Another underlying assumption is that the percentage of retention of items in the basic core is constant in some respects; conversely, that their rate of loss is approximately the same from language to language if cultural conditions are similar."

The above quote makes two interesting contributions that support our hypothesis. One, that the basic core vocabulary contains several of the items that represent our Seed Concepts, items such as personal pronouns, lower-order numerals and parts of the body. Two, that this core vocabulary holds more or less constant from one language to the next. In other words, the core possesses an element of universality, given constancy of cultural conditions. This cuts square with our own claim that the Seed Concepts that govern code switching likewise possess language-independent generality.

Speaking of cultural conditions in terms of the notion of Seed Concepts, it is not hard to imagine that the Seed Concepts could conceivably be conditioned by the geographical and cultural environment a child is raised in. For instance, an Eskimo child may incorporate the notion 'snow' along with that of 'water' among his Seed Concepts, whereas an Arab child may do the same for the notion 'sand'. In fact, both of these notions have

actually been found in the lists of the Basic Core Vocabulary designed by linguists. The reason behind this diversity is not far to seek; the terms powerfully impinge on the survival issue of the organisms involved in their respective environments.

Taking another example closer to home, the emergence of the nuclear family is, historically, a recent phenomenon in the western world, a product of the social forces of urbanization and industrialization. This, of course, is in marked contrast with the continuing structure of the extended family in much of Asia and Africa, where it is common experience to witness three generations living under the same roof. i.e., the grandparents sharing the same quarters as the so-called nuclear family, and providing nurture, love and sustenance to the young offspring. Now, it is not hard to conceive that a child raised in such a milieu and receiving survival support from, say, the grandma would ascribe to her a large measure of concept seedness, which in turn would result in the inclusion of the term 'grandma' in the complex of Seed Concepts in his language. In contradistinction to this, a child of a reasonably affluent nuclear family in New York who has known his grandma only as an occasional visitor from Florida will have little justification in allotting the same status to the concept 'granny'. This means that on growing up as code-switching bilinguals these individuals would very likely handle the morpheme representing the concept

'grandmother' differently. For one, the switch would be taboo, but not for the other. Culture would have made all the difference.

The notion of how culture and geography may condition the seeding of concepts is amply supported by the well-known Whorfian hypothesis claiming that an intimate bond exists between linguistic structure and world-view. If the "formulation of ideas is part of (or influenced by) a particular grammar and differs as grammars differ" (Britannica 1974, Vol X:662), then its converse that culture shapes language is highly plausible, too. In fact, linguistic studies of American Indian languages noting divergent systems of semantic classification of the same basic phenomena are explicable on the Seed Concepts hypothesis as well. For Seed Concepts, too, seem to slice reality along lines of geography and culture.

Reverting to the proposed 'Basic Core Vocabulary', different scholars have come up with different lists of the core items, some larger than the others. It is interesting to note that the shorter list of about a hundred items (Rea 1958:145-50) contains - besides the personal pronouns, parts of body, lower numerals, etc. - several other items found among our Seed Concepts. These include: 'all', 'this', 'that' among determiners; 'big', 'many', 'long' among adjectives; 'come', 'die', 'eat', 'give', 'know', 'sit', etc. among verbs; 'what' among interrogatives;

'and' and 'because' among conjunctions; 'at', 'in', 'with' among post(pre)positions; and 'here' and 'there' among adverbs.

Interestingly, the longer list (Gudchinsky 1956:175-210) adds to the above list more interrogatives like 'when', 'where', and 'how'; more conjunctions, such as 'if'; more adjectives like 'wet' and 'narrow'; more verbs like 'take' and 'sing'; more nouns like 'foot', 'name', 'sun', etc. Our CS data show that everyone of the items cited here, as also several, though not all, of the others given in the lists, would obey the constraint between Hindi and English. These lists are reproduced in Appendix VI.

To conclude this section, what is the bearing of the 'Basic Core Vocabulary' on our 'Seed Concepts' hypothesis? It seems fair to infer that the former lends considerable support to the latter, for they both establish the principle that there is a nucleus of lexical items - concepts, in fact - that resists interference: loss in the case of the Basic Core Vocabulary, temporary displacement in the case of code switching. It must be understood, however, that the Basic Core Vocabulary is not a monolithic entity, that different researchers have come up with different lists, and that, since not only that the notion of Seed Concepts is in its infancy at the moment but also that it may marginally be culture- and environment-bound, it would be unrealistic to expect any systematic overlap or statistical

correlation between the two. Both of them remain precisely unenumerated at present.

Word Use Frequency Among Children. Is there any connection between the concepts declared seeded by the child's mind and the frequency of use of the lexical items those concepts are represented by?

We have discussed how a concept is held seeded because of its centrality of some sort to the business of survival and living. From this it may be possible to infer that, although centrality can never be wholly equated with frequency (poison is central to life, but transactions with it are never frequent), centrality would entail, in normal conditions, a generous measure of frequency, too. Witness the centrality-cum-frequency of notions such as 'food', 'water', 'home', 'this', 'good', 'quick', etc. Similar claims obviously cannot be made for items such as 'celery', 'piña-colada', 'summer cottage', 'out-of-this-world', and 'lightning-fast'. Hence it might be reasonable to assume that there is a significant overlap between seedness and frequency.

If the child acquires the Seed Concepts during the early childhood period and if frequency is partially a concomitant of that acquisition, then would it be fair to expect that the language of a somewhat older child - say around the age of 5 or 6 - would reflect this fact? It has been observed that such, in

fact, is the case, that the language of children around this age is replete with the lexical realizations of the Seed Concepts as defined in this work.

In a recent study (Moe et al., 1982), the vocabulary of first-grade children was compiled over a seven-year period, from 1974 to 1981, involving over 300 children. Language samples were obtained at different times during the first-grade year which were then computer-analyzed in various ways. The study yielded a total of 6,412 different lexical items, a frequency count of which seems of considerable interest to our CS hypothesis. It would be observed from the statistics given below that, within a generic class, items that were found seeded in the Hindi-English data were generally those used most frequently by the children. Conversely, freely switchable items were used by them relatively rarely, or not at all.

To begin with, we have noted that in the category of numerals, whether as nominals or determiners, the lower-order numbers were switched in the Hindi-English data either not at all or at greatly reduced acceptability than the relatively higher-order ones. In terms of frequency of use, this fact is supported by the children's vocabulary study, which found that the numeral 'one' occurred 2522 times in the corpus, as against 199 times for 'five', 97 times for 'ten', 36 times for 'twenty' and 19 times for 'thirty'. In other words, there is , in the case

of numerals, a direct relationship between seedness and frequency: the more 'seeded' an item, the more frequently it is used.

Speaking of the larger area of the nominals, the term 'man' occurred 476 times and 'woman' 67 times (were the children 'sexists', or were they using 'man' generically in the sense of 'human', too? Incidentally, 'human' itself scored a mere 4). 'Home' scored a 540. These figures would have to be taken at their absolute value, for it is not possible easily to assess the scores for their potential substitutes, which could vary in several different directions. The figures in themselves, however, should be fairly informative.

In the realm of the verb, the data are more relevant and more significant. Here, 'go' got a count of 1884, while its cousin 'move' received only 144; 'fall' occurred 73 times as against 4 times for 'slip'; 'sitting' figured 151 times, while 'resting' only 1 time; 'remember' scored a 275, 'remind' got 1, and 'recall' and 'recollect' did not even enter the race. Finally, 'do' hit 714, while its arch rival 'perform' never got off the ground (score = 0).

In the area of the adjectives, 'good' occurred 202 times and 'bad' 137 times, which explains, incidentally, why the former is a few shades worse for CS than the latter. And 'worse' and 'worst' ended up with 1 each, which makes them unchallenged

champions in their 'weight category', i.e., comparatives and superlatives.

Under the node *Adj*, again, the asymmetry noticed in the chapter on noun phrase (p. 124) between 'long' and 'more', on the one hand, and 'short' and 'less', on the other, is found paralleled in the speech of young children, the frequencies being: 'more' 389, 'less' 2; 'long' 179, 'short' 19. The generalization can, thus, be hazarded that items lying toward the 'higher end' of a given scale are used more frequently, and are hence more constrained, than those occurring toward the 'lower end'. This is so perhaps because the concept of 'augmentation' or 'multiplicity' or 'increase' is, for the child, somehow more primary than that of 'reduction', 'abridgement' or 'decrease', as suggested under item (i) in the section on 'Sub-Components' (p. 190). This, however, is inapplicable in the case of the numerals, where the lower numbers excel over the higher numbers in use frequency.

As for the adverbs, the observation noted in the last chapter (p. 151) that the temporals closest to the present moment are more resistant to CS than those further away is supported by the children's figures: 'today' was used 64 times as against 49 times for 'yesterday' and 19 times for 'tomorrow'. This helps elucidate the relative switchability of the terms found in our Hindi-English corpus. To recall our data (p. 151), 'today' was

totally inadmissible, while opinions clashed on the acceptability of 'yesterday' and 'tomorrow'.

In the same area of adverbs, an interesting dichotomy might concern the choice between 'quickly' (colloquially, 'quick') and 'fast'. Our data showed an unambiguous liking for 'fast' as against 'quickly'. Yet, children's speech in the study under reference shows a frequency of 126 for 'fast' as against 10 for 'quick' and its derivations. This raises the question whether we have a sizable counterexample to deal with.

The answer seems to be still no, the reason lying perhaps in the region of dialectology. It has already been made clear that all of our Hindi-English data were gathered from those who had acquired English in India, where the British version of the language prevails. If it is noted that 'fast' is a typically American preference over 'quick', then it is possible that the same Seed Concept signifying, in this case, say, 'speed', might be represented by the morpheme 'fast' for American children, while 'quick' may be the first choice for speakers of the British-type dialect in India. In other words, the same underlying concept gets marked for seedness by two different morphemes in two different environments. No doubt, the point needs further probing, but granting for the present that the foregoing explanation is plausible, the challenge to our theory seems to recede.

Examples from the above data could vastly be multiplied, but the statistics presented here should probably suffice. It appears that the evidence from the children's frequency of morphemic use lends powerful support to the claim that the notion of 'Seed Concepts' is largely, though not wholly, co-extensive with the notion of the 'greatest frequency' of use.

First Language Acquisition. If the theory of Seed Concepts is valid - i.e., if it is true that the Seed Concepts emerge from the child's efforts at self-definition and survival, and that they arise around the period when manifestations of language also begin to occur in his personal development - then it should be capable of being verified in terms of the early stages of language acquisition that the young child passes through. In other words, if the child learns single-word expressions around roughly the age of 18-24 months, it is difficult to conceive that several, though certainly not all, of the Seed Concepts would fail to be represented in varying degrees at the time.

In a rather detailed study of the early language acquisition of a child (her own daughter, in fact) appropriately titled, 'One Word at a Time' (1973), Lois Bloom (Teachers College, Columbia University) recorded the three stages which the child went through in producing her single-morpheme utterances. Stage I represented the age 16 months, three weeks; Stage II, 19 months,

two weeks; Stage III, 20 months, three weeks. At each stage episodes in which the child interacted with her mother were systematically videotaped in a studio and the utterances were rigorously analyzed later by a group of researchers. Sufficient importance was accorded to the interrelationships that obtained between the utterance of a morpheme and the situational context in which it was produced, since utterances divorced from the situational context can sometimes lead to misleading interpretations.

The results of this study seem further to confirm the view that, by and large, the Seed Concepts are acquired very early in life and are evidenced by the acquisition of the appropriate morphemes by the child.

At Stage I of the study, the frequency of the various morphemes uttered by the child was highly significant. The word 'no' was spoken 23 times; 'more' 39 times; 'there' 9 times; 'gone' (implying either absence or denial, the concept of 'negation' in our list of 'Sub-Components' (p. 190)) 20 times; 'there' 21 times; and 'away' 9 times. Other occurrences of lesser frequency were 'Mommy' and 'up', while even 'dirty' crept in for once, perhaps as a mechanical repetition after Mommy's utterance.

At Stage II, the nominals became more numerous and diversified and included 'man', 'Mary', 'Dada' (the photographer), 'cow', 'pig' and 'horse' (from the toys the child

was playing with) and, significantly, 'home'. Of the adjectivals, 'small' was enunciated 5 times as against 'big' spoken twice, and 'clean' came in to contrast with 'dirty'. The list of prepositions was expanded to encompass 'back', 'out' and 'off', while the verbals were raised to the intriguing sophistication of 'scrub' and 'tumble'. Another noteworthy area was that of parts of body and a start was made with 'head', 'hand' and 'knee'.

Stage III, coming just a month later than Stage II, witnessed a fairly sizable vocabulary growth with the additional acquisition of the prepositions 'on' and 'in'; and several verbs such as 'play', 'talk', 'walk', 'drive', 'sit', 'lie', 'buy', 'eat', etc. The new categories added at this stage were gerunds, like 'running', 'shaking', and 'chewing', as well as colors, beginning with 'green' and 'yellow'. The nominals expanded to 'comb', 'hair' and 'cup', while the body parts were extended further to 'chin' and 'nose'.

How do we interpret this corpus in terms of the Seed Concepts hypothesis? It appears that considerable support is available from the study in various dimensions. Stage I showed the emergence of the basic locative concepts of 'here' and 'there'; of the phenomenally negative 'no' - not to speak of its ally 'gone' signifying denial or absence - and the directional notions of 'up' and 'away'. Stage II took the child into the concepts of body parts, as also the notion of color. The primordial notions

'man' and 'home' were also audible at this stage, while prepositions registered some progress, too, beyond Stage I. Stage III produced the kinesic terms of 'talk', 'walk', 'sit', as also some participles like 'running'.

This study of the single-morpheme stage of language acquisition in the life of a young child shows once again that it is, by and large, the same set of Seed Concepts that operate in the CS processes that are acquired early and used most frequently by the child. No doubt, studies of other children would show some variations on the basic theme, but they can be expected to be minor only, insufficient to invalidate our hypothesis.

Yet, questions remain. In addition to containing the classic Seed Concepts of 'up', 'man', 'more', 'home', 'hand', etc., the child's inventory of morphemes contained also non-Seed items such as 'cow', 'pig', 'dirty', 'tumble' and 'scrub'. Then, there was also the preponderance of 'small' over 'big'. What does this situation signify? Does it mean that the child's early language acquisition contain both Seed and non-Seed entries?

The issue, a most valid one, shall be examined in the following section for it relates to the fundamental question whether it is the morpheme that gets constrained or the concept. It may be observed that throughout this chapter, the term used has been 'Seed Concepts', not 'Seed Morphemes', suggesting the view that the genesis of the CS constraints lies in the realm of mental concepts rather than individual morphemes.

As for the last-mentioned item, the question of 'small' vs 'big', the situation seems to be an idiosyncratic function of the preponderant use of 'small' in the environment of the child and hence not generalizable to all cases. This aspect of the acquisition of Seed Concepts, again, merits further discussion and shall be dealt with in a separate section.

Concepts or Morphemes?

The preceding sections have yielded evidence from the speech of very young as well as slightly older children as to how the various morphemes used by them happen to be from the same broad set that engenders CS restrictions. However, the proposed constraint has been defined in terms of 'Seed Concepts' rather than 'earliest acquired' or 'most frequently used' morphemes. In other words, the evidence that we have examined in both the preceding sections lies in the dimension of lexemes, while the theoretical statement of our constraint refers to 'concepts' or 'ideas'. An interesting question would be: Should we then couch our formulation in terms of morphemes rather than of concepts?

The dilemma may be illustrated by an example. The word 'chair', or 'spoon', or 'truck' would presumably occur in most children's speech much prior to the occurrence of the pronominal 'it' which, of course, can refer to any one of them. The child lives in a world of concrete objects and in order to deal with

his environment he must learn to 'name' them as soon as his vocal musculature would permit him to do so. And since the inventory of the objects presented to the child's awareness could conceivably, and does in fact, vary considerably from one environment to the next, it is possible that the words that a child learns in one environment - barring, of course, the universally shared vocabulary, such as 'Mommy', 'Daddy', 'milk', 'bottle', etc. - may be fairly different from those learned in another at the 'single-morpheme acquisition' stage. In fact, in Bloom's study the child picked up the words 'pig', 'horse', etc merely because those were the names of the toys that the child was provided and had the opportunity to play with. For another child, the toys could have been a 'teddy bear' or a 'dog', and that child would have learned those names first. Does it mean, then, that the animal names that the child learns first become Seed concepts for that child?

Our data show that most animal and object names - even those occurring in the child's earliest experiences - are non-Seed items. This leads one to infer that it is the 'generic' term - in this case the pronominal 'it' - that becomes the Seed Concept, rather than its diverse realizations represented by different substantives, such as 'pig' and 'horse', 'chair' or 'spoon'. And this generic term 'it', as we know, is not acquired until a relatively later stage in the child's development.

Similarly, it might be an induction from the personal experiences of most of us that a young child is not highly prone to verbalize the adjectival 'good' in the earliest stages of speech articulation, whereas he may learn words like 'sweet' or 'hot' in the context of his agreeable sensations. Yet, on growing up it is 'good' that would become the 'Seed Concept' rather than 'sweet' or 'warm'.

Additional support for the non-cruciality of morphemes in the development of Seed Concepts in child language acquisition comes from the fact that the morphemes do not descend ready-made into the child's mind. In fact, most of the di- and trisyllabic words begin as monosyllabic entities in early speech and it is only through a progressive series of approximations, additional auditory inputs, and sometimes overt speech corrections that the child 'acquires' the morpheme in question in its correct phonetic formulation. In a case study of his son's early speech, John Dore in an article published in 'Children's Single-Word Speech' (Barrett 1985:30) specifies a number of developmental phases of 'meaningfulness' through which the child passes. Not surprisingly, that which is to later emerge as 'ball' would begin as 'bo'; 'cookie' as 'ku'; 'bottle' as 'baba'; 'brrrrr' would stand for all types of engine noises; and 'shhh' would represent 'flowing water'. Needless to say, these truncated beginnings would soon turn into acceptable morphemes, yet none of these earliest acquisitions would symbolize a Seed Concept.

Whether or not the concepts underlying this progression of morphemic approximations also undergo a parallel series of refinements - as concepts - may possibly be an issue beyond the reach of experimental verification. Logically, it does not seem likely, though; nor does the matter concern us excessively here. Suffice it for our purposes to grant, from the dictates of common reasoning, that it might well be that the concept itself holds constant while the child's insufficient mastery over his articulatory mechanism is what results in his initially faltering and inexact utterances.

If true, the above state of affairs strongly predisposes one to the conclusion that just as the child would, in the not too distant future, come to abstract grammatical notions from the variety of linguistic structures presented to him, here, too, he would display the same trait of abstraction in separating the various actual referents, for instance, of the pronominal 'it' from the theoretical concept of 'it' itself, even though he would acquire the morpheme 'it' much later than several others that the pronominal symbolizes.

Again, the child in most cases learns 'mommy' before 'you'; 'he' before 'daddy' or 'uncle'; 'truck-driver' or 'doctor' before 'man'; 'cereal' before 'food'; 'milk' before 'water', etc. Yet, in each case, it is invariably the latter, the generic morpheme that comes to assume the symbolism of the underlying concept, not any of its specific realizations.

The same goes for the abstract attribute, say, of 'pleasingness' represented by the morpheme 'good'; it is the notion, the concept that he is concerned with in its fundamentality, rather than its various manifestations appearing in the diverse fields of his physical sensations and emotional states of mind that gets seeded. It appears, then, that certain fundamental notions or concepts of objects, actions and attributes get gradually and progressively deepened, honed and refined and then held in reserve, as it were, in his psyche. Finally, when, on further linguistic and intellectual growth, a word enters his consciousness that matches the specifications of those basic notions held in storage to be used at the appropriate moment, the child ascribes to it the status of seedness, at the same time perhaps jettisoning all its transient expansions that he might have temporarily held on to thitherto.

While more empirical research would be useful in this area to elucidate the situation further, for the present the hypothesis that it is not the lexical items that get marked for seedness but the abstract and generic concepts underlying them bids fair, on current analysis, to claim our allegiance.

Confounding Factors

In the Spanish-English data presented in earlier chapters, some counterexamples to the various constraints proposed in the

literature were noted. For instance, if a constraint bars the switching of SL pronouns, then there were also recorded instances where the pronominal had actually switched. Again, in face of the Verb Constraint, examples were found which showed that an English verb had been used with Spanish inflections, and so on.

In the foregoing sections we have presented a case for the elimination of all the particularistic and generalized constraints in favor of a single constraint described as the 'Primary Concepts Constraint', and have supported it by evidence from diverse quarters. It is our conviction that the approach proposed here possesses the merits of simplicity, generality and comprehensiveness. In other words, it meets the criteria of explanatory adequacy.

However, whether one adheres to the various individual constraints or embraces the proposed new approach, the question arises: What is one to make of the counterexamples? Does it mean that the constraints are not powerful enough to preclude the infractions?

Performance Errors. As in the other areas of human endeavor, the answer lies in several different dimensions. First, the counterexamples may be no more than performance errors. Just as people who otherwise walk well do once in a while inadvertently slip over snow or banana peels, those in a CS

situation who are in full control of their 'Seed Concepts Constraint' occasionally perpetrate morphemic slips of the tongue, too, for no justifiable reason. In each case we cannot fault their underlying competence and capability to act right. The lapses have to be dismissed as "one of those things", and hence of no theoretical significance; they cannot be made too much of.

Variability in Acquisition of Seed Concepts. A second factor that might generate apparent counterexamples is that the totality of Seed Concepts may vary from one linguistic community to another. In fact, the point cannot be overstressed. As discussed earlier (p. 216-17), if it is the development of self-concept through the definition of Seed Concepts at the early childhood stage that governs the constraints on later code-switching practices, then it is inevitable that whereas different communities would, in general, undergo identical experiences as members of the human race, these experiences would in some respects also differ from case to case, depending upon their specific geographical and socio-cultural circumstances. Such variations would, of course, be reflected in the later CS practices of people.

Furthermore, within the same linguistic population, the childhood upbringing of no two individuals can be strictly

parallel, nor, hence, can the development of Seed Concepts in them be fully identical. While the central core of the these concepts would be shared by most, the peripheral Seed notions incorporating individual variations would necessarily be reflected in individually variable CS practices.

Thus, in a family of gypsy 'snake-charmers', the concept of 'snake' may not be held seeded, whereas in another family of lumberjacks belonging to the same speech community but living in the thick of a forest infested with venomous cobras, the term 'snake' (or 'cobra', for that matter) might very well become seeded. (Incidentally, 'snake' does, in fact, figure in the Basic Core Vocabulary lists and was also declared unswitchable by (see next chapter) one of the non-Hindi informants.)

Another case in point is the area of quantifiers, where a lot of variability of intuitions was noticeable in the Hindi-English data, presumably because of individual diversity of the time and manner of acquisition of the relevant concepts.

Idiosyncratic Factors. As is well known, well-defined rules of phonology and syntax operate on an individual's language to maintain him as a functioning and card-carrying member of his speech community. However, there are also certain highly restricted areas - called the idiolect - where his speech is like no one else's. Such deviations, generally minor, do not call into

question the principles of linguistic organization that he, in the main, shares with the rest of the community. Those principles continue to remain valid, despite the 'counterevidence' of the idiolect.

In this connection, reference may be made to the case cited earlier (p. 170) of one of our Hindi informants who had the unique habit of switching only the Hindi Comp ki in a long-drawn-out fashion in a sentence, both the matrix and embedded clauses of which were in English. The phenomenon was unique in the sense that not only was there no mention of it in the literature, but that all of our other informants felt rather 'aghast' at it. This case indicates clearly that an isolated aberration found here or there can hardly be adduced to disprove a theory of otherwise considerable power and generality.

Inurement. Another confounding agent is what may be described as the 'Inurement Factor'. As is known, inurement is a kind of 'desensitization' that occurs through repetitious exposure to something that strictly is not kosher. When this happens, that which was once held irregular loses the stigma of irregularity and gets steadily to become acceptable in varying degrees.

To cite a not-too-pleasant analogy, while 'death' possesses a certain tragic poignancy for most mortals, it loses much of its

sting for those whose daily task is to embalm dead bodies in a funeral home. Likewise, while driving on the highway, we feel the sensation of speed on first hitting, say, 60 mph, but after we have so sped for a while the same velocity begins to feel 'slow' and the tendency develops to bear on the gas pedal a bit more heavily. It is inurement that results in the habituation to an unnatural or undesirable situation.

It appears that the same kind of softening of attitude takes place in the CS arena through the 'Inurement Factor'. Having broken a CS rule, for whatever reason, a few times, the infringement feels like an infringement no more and one gets 'hardened' to its ill effects, i.e., the abnormal becomes the normal. An isolated utterance or two generated in these circumstances and found to be in dissonance with the prevailing CS principles should, then, best be interpreted as an individual lapse, an idiosyncratic failing, and not as a challenge of any serious proportions to the theory itself.

To conclude, forces other than the individual's acquired Seed Concepts impinge on the CS situation. To illustrate, true that the force of gravity attracts everything to the center of the earth so that any object would have a natural tendency to drop to the ground, yet a countervailing natural force can easily make a balloon ascend upward in the sky. It is fully legitimate for one force to negate the outcome of another.

In Sum

The foregoing sections have presented a unified theory of CS constraints, called the 'Primary Concepts Constraint', which is meant to replace the particularistic and generalized constraints proposed in the literature. The lineaments of this theory are as follows:

- a) The individual CS constraints are offshoots of a single overall constraint called the 'Seed Concepts Constraint'.
- b) Every constraint is intimately linked with the human's self-concept in the existential sense.
- c) The basic features of human self-concept crystallize around the period of late infancy and early childhood.
- d) The human self-concept is mediated through a group of 'Seed Concepts' that can be subdivided into a number of major areas.
- e) Speech morphemes associated with the Seed Concepts are the ones that get marked exclusively for the Seed Language.
- f) Certain nodes in phrase structure can be filled only by the Seed Concepts and hence are unavailable to CS. Other nodes block only the morphemes that signify the Seed Concepts.
- g) Morphemes representing the non-Seed concepts are free to be realized in either the Seed Language or a Feed Language.

- h) The 'Seed Concepts Constraint', while fully operational in normal circumstances, can on occasions be interfered with by certain confounding factors.
- i) Finally, it is obvious that if a construction is made up of concepts all of which are seeded, it would be impossible to switch any of its components. A sample list of such sentences is given in Appendix VI.

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In the next chapter, the findings of this study shall be examined in the context of the interaction between some non-Hindi languages and English. Since the study of non-Hindi data lies, as often stressed, outside the scope of the present work, the proposed examination shall necessarily be brief, informal and impressionistic.

CHAPTER VII - EVIDENCE FROM OTHER LANGUAGES

In the previous chapters we have discussed the Hindi-English CS data in some detail and have also arrived at a unified explanation for the various constraints proposed in the literature concerning the CS phenomenon in general. We hypothesized that there exists a set of 'Seed Concepts' that the child acquires in the earliest stages of his language acquisition process - concepts which get heavily marked for realization in his first language. Later, on growing up as a competent bilingual he finds it difficult to switch the morphemes representing these concepts to the second language on occasions when he has opted to speak in his first language, to begin with.

We also staked the claim that since the large number of code-switching individuals speaking the same pair of languages observe basically the same restrictions, and since they have never been instructed in the process, nor have they arrived at a prior mutual agreement to do so, it seems fair to assume that the code-switching phenomenon may be the resultant of certain innate factors dependent perhaps on the "Seed Concepts" hypothesis presented in the previous chapter.

It is but logical to assume that if the CS constraint is indeed widely attested, i.e., it is 'universal', then it cannot be language-specific but must apply across languages. Examination of the Hindi-English data alone to support the claim, though yielding significant insights, would not be enough.

Non-Hindi Informants

In order, then, to test the putative 'universality' of the claim, the cooperation of a number of informants whose first language was different from Hindi but who were currently living in the United States and possessed 'near-native' command of English as well was enlisted. A list of these informants is given in Appendix III.

The objective, of course, was to elicit their intuitions about their own intra-sentential code-switching processes, when they started their sentences in the native language and then inserted elements into it from English.

Questionnaire. The elicitation was carried out by means of a restricted questionnaire incorporating various dimensions of the code-switching phenomenon observed originally in the Hindi-English data. At the outset, the requirements of the questionnaire were explained to the informants and they were given a few days' time to respond to it. Finally, one or more interviews were held to help clarify obscure issues. Informants, in general, were very favorably disposed toward the project, and were, in fact, highly intrigued on being made aware of the subtleties involved in their own CS practices, something that they had hitherto taken for granted and had been carrying out automatically for extensive periods of time. The questionnaire is reproduced in Appendix IV.

Initial Precautions. While eliciting responses, it was found necessary to alert the informants in advance to be mindful of the following precautions:

- a) Only one word was to be switched at a time. It was emphasized that phrasal switches have a tendency to skew up the responses, since a phrasal switch in most cases has a tendency to sound more acceptable than a monomorphemic switch. Furthermore, different morphemes inside a phrase could pull in different directions.
- b) Informants were also advised that the switched item should preferably occur in the middle of the sentence, for the reason that when the switch occurs at the beginning or the end of the sentence, it is felt less integral, as it were, to the structure. There is, thus, a greater tendency for a sentence-initial or sentence-terminal switch to partake of the nature of an inter-sentential rather than an intra-sentential switch.
- c) Since the pause also tends to significantly redefine the nature of a switch from the intra-sentential to the inter-sentential, informants were advised to expressly introspect for the occurrence of pauses, howsoever miniscule. In order to test the authenticity of the switch it was necessary, they were reminded, to maintain the 'normal flow' of speech. Switches that are ruled out

without a pause often gain, it has been observed, a measure of acceptability with an intervening pause.

- d) Since linguistic intuitions, in at least unclear cases, tend to become quite problematic, informants were recommended to re-evaluate their responses after intervals of time.
- e) In cases of uncertainty concerning complete acceptability or complete unacceptability of a switch, they were asked to record their perceived 'percentages' of acceptability.

It must be emphasized again that examination of the CS data pertaining to other languages was in no way intended as an integral component of the present study. Nor is the polling of non-Hindi informants claimed to be systematic or scientific. Recourse to other languages in this work must, therefore, be regarded as a strictly preliminary and rather informal attempt to impressionistically 'test the waters' for the 'Seed Concepts Hypothesis' in non-Hindi settings. The task of a serious and well-organized attempt in this area is advisedly left to those who may wish to pursue the subject further.

Seed Concepts Corroborated Overall

The above caveat aside, it yet appears that the findings of the Hindi-English data were, by and large, confirmed by the non-

Hindi informants' observations and intuitions. From the vantage point of the present study, individuals from different parts of the world and speaking widely disparate languages were discovered to adhere, in most essential aspects, to the same basic freedoms and constraints as had earlier been noticed in the case of the Hindi-English code switchers.

In a few cases where discrepancies had become initially noticeable, further probing into the structure of the first language yielded explanatory insights and helped explain, at least partially, the apparent counterexamples. In the following sections, salient points concerning each language-pair are informally summarized - mostly with the concurrence of the respective informants.

German-English

The Seed Concepts in nominals - 'woman', 'person', 'child', 'bird', 'dog', etc. - were non-switchable; so were the most common body parts such as 'hand', 'head', 'mouth', 'tongue', 'back', etc. On the other hand, 'belly' and 'blood' were fully acceptable, and 'breast', 'chest' were permitted to the extent of, say, 80%. The body parts did not sound better in the plural.

The lower numerals were ruled out, the cut-off point lying between the values of 5 and 10. Non-rounded numbers, such as 'seventeen', 'forty-one' were OK, and so were most of the fractions.

Gerunds were held better when at the beginning of the sentence, but complex gerunds, like 'swimming the backstroke' were rejected. Simple infinitives - 'to sing', 'to dance', etc. - were also rejected.

All the determiners and all quantifiers were inadmissible. Among colors, 'black' and 'white' were rejected; all others were acceptable.

The pronominals were mostly rejected, except for third-person emphatics and reflexives which were at least partially acceptable.

No differences were found between prepositions of the 'in', 'at' type and the 'across', 'through' type. All kinds of prepositions were rejected.

All interrogative pronouns and negative adverbials were inadmissible.

Among conjunctions, 'and', 'but' and 'or' were found poor, and so were the subordinating conjunctions 'if', 'since', 'because', etc. On the other hand, 'yet', 'nevertheless' were partially permissible.

All verbal forms were rejected, including the auxiliaries, though English verbs cognate with the German verbs were accepted. The 'Seed Concepts' in the verbals were ruled out categorically in all shapes and forms; thus, 'come', 'die', 'eat', 'give', etc were all unacceptable.

Japanese-English

Japanese rules out the code-switching of all determiners (including demonstrative adjectives, possessive adjectives, quantifiers, numerals), postpositions, bound morphemes, negative and interrogative particles, relative pronouns, reflexive and emphatic pronouns, subordinate conjunctions, infinitive verbs and verb auxiliaries. It also disallows certain types of embedded clauses.

Concerning verbs, in general, the situation with Japanese is analogous to that in Hindi. Japanese accepts English verbs but uses them along with its own 'operator' verbal morpheme suru, comparable to the Hindi karna, that bears tense and aspect.

Japanese does not have the pronominal system found in English or Hindi. Instead, it uses a Det+N combination, such as 'that man' for 'he'. Since determiners are ruled out in Japanese, it may safely be inferred that a local version of the personal pronominal constraint also applies to the language.

As for the 'excluded' items under the so-called 'open' nodes of N, Adj and Adv, our informant stated that she was not a 'code-switcher' as such; it was not possible, therefore, to ascertain the situation concerning this aspect of the Japanese-English CS phenomenon.

Malayalam-English

Most of the findings obtained from the Hindi data were confirmed in Malayalam as well. 'Man', 'woman', 'child', 'person', were ruled out, as were the commonly referred to body parts. Additionally, the body parts did sound better when used in the plural. Among natural objects, 'sun', 'earth', 'mountain', 'sea' and 'sky' were ruled out, but not 'snow', 'fire', 'lake' etc.

In the numerals category, the two informants diverged in their intuitions: for one, numbers upto one hundred were poor, for the other the cut-off point was around fifty. For both, though non-rounded numbers were better than the rounded ones, they yet were not as fully acceptable as in the case of several other informants. This also applied to fractions - they were better than the whole numbers but their acceptance was not without reservation.

In the area of gerunds, there was less acceptability in Malayalam than in other languages, though complex gerunds were rejected unanimously. Infinitival verbs were wholly rejected, too.

Determiners and quantifiers were overwhelmingly rejected, barring a lone exception or two. Colors were accepted, all of them.

Among pronominals, all cases and all persons were rejected,

though, as is the case with Hindi, third-person emphatics were held slightly better.

In the Adj category, 'uncommon' entries, such as 'hopeless' and 'fantastic' were held good but not those of everyday use, such as 'good', 'more', 'many' and 'few'. Among the antonyms, 'narrow' was preferred over 'broad', 'small' over 'big', and 'less' over 'more'.

No Malayalam verbs were found switchable to English as verbs. Again as in Hindi, the code-switched English verb was recategorized as a nominal of sorts and an 'operator' verb, bearing tense and aspect, was added to it. However, the Seed verbs, such as 'come', 'go', 'eat', 'live', etc., could not undergo even this process.

In this case it may be noted that almost all, if not all, languages of the Indian sub-continent utilize English verbs as 'nominals' of sorts along with their own 'operator' verbs. The Seed adverbials - here, 'there', 'now', 'then', 'today', etc. - were rejected, but not those at a remove from the present moment, such as 'day after tomorrow', 'last week', etc. Unlike Hindi, Malayalam does not easily permit the use of '-ly' adverbs.

All negative and interrogative particles were unacceptable. So were all coordinating conjunctions. Among the subordinating conjunctions, 'yet', 'however', 'nevertheless' were held acceptable but with considerable difficulty.

Ukrainian-English

In nominals, Ukrainian ruled out switches of 'man', 'woman', 'person', etc and accorded partial acceptability to 'dog', 'bird', 'snake', 'wife', etc. The common body parts - 'ear', 'eye', 'foot', 'mouth' - were rejected but less common ones, such as 'belly' and 'breast', were acceptable. The numerals below 10 were held bad, but not so the higher numbers. Fractions were acceptable. Among gerunds, 'eating', 'sleeping' denoting basic physiological actions were less acceptable than hobbies such as 'fishing', 'dancing' and 'horse-riding'. All colors were acceptable. Seed Concepts in the 'natural phenomenon' category - 'sun', 'moon', 'sky', etc., - were ruled out.

All the quantifiers were ruled out, too. So were the interrogatives and negatives.

Among the conjunctions, 'and', 'but', 'or', 'if', 'because' etc. were excluded when switched singly, but they sounded better when switched along with the second clause, and especially when there occurred an intervening pause.

In the pronominal category, all persons and all forms were rejected, no matter what the case. The same was true of all the three persons in the emphatics and reflexives. Unlike in Hindi, no differences were noticed between the first- and second-person emphatics, on the one hand, and of the third person, on the other.

In the category Adj, unacceptable entries covered a very wide range. These included, 'many', 'much', 'more' 'few', 'long', 'short', 'big', 'small', etc. Amongst antonymic pairs, however, preference was not found for 'new' and 'better' over 'old' and 'worse', respectively.

Among the verbals, all switches were ruled out, including the infinitival forms and auxiliaries. Only those non-Seed verbs that were cognate to English verbs, as was the case with German, were found to be marginally acceptable.

The adverbials 'here', 'there', 'now', 'then', 'always', 'again', 'too', etc. were discarded, but 'efficiently', 'promptly', etc. were admissible.

English inflections of all kinds were found to be totally forbidden on native morphemes; only items already switched to English could carry English inflections.

Tagalog-English

The area of the nominals in Tagalog offered little surprises. Common nouns, such as 'man', 'woman', 'child', 'person', etc. were debarred. More body parts were ruled out here than in other languages, the permissible items being 'belly' and 'breast' and that too to the insignificant extent of 10%. No difference was found between singular and plural number in the body parts.

Of the natural objects, 'sun' and 'moon', as well

as 'flower' and 'tree' were out, but not 'star', 'fruit' or 'grass'. In the numeral category, the cut-off point was around 10 or 15. Below this range the numbers fared poorly; higher numbers were far better. Of the fractions, 'half' was ruled out, though, interestingly enough, 'one-half' was held much better. In the gerund category, all those containing an article or a preposition, such as 'driving the car', were ruled out, but others like 'tennis playing' were held acceptable. Single gerunds representing 'organic' activities like 'sleeping', 'sitting', 'standing' were not permitted, but hobbies such as 'swimming', 'horse-riding' and 'fishing' were allowed. All infinitivals were rejected.

Almost all the quantifiers were ruled out, though 'all' and 'many' were let in by a margin of 10%.

Among the color category, 'white' and 'black' were the only questionable entries; all other colors had smooth sailing.

Pronominals in all persons, numbers and cases were rejected. In contrast with Hindi, no difference was noticeable between the emphatics of different persons.

Simple adjectives and antonymic terms were ruled out far more than in many other languages. Thus 'long' and 'short', 'wide' and 'narrow', 'new' and 'old' were held equally poor. Only 'heavy' and 'light' or 'cold' and 'hot' were held 10% acceptable. Other common terms like 'round', 'right' and 'correct' were also rejected.

Again, in harmony with Malayalam, '-ly' adverbs shared the same fate as most other common adverbs, like 'here' and 'now'. They were allowed the barest acceptability, if any. Amongst the temporals, 'yesterday' and 'tomorrow' were found at par with 'today'. But items showing greater distance from the present were admissible.

All negatives and interrogatives were ruled out.

The three coordinate conjunctions were ruled out when switched alone, were held better when switched together with the coordinate clause, and were found best with a pause intervening before the conjunction.

This also applied, by and large, to the subordinate conjunctions like 'if' and 'since' and 'though'. 'Yet' and 'nevertheless' were accepted most grudgingly.

While most of the above data conformed, with marginal variations, to the theory presented in this study, a uniquely significant finding emerged in the area of the verb. The study of Tagalog-English CS data showed that, barring the 'seed verbs', Tagalog verbs are freely switchable to English and that they could and did undergo the native inflectional processes. On being pointed out that such was not the case with several other languages involved in the study, the informant, Dr Nibungco, suggested an explanation. He pointed out that the reason may lie in the extraordinary power and comprehensiveness of the Tagalog

morphophonemic system. Tagalog was a verb-initial language with a highly complex system of affixes and reduplicative morphemes that are capable of taking on any alien verb and instantaneously assimilating it to its own native system.

Another possible explanation comes to mind, too. If it is recalled that many switches that get debarred when occurring in the interior of the sentence improve significantly in sentence-initial or sentence-final positions, it is to be wondered whether the verb-initial structure of Tagalog could have a positive impact on the acceptability of verbal switches.

Needless to add, the situation is highly intriguing and merits additional research. For the present, however, we shall continue to hold on to the proposed hypothesis that verbs, in general, are impervious to the CS processes. It is after all a hypothesis supported by a vast majority of other languages.

Bari-English

In the case of Bari, nouns like 'man', 'woman', 'person', 'meat' elicited 50% acceptability. Bari, like Tagalog, rejected many more body parts than usual - 'eye', 'ear', 'foot', 'hair', 'knee', 'tooth', 'leg'. Of the natural objects, 'moon', 'night', 'rain', 'sun', 'tree', 'day' were unacceptable, while 'sand', 'smoke', 'ice', 'lake', etc. were acceptable. Amongst the numerals, from one to twenty were bad, the cut-off point being somewhere in the region of 50.

The non-rounded numbers were all good, so were simple and compound fractions.

Of the gerunds, hobbies such as 'swimming', 'dancing', horse-riding' were acceptable, but not the physiological activities like 'eating', 'sleeping', 'standing', etc. The infinitives as well as complex gerunds carrying articles or object nominals were ruled out. The determiners were held inadmissible; only 'others' was acceptable, though its singular form was rejected.

Paralleling somewhat the situation in Hindi, among quantifiers, the 'some-' series was rejected, while the 'every-' and 'any-' were found acceptable.

Of the colors, all colors except 'black' were acceptable.

All personal pronouns were rejected and so were all reflexives. However, all emphatics were accepted.

In the category Adj, only 'many' and 'few' were rejected; others such as 'good', 'bad', 'long', 'short', 'big' and 'small' were regarded as OK.

The basic core verbs 'come', 'die', 'eat', 'kill', 'say', 'laugh' were unacceptable; others like 'fall', 'fly', were just slightly (10%) acceptable.

Of the adverbials only 'here' was rejected; 'there', 'now', 'then', 'today', etc. were all accepted.

The negatives were all rejected. So were interrogatives, except one - 'why' was held to be acceptable.

The simple, basic prepositions 'in', 'on', 'at', 'from', etc. were rejected; others such as 'across', 'through', 'inside' were accepted to the extent of 50%.

The coordinating conjunctions were all acceptable and so were most subordinating ones - except 'if' , which received an acceptability rating of, say, 15%.

Speaking of non-core verbs, the situation remained nebulous. It was stated that only about 15% of the native verbs are switchable to English as verbs. Of auxiliaries, none are switchable.

It seems that in this case as well a good deal of further probing would be necessary to bring the findings on the verbal category in a meaningful relationship with corresponding data from other languages.

'Relativity' in Seed Concepts

In the previous chapter it was stressed that while a solid core of Seed Concepts based on human experiences that were common to humankind was universal, there did exist marginal areas that were conditioned by 'local' factors, such as geography, socio-economic conditions and cultural values. That this should be so is supported by the well-known Whorfian Hypothesis and its converse, referred to earlier.

Briefly speaking, support for this view came from the non-

Hindi-English data. For instance, 'mountain' and 'sea' were seeded concepts for Malayalam speakers, and 'snow' for the Ukrainian informant, for the reasons that these concepts were critically tied to the respective speaker's environments.

On the other hand, for the Bari informant, coming from the African sub-continent, where neither 'snow' nor 'sea' were of crucial value, these concepts remain unseeded. And, understandably, the color 'black' for Bari was a Seeded concept.

Interestingly, again, 'flower' and 'tree' were seeded in Tagalog, a language from a tropical country - indicating the principle that there is 'relativity' factor in the theory of Seed Concepts.

Conclusion

While considerable differences were doubtless found to exist in the responses of the various non-Hindi informants, what is of radical significance is the fact that complete unanimity ensued on constraints involving several concepts. These are encapsulated as follows:

- a) Basic 'person' nominal morphemes, like 'man', 'woman', 'person';
- b) All personal pronouns;
- c) At least some body parts;
- d) At least some natural phenomena, like the 'sun', 'earth', 'sky', 'night';

- e) At least a few numerals, like 'one', 'two';
 - f) At least four determiners: 'this', 'these', 'that',
'those';
 - g) At least some adjectives, like 'good';
 - h) Several basic verbs indicating everyday activities, such
as 'eat', 'drink', 'give', 'hope', 'take';
 - i) All auxiliaries;
 - j) At least two place adverbs: 'here', 'there';
 - k) At least five time adverbs: 'now', 'then', 'today',
'yesterday', 'tomorrow';
 - l) At least some pre(post)positions, like 'in', 'at', 'from';
 - m) Several quantifiers, such as 'all', 'many';
 - n) All interrogatives;
 - o) All negative particles;
 - p) All coordinating conjunctions;
 - q) At least some subordinating conjunctions, like 'if',
'because';
 - r) The lexical morpheme for the grammatical Comp;
- Etcetra.

CHAPTER VIII - CONCLUSION

In chapter I, some broad issues possessing theoretical import for the code-switching phenomenon were raised. On page 3, for instance, the following questions were posed:

- a) If code switched sentences are either well-formed or ill-formed, then is it grammar that distinguishes between them?
- b) If lexical insertion under a terminal node (such as N) is a syntactic phenomenon - in other words, if the transformation of 'I want NP' to either 'I want apples' or 'I want seb' is a syntactical event, then is the choice between 'apples' and seb a syntactical, hence grammatical, choice?
- c) Is grammar involved when the constituent structure of a phrase from another language that replaces the original phrase differs from the constituent structure of the first? For instance, if P + N replaces N + P, or \emptyset + N becomes Art + N, what is the nature of the rule that reverses the order of the constituents or inserts an article before an N?
- d) When a second-language inflection is ruled out on a first-language morpheme, then is the constraint involved a grammatical one?
- e) Is there an intimate bond between the grammar of a language and the morphophonetics of its lexicon?

In a subsequent section of the same chapter (p. 24) the above issues were restated in more specific terms as follows (now renumbered):

- f) Does the CS phenomenon stem from the grammar only of SL or FL or both?
- g) If CS involves the grammar of either SL or FL, then does that grammar possess a code-switching component?
- h) In case of (b), does the CS component vary from one language to another?
- i) If CS involves a third grammar, is the third grammar a product of the interplay between the grammars of SL and FL and hence specific for each pair of languages?
- j) Is the third, i.e., code switching, grammar language-independent and therefore universal in nature? In other words, is the CS grammar a component of Universal Grammar?

During the course of this study, many of these issues have been addressed and responded to, in some cases obliquely if not directly. This chapter aims at presenting a brief summary of the findings in theoretical terms.

Well-Formed vs. Ill-Formed CS Sentences

If two competent bilinguals while conversing in intra-sententially code-switched sentences do not accept - without instruction or agreement - structures like (1):

- 1) *THAT adhyapak MY dost ko KNOW karta hai
 teacher friend OBJ does be-PRES
 'That teacher knows my friend'

but cheerfully go along with (2)

- 2) vah TEACHER mere FRIEND ko janata hai
 that my OBJ know be-PRES
 'That teacher knows my friend'

then the conclusion is inescapable that they both are capable of distinguishing an ill-formed CS construction from a well-formed one. In other words, they both possess some type of faculty that sifts the acceptable constructions from the unacceptable ones.

Is There an Innate Faculty?

To put it somewhat differently, the question is: Would two competent Hindi-English bilinguals, say A and B, living in New Delhi (or New York) rule out (1) on the same grounds as two other competent Hindi-English bilinguals, say C and D, living in Bombay (or Boston)?

If they would, and, furthermore, if, to repeat, each pair has never been instructed in either the freedoms or the constraints governing the constructions, then again it seems very likely that there exists in bilingual humans some type of an inborn, untutored, innate faculty that provides them with the necessary instincts to generate the well-formed CS structures and rule out the ill-formed ones.

Is the CS Process Conceptual or Grammatical?

The findings of this study suggest that the CS process is founded on both conceptual and grammatical factors. It is conceptual to the extent that under the same grammatical node lexical insertions representing certain concepts - termed 'Seed Concepts' - are inadmissible, while insertions representing 'non-Seed concepts' are freely permitted. This aspect of the CS process has been demonstrated on innumerable occasions in the previous chapters and needs no further exemplification.

As for the second part of the question, the answer is that the process is grammatical, too, in as much as the switched lexical insertions must meet the inflectional, derivational and phrase structure requirements of the Feed Language. The innate faculty giving rise to CS constraints does recognize the differences between such and other grammatical processes of each language and allots to each its respective field of operation. For instance, it would not permit the plural Hindi inflection on a CS English noun in the singular, so that a structure like (3) would be starred:

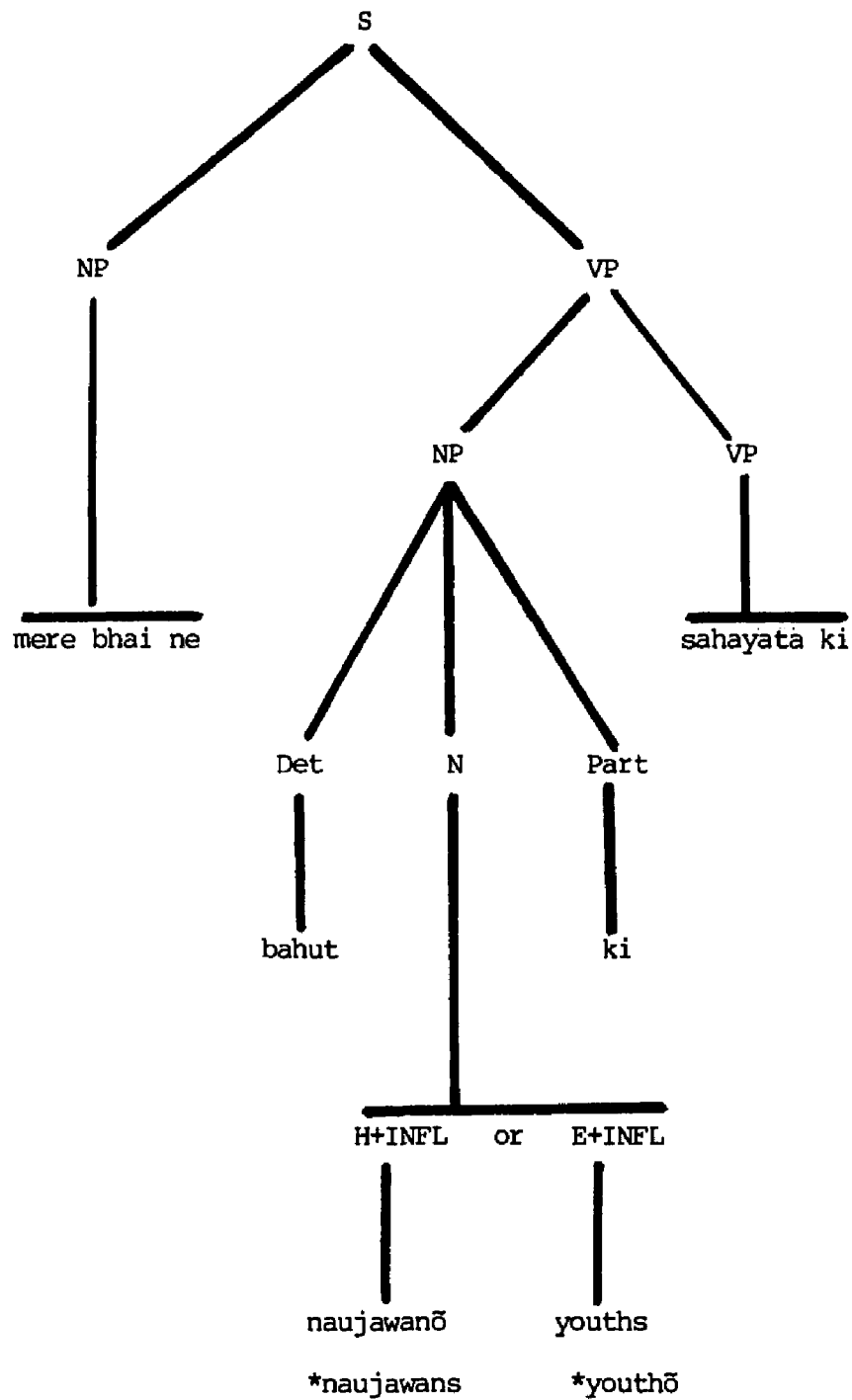
- 3) *mere bhai ne bahut YOUTHŌ ki sahayata ki
 my brother AGT many youths of help did
 'My brother helped many youths'

though the same English nominal insertion bearing an English plural inflection would present no hardship:

- 4) mere bhai ne bahut YOUTHS ki sahayata ki
 my brother AGT many OBJ help did
 'My brother helped many youths'

Let us diagram the above construction, which for purposes of simplicity would be restricted to the CS of the object N node under the VP. Since the term is a non-Seed concept

5)



in the plural, we have two choices - first, between the Hindi naujawan 'youth' and the English 'youth' and, second, between the plural inflectional morphemes of Hindi and English. Four possibilities exist: (1) Hindi N + Hindi inflection; (2) Hindi N + English inflection; (3) English N + English inflection; (4) English N + Hindi inflection.

From the starred entries it is evident that only two choices turn out to be grammatical: Hindi N + Hindi inflection or English N + English inflection. In other words, inflection alone cannot be code switched; the morpheme bearing the inflection and the inflection going on the morpheme must both be from the same language. The Hindi plural inflection being -ō, we can have, as is shown in the diagram, either naujwanō or 'youths', but never naujwans nor 'youthō'. If inflecting a lexical item is a grammatical process, then evidently CS is also a grammatical phenomenon.

How Many Grammars Needed in CS?

The CS literature reveals conflicting opinions about the role of grammar involved in the process. It is debated whether the grammar only of SL is required, or of only FL, or of both. The present study shows that grammars of both SL and FL are necessary to generate well-formed CS structures. It is self-evident that the grammar of SL is needed, for without this grammar going into

operation, there is no guarantee that the basic scaffolding of the sentence would be well-formed to begin with.

That the grammar of FL is equally necessary is supported by the following evidence:

- a) non-switchability of inflections
- b) non-switchability of derivational affixes
- c) non-switchability of constituent structure

Inflections. The preceding example has already demonstrated that the plural inflection cannot be switched without the base morpheme being also switched. As mentioned in Chapter V, this implies that the pluralization process of a language recognizes the difference between its own morphemes and others and is loath to lend its services to an alien form.

Other inflectional processes, too, support the same conclusion. Take, for instance, the comparative and superlative inflections in adjectives, which in Hindi are -tar 'more' and -tam 'most', comparable to the English '-er' and '-est', respectively. Thus, if uchch means 'high', then uchchtar would be 'higher' and uchchtam would be 'highest'. These inflections, too, are non-switchable, so that (6) and (7) are impossible:

- 6) *uski HIGHTtar padvi
his -er position
'his higher position'
- 7) *ek BEAUTIFULtam drishya
a most scene
'a most beautiful scene'

but (8) and (9) are OK.

- 8) uski HIGHER padvi
 his position
 'his higher position'
- 9) ek MOST BEAUTIFUL drishya
 a scene
 'a most beautiful scene'

Among the other areas of the Hindi inflectional system, we could examine also the number and gender inflections on determiners and adjectives, certain sub-categories of which take -a for masculine singular, -i for feminine singular, and -e for masculine plural. Examples would be mera, meri and mere, respectively, for the determiner 'my'; and lamba, lambi and lambe for the adjective 'long'. Here again, Hindi inflections cannot be appropriated by English switches, for the CS process is aware of the fact that English determiners and adjectives remain invariant for number and gender and hence permits that other system to momentarily function in the switched position. This is evidenced by the following example, where the Hindi word for 'heavy' would be bhar-a to match the masculine gender of patthar 'stone' as in (10):

- 10) *yeh HEAVYA patthar
 this heavy stone
 'this heavy stone'

Similarly, in (11) the Hindi dasvī 'tenth' from das 'ten' exhibiting the feminine inflection to match the feminine kahani 'story' would have been OK, but that inflection cannot be appropriated by the switched 'ten', which in English is supposed to retain its invariant shape. Thus, (11) is ruled out:

- 11) *meri TENVI kahani
 my tenth story
 'my tenth story'

Again, if the head noun had been upanyas 'novel' a masculine term, it would have been appropriately matched by the Hindi masculine dasvā, but not by the CS 'tenvā', as in the following:

- 12) *mera TENVĀ upanyas
 my tenth novel
 'my tenth novel'

nor could we change the switched number to an ordinal and then add the Hindi inflection '-a':

- 13) *mera TENTHA upanyas
 my tenth novel
 'my tenth novel'

Again, speaking of adjectival inflections,

- 14) ve pyare kapre
 those lovely garments
 'those lovely garments'

is OK in Hindi, but not the following:

- 15) *ve LOVELE kapre
 those lovely garments
 'those lovely garments'

Further evidence on the issue could be summoned from the prolific verbal inflection area as well, but since Hindi verbs are non-switchable to begin with, the question of switching verbal inflections becomes a moot point. However, the fact remains that the non-switchability of inflections shows that the FL grammar plays an active role in the CS process.

Derivations. As stated in the chapter on 'Other Linguistic Structures', what is true of inflections is also true of derivations, i.e., Hindi derivational processes cannot apply to English switches. To reinforce the point illustrated already, a few additional examples are offered hereunder.

Hindi employs the suffix -purvak 'full' to transform a noun to adjective, yet it is impossible to add this suffix to a Hindi adjective code-switched to English. Thus, in (16) dhyan 'attention' can become dhyanpurvak, but 'attentionpurvak' as in (17) would be out of the question:

16) dhyan-purvak dhang se suno
 attention-full manner with listen
 'Listen attentively'

17) *ATTENTION-purvak dhang se suno
 full manner with listen
 'Listen attentively'

Again, a Hindi adjective can be transformed to abstract noun by the addition of -ta, as in sundar-ta 'beauty' from sundar 'beautiful'. But, this derivation is not available to English switches so that the following would be inadmissible:

18) uski BEAUTIFUL-ta ne jadu kar dia
 her beauty AGT magic do PERF
 'Her beauty did wonders'

Constituent Structure. Moving on from monomorphemic to phrasal switches, we notice the same basic situation, namely, that the SL grammar abdicates its position temporarily in favor of the FL grammar, as illustrated by the grammaticality of both (19) and (20) and the ungrammaticality of (21) and (22):

- 19) Ashok samay par pahunch gaya
 time on reach did
 'Ashok reached on time'
- 20) Ashok ON TIME pahunch gaya
 reach did
 'Ashok reached on time'
- 21) *Ashok TIME ON pahunch gaya
 reach did
 'Ashok reached on time'
- 22) *Ashok reached PAR SAMAY
 on time'
 'Ashok reached on time'

Sentence (19) is a Hindi structure which uses the Hindi postpositional expression samay par 'on time' and is of course well-formed. When the phrase is code switched to English it should and does get converted to a prepositional phrase in keeping with the constituent structure of English and hence (20) is also well-formed. However, when the switched phrase maintains its original Hindi constituent structure - N+P instead of P+N - as it does in (22), it becomes ill-formed.

Likewise, taking an instance of reverse CS - from English to Hindi - (21) again is ill-formed since it fails to convert to the Hindi phrase structure configuration when switching to Hindi.

Examples under all of the above three headings could be multiplied manifold, but it seems reasonable to claim on the basis of what has been already stated that the CS phenomenon accords due recognition to the grammar of FL, as the occasion demands.

Is There a Third (CS) Grammar Involved?

There is a knotty question involved in whether or not there comes into existence a yet another grammar of code switching, a grammar that is a resultant of the interplay between the grammars of SL and FL.

From what has been stated above, the answer seems to be an unambiguous no. For there indeed is no 'interplay' between the two grammars. There is no third grammatical product that emerges from the chemical reaction between the original two. It is not as if the resultant of grammar A and grammar B would be grammar C, whereas the resultant of grammar A and grammar D would be grammar E. The CS grammar of Hindi and English, as such, would not be different from the CS grammar of Hindi and Japanese, except that the switches in each case would observe the rules of their respective grammars.

Instead, there comes into play what may be called the factor of 'recognition'. In the CS context, the grammar of FL (provided that it occurs in the linguistic repertoire of the individual) is deferred to by the grammar of SL. As soon as the SL grammar becomes cognizant of a morpheme or a set of morphemes that does not belong to its own morphophonetic system, it suspends the operations of its own grammatical system and lets the grammatical system of the other language take charge - if only for the nonce.

In other words, when Hindi is interacting with, say, English, it recognizes the fact that the speaker has switched to a non-Hindi medium and instantly withdraws from the scene, until the speaker summons its services back into operation. It would have done the same, had the speaker switched to another language, say, Korean. What the speaker does with the other languages is no concern of Hindi's. A competent bilingual would be able to handle the other grammatical system with responsibility, while a non-competent one may only mess around, subjecting himself to ridicule and embarrassment.

But prior to the permitting of switches, the SL has to take an important decision; it has to sift the Seed Concepts from the non-Seed concepts, for it cannot permit any infidelity to the Seed Concepts. The Seed Concepts must have nothing to do with either the morphophonetics or the grammar of an alien tongue, i.e., they must not be switched.

The foregoing analysis of the CS phenomenon based on the Hindi-English corpus seems to be reasonably borne out by data from the various non-Hindi languages cited in the previous chapter. From the CS viewpoint, it appears that every natural language possesses the same four characteristics:

- 1) It has a set of Seed Concepts;
- 2) It debar morphemes representing the Seed Concepts from getting switched;
- 3) It has a 'recognition' device that differentiates its own morphophonetics and grammar from alien entries;
- 4) It denies permission to any part of the FL grammar to operate upon the morphophonetic shapes of its own lexicon;

Is There a "Seeding Component"?

We have observed that all languages allow code switching processes to come into play, that perhaps all languages have Seed Concepts that largely overlap, that all languages possess the capacity to recognize alien morphophonetics, and, finally, that all languages deny any alien elements permission to undergo their grammatical processes. If the foregoing is true, then would it not be fair to assume that the linguistic infrastructure underlying CS might possibly lie in the realm of universal grammar?

Furthermore, if all the four points mentioned above can be packaged into a single unit, termed, say, the "Seeding Component", then it may also be possible to hold that the Seeding Component is a part of UG?

It may also be rational, in addition, to assume that in harmony with the general notion of UG, the Seeding Component too might vary, within narrow and pre-defined limits, in its actual realization from language to language. In other words, it may be said that the Seeding Component might also partake of a parameterized version of the UG, in accordance with the various factors mentioned in the earlier chapters.

There is no question that the issue is far too unexplored at this juncture to be argued with conviction. Much work would be needed before it can be examined in a meaningful framework.

Appendix I - List of Informants on Hindi-English Data

*

- 1) Mrs Himadri Naval, M.A. (English Literature), M.A. (TESL), ESL Instructor, NYC Board of Education, New York.
- 2) Mr Ram Khanna, M.B.A., Vice President, International Division, Marine Midland Bank, New York.
- 3) Mrs Smiti Khanna, M.A. (Biochemistry), Research Associate, Cornell University Hospital and Medical Center, New York.
- 4) Mr Rohit Naval, B.A., Management Trainee, Marine Midland Bank, New York.
- 5) Mr Rahul Seth, M. A., M.B.A., Computer Consultant, New York.
- 6) Mrs Ratna Seth, M.A. (Economics), Doctoral Candidate in Economics, New York University, New York.
- 7) Mr G. P. S. Bains, M.A. (Linguistics), Doctoral Candidate in Linguistics, New York University, New York.
- 8) Mrs Renuka Joshi, B.A., Former Stewardess, Indian Airlines, New Delhi, India.
- 9) Mr K. N. Khanna, M.A., Businessman, Kanpur, India.
- 10) Mrs Savitri Khanna, B.A., Kanpur, India.

Appendix II - List of Informants on Non-Hindi/English Data

*

- 1) Malayalam-English (Malayalam is a language of the Dravidian family, spoken in South India):

Dr Annie Koshi, M.A., D. Ed.. (Linguistics, Teachers College, Columbia University). Assistant Professor, Dept of Special Services, City College, City University of New York, New York.

Mr Mathew Koshi, M. Sc., Science Teacher, Board of Education, New York City.

- 2) German-English:

Mrs Ursula Motulsky, M. A. (English Language and Literature, Berlin University), 115-11, Union Turnpike, Forest Hills Gardens, N.Y. 11375.

- 3) Bari-English (A Nilotic language, spoken in Ethiopia)

Mr George Vincent, M.A. (Linguistics), Doctoral Candidate, Department of Linguistics, Graduate School, City University of New York, New York.

- 4) Japanese-English:

Dr Miwa Nishimura, Ph.D. (Linguistics), Assistant Professor, Department of Linguistics, Georgetown University, Washington, D.C.

- 5) Tagalog-English:

Dr Jamileo Nibungco, Ph.D. (Linguistics, New York University), 367 Woodlawn Ave., Jersey City, NJ 07305

- 6) Ukrainian-English

Mrs Maria Kiciuk, M.A. (Linguistics), Instructor, Herbert H. Lehman College, City University of New York, New York.

Appendix III - The Seed Concepts

*

The following is a tentative list of the Seed Concepts identified primarily in the Hindi-English CS data, but supported generally by several non-Hindi speakers as well.

Nouns

- animal, bird, boy, child, dog, door, food, girl, home, man, person, tail, thing, water, woman
- ear, eye, foot, hand, head, mouth, neck, nose, tongue, tooth, leg
- day, earth, grass, moon, night, rain, sea, sky, sun, star
- white, black

Pronouns

- I, me, my; we, us, our; you, your; he, him, his; she, her, hers; it, its; they, them, their
- (Reflexives) myself, ourselves; yourself, yourselves; himself, herself, itself, themselves
- (Emphatics); myself, ourselves; yourself, yourselves

Verbs

- be, become, bring, come, cry, die, do, drink, eat, fall, fly, get, give, go, have, hear, hope, keep, know, laugh, leave, live, let, look, make, put, run, say, see, send, sit, sleep, speak, stand, take, tell, think, wake, want, weep, wish, write
- All to-infinitive forms

Note: Other verbs, when switched, get recategorized as to-less (bare) infinitive 'nominals'.

Determiners

- this, that, these, those

- one, two, three, four, five,...

Quantifiers

- all, another, any, both, each, either, enough, every, few, little, many, more, much, neither, none, (the) other, others, some, such
- All terms ending with -body, -one, -thing, etc.,

Postpositions

- at, above, after, along, among, before, below, between, down, during, for, from, in, of, on, out, than, to, up, with

Adjectives

- afraid, alone, bad, big, certain, far, good, hungry, long, more, near, new, nice, own, plenty, quick, small

Adverbs

- about, again, alone, also, always, enough, extremely, greatly, here, highly, just, now, only, quickly, quite, so, such, slowly, soon, then, there, today, too, very, well

Conjunctions

- and, but, or
- after, because, before, however, since, therefore, though, unless, until, whatever, whenever, wherever, whether, while, yet

Inflections

- All types

Derivational Affixes

- All types

Interrogatives

- how, what, when, where, which, who, whom, why

Negatives

- no, not, never

Appendix IV - Questionnaire for Non-Hindi Informants

*

Name _____ First Language _____

Date _____

Code Switching: Questionnaire

Please translate the following sentences first into your native language and then switch ONLY ONE of the underlined words to English. A sentence frame can have no more than one English entry at any time.

The task is to judge whether the code-switched structure sounds acceptable or unacceptable. The unacceptability might arise from the structure sounding bizarre, ridiculous, or outrageous, etc.

If fully acceptable, please place a check mark (✓) over the English word; if wholly unacceptable, place a cross (x). In case of doubt, please enter the percentage of acceptability over the word.

*

- 1) I see a/an/Ø animal, bird, dog, tail, door, home
child, man, person, woman.

Do the above get better in the plural? _____

gentleman, lady, infant, baby, parrot, tiger

- 2) The man is eating/drinking food, water, bread, fruit,
apple, milk, soda.

- 3) The woman went to her home, dwelling, lodging, residence.

- 4) I have pain in my ear, eye, foot, hand, tooth, leg, arm,
knee, ankle, finger, elbow, wrist.

Do the above get better in the plural? _____

mouth, neck, nose, tongue, back

liver, heart, lungs, kidney, pancreas, spine.

- 5) I see the sun, the moon, a star in the sky.
- 6) She likes the rain, the grass, the sea, the sky.
- 7) The earth, the sun, the moon is round.
- 8) The night, day, week, month, hour, year passed quickly.
- 9) I, we, you, you, he, she, it, they will go to the store.
(sing) (pl)
- 10) My, our, your, his, her, its, their home is nice.
- 11) The man helped me, us, you, him, her, it, them.
- 12) I/we/you/he/she/it/they hurt myself, ourselves, yourself,
yourselves, himself, herself, itself, themselves.
- 13) a. I/we did this work myself/ourselves.
b. You did this work yourself/yourselves.
c. He/she/they did this work himself/herself/themselves.
- 14) John likes this, that, these, those book(s).
- 15) I have one, two, three, four, five student(s).
twenty, thirty, forty, fifty
one/two/three hundred,
seventeen, thirty-one, fifty-seven
one hundred and seventy nine
- 16) My share comes to a half, a quarter, three-eighths of the land.
- 17) a. In my class today all, many, some, few were absent.
b. I know someone, somebody, everyone, everybody there.

- c. Did anyone, anybody come?
 - d. When, where, why, how are you going?
 - e. What, which, whose (book) was lost?
 - f. Do you like something, anything, everything?
 - g. This wall is red, blue, white, black, purple, maroon,
yellow, green.
- 18) a. The book is at, on, above, under, over the table.
- b. He went to, from, out of the school.
- c. She came after, among, before, between us.
- d. The man was walking up, down, along, below the bridge.
- e. The house is across the street.
- f. The road passes through the desert.
- 19) The girl was afraid, alone, bad, big, far, good, hungry, nice
scared, lonely, huge, pleasant, famished, affable.
- 20) I like this movie much, very much.
- 21) I like this one more, better, less, worse than the other one.
- 22) Please mark differences, if any, between the following pairs:
- a. The book is good, bad.
 - b. The distance is long, short.
 - c. The tree is big, small.
 - d. The problems are many, few.
 - e. The furniture is new, old.
 - f. The room is empty, full.
 - g. The child is well, ill.

- 23) The boy always, again, alone, also, just reached home.
quickly, slowly, soon, now, soon
too, quite, today
expeditiously, efficiently, promptly, invariably
leisurely, instantly, yesterday, last week
- 24) The man was here, there.
- 25) I will see you now, then.

[Note: In the following structures, ellipsis means a short pause.]

- 26) a. The brother and the sister both passed the test.
 b. (without pause) The brother passed and the sister passed,
too.
 c. (with pause) The brother passed... and the sister passed,
too.
 d. The brother passed but the sister failed.
 e. The brother passed but the sister failed.
 f. The brother passed... but the sister failed.
 g. John was guilty or his wife was guilty.
 h. John was guilty or his wife was guilty.
 i. John was guilty... or his wife was guilty.
- 27) a. If you work hard, you will get a good grade.
 b. If you work hard, you will get a good grade.
 c. If you work hard...you will get a good grade.
 d. You got a good grade because you worked hard.
 e. You got a good grade because you worked hard.

- f. You got a good grade... because you worked hard.
- g. Since you worked hard, you got a good grade.
- h. Since you worked hard, you got a good grade.
- i. Since you worked hard...you got a good grade.
- 28) a. I was ill, yet I went to school.
 b. I was ill, yet I went to school.
 c. I was ill... yet I went to school.
- 29) Unless, until you tell me, I will not help you.
- 30) After, before you came, I spoke with him.
- 31) However, whenever, wherever you wish, I can meet you.
- 32) However, whenever, wherever you wish, I can meet you.
- 33) However, whenever, wherever you wish..., I can meet you.
- 34) John may, might, can, could, will, would, shall go home.
should, ought to, must
- [Note: Please construct a sentence frame with 'John' as the subject and the following verbs in the base form of your language. Then enter your judgment about the switchability of the verb to English.]
- 35) eat, drink, live, die, come, go, give, take, see, look, talk,
laugh, cry, see, sit, stand, speak, think, feel
- 36) John is eating, drinking, living, dying, coming, going,
giving, taking, crying, seeing, sitting, laughing,
looking, standing, speaking, thinking
- 37) John has eaten, drunk, lived, come, gone, given, taken, cried,
seen, sat, stood, laughed, looked, spoken, thought.

- 38) John has been eating, drinking, living, dying, coming, going,
giving, taking, crying, seeing, sitting,
laughing, looking, standing, speaking, thinking
- 39) We shall cooperate, work, concur, combine, unite with you.
conspire, dispute, quarrel, observe, exert,
join, teach, resign, study, agree, disagree.
- 40) I will not, never go there.
hardly, scarcely, rarely, infrequently
- 41) If a plural noun is switched, does it take
English or Native inflection? _____
- 42) If a verb is switchable, does it take English or Native
inflection for the following?
Past _____ Continuous _____
Perfect _____ Modals _____
- 43) If your language has any other inflections please state
if they are native or English on switchable morphemes
- Inflection _____
English _____ Native _____
- Inflection _____
English _____ Native _____
- Inflection _____
English? _____ Native _____

Appendix V - Basic Core Vocabulary

*

Note: Entries in roman letters represent the shorter list of 100 words; those in italics are additions that make up the larger list of 200 items.

1. <i>all</i>	51. <i>float</i>	101. <i>narrow</i>	151. <i>stand</i>
2. <i>and</i>	52. <i>flow</i>	102. <i>near</i>	152. <i>star</i>
3. <i>animal</i>	53. <i>flower</i>	103. <i>neck</i>	153. <i>stick</i>
4. <i>ashes</i>	54. <i>fly</i>	104. <i>new</i>	154. <i>stone</i>
5. <i>at</i>	55. <i>fog</i>	105. <i>nighr</i>	155. <i>straight</i>
6. <i>back</i>	56. <i>foot</i>	106. <i>nose</i>	156. <i>suck</i>
7. <i>bad</i>	57. <i>four</i>	107. <i>not</i>	157. <i>sun</i>
8. <i>bark</i>	58. <i>freeze</i>	108. <i>old</i>	158. <i>swell</i>
9. <i>because</i>	59. <i>fruit</i>	109. <i>one</i>	159. <i>swim</i>
10. <i>belly</i>	60. <i>give</i>	110. <i>other</i>	160. <i>tail</i>
11. <i>big</i>	61. <i>good</i>	111. <i>person</i>	161. <i>that</i>
12. <i>bird</i>	62. <i>grass</i>	112. <i>play</i>	162. <i>there</i>
13. <i>bite</i>	63. <i>green</i>	113. <i>pull</i>	163. <i>they</i>
14. <i>black</i>	64. <i>guts</i>	114. <i>push</i>	164. <i>thick</i>
15. <i>blood</i>	65. <i>hair</i>	115. <i>rain</i>	165. <i>thin</i>
16. <i>blow</i>	66. <i>hand</i>	116. <i>red</i>	166. <i>think</i>
17. <i>bone</i>	67. <i>he</i>	117. <i>right-correct</i>	167. <i>this</i>
18. <i>breathe</i>	68. <i>head</i>	118. <i>rightside</i>	168. <i>thou</i>
19. <i>burn</i>	69. <i>hear</i>	119. <i>river</i>	169. <i>three</i>
20. <i>child</i>	70. <i>heart</i>	120. <i>road</i>	170. <i>throw</i>
21. <i>cloud</i>	71. <i>heavy</i>	121. <i>root</i>	171. <i>tie</i>
22. <i>cold</i>	72. <i>here</i>	122. <i>rope</i>	172. <i>tongue</i>
23. <i>come</i>	73. <i>hit</i>	123. <i>rotten</i>	173. <i>tooth</i>
24. <i>count</i>	74. <i>hold—take</i>	124. <i>rub</i>	174. <i>tree</i>
25. <i>cut</i>	75. <i>how</i>	125. <i>salt</i>	175. <i>turn</i>
26. <i>day</i>	76. <i>hunt</i>	126. <i>sand</i>	176. <i>two</i>
27. <i>die</i>	77. <i>husband</i>	127. <i>say</i>	177. <i>vomit</i>
28. <i>dig</i>	78. <i>I</i>	128. <i>scratch</i>	178. <i>walk</i>
29. <i>dirty</i>	79. <i>ice</i>	129. <i>sea</i>	179. <i>warm</i>
30. <i>dog</i>	80. <i>if</i>	130. <i>see</i>	180. <i>wash</i>
31. <i>drink</i>	81. <i>in</i>	131. <i>seed</i>	181. <i>water</i>
32. <i>dry</i>	82. <i>kill</i>	132. <i>sew</i>	182. <i>we</i>
33. <i>dull</i>	83. <i>know</i>	133. <i>sharp</i>	183. <i>wet</i>
34. <i>dust</i>	84. <i>lake</i>	134. <i>short</i>	184. <i>what</i>
35. <i>ear</i>	85. <i>laugh</i>	135. <i>sing</i>	185. <i>when</i>
36. <i>earth</i>	86. <i>leaf</i>	136. <i>sit</i>	186. <i>where</i>
37. <i>eat</i>	87. <i>leftside</i>	137. <i>skin</i>	187. <i>white</i>
38. <i>egg</i>	88. <i>leg</i>	138. <i>sky</i>	188. <i>who</i>
39. <i>eye</i>	89. <i>lie</i>	139. <i>sleep</i>	189. <i>wide</i>
40. <i>fall</i>	90. <i>live</i>	140. <i>small</i>	190. <i>wife</i>
41. <i>far</i>	91. <i>liver</i>	141. <i>smell</i>	191. <i>wind</i>
42. <i>fat—grease</i>	92. <i>long</i>	142. <i>smoke</i>	192. <i>wing</i>
43. <i>father</i>	93. <i>louse</i>	143. <i>smooth</i>	193. <i>wipe</i>
44. <i>fear</i>	94. <i>man—male</i>	144. <i>snake</i>	194. <i>with</i>
45. <i>feather</i>	95. <i>many</i>	145. <i>snow</i>	195. <i>woman</i>
46. <i>few</i>	96. <i>meat—flesh</i>	146. <i>some</i>	196. <i>woods</i>
47. <i>fight</i>	97. <i>mother</i>	147. <i>spit</i>	197. <i>worm</i>
48. <i>fire</i>	98. <i>mountain</i>	148. <i>split</i>	198. <i>ye</i>
49. <i>fish</i>	99. <i>mouth</i>	149. <i>squeeze</i>	199. <i>year</i>
50. <i>five</i>	100. <i>name</i>	150. <i>stab—pierce</i>	200. <i>yellow</i>

94. *breast* 95. *claw* 96. *full* 97. *horn* 98. *knee* 99. *moon*
100. *round*

Appendix VI - Non-Switchable Sentences

*

No part of a sentence composed exclusively of morphemes representing the Seed Concepts can be switched. The following are a few illustrative examples of the wholly 'non-switchable' structures:

- 1) She went home
 came
 lived at
 slept "
 sat "
 ate "
 died "
- 2) I see that man
 this woman
 person
 child
 these men
 those women
 people
- 3) Your head looks nice
 His eye
 Her mouth
 My foot
 Our hand
 nose
 neck
 tongue
- 4) What is your name?
 Which thing
- 5) How are you?
 Who
 Where
 What
- 6) Please give me some food
 water

- 7) The sun shines in the sky
moon on the earth
star
- 8) They saw everything
everyone
everybody
everything
nobody
none
nothing
- 9) Were you speaking to anybody
Are anyone
- 10) Do you know this?
want
hope for
- 11) All had gone
Many
Some
Few
None
- 12) Will he take this?
Would
Can
Could
Shall
Should
May
Might
Must
Need
- 13) They have been sleeping all night
sitting
standing
laughing
crying
- 14) I need much of that
more
little
less
a few

Appendix VII - Autobiographical Statement

*

Name: Uday Chandra Naval

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Biodata

1921	Born, India
1922	
1923	Started Acquiring Seed Concepts
1924	
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1942	Obtained Master of Arts (English Literature)
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1983
1984
1985
1986

Migrated to the USA

Obtained Master of Arts (Linguistics)

Obtained Doctor of Philosophy (Linguistics)

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