RAISING IN PERSIAN
RAISING IN PERSIAN

By
Linda M. Jones, B.A.

A Thesis
Submitted to the School of Graduate Studies
in Partial Fulfilment of the Requirements
for the Degree
Master of Arts

McMaster University
February 1983
TITLE: Raising in Persian

AUTHOR: Linda m. Jones, B.A. (Waterloo)

SUPERVISOR: John Colarusso

NUMBER OF PAGES: vi, 67
'Raising', a rule of transformational syntax, is considered to be a language universal. This thesis challenges its universality on the basis of evidence from Modern Persian. Whereas in English the subject of the embedded sentence may be raised to object of the matrix verb, in Persian the embedded sentence is restructured, forming a noun phrase, and the S-node is pruned. This renders centre-embedding more manageable and precludes extrapositioning.

Interviews with native speakers and my own knowledge of Persian provide the data for these conclusions.
ACKNOWLEDGEMENTS

I would like to express my gratitude to a number of people whom I feel have been instrumental in the smooth completion of this work: my fellow graduate students, Peggy Brizinski and Sam Migliore, for their wit and charm; my parents, for helping with my many responsibilities; my children, for putting up with a busy mother; my main informant, Dr. Ebrahim Roumi, for his patience; and, my friend, Dr. Ariel Zielinsky, for his understanding. I acknowledge, in particular, the guidance of my committee members, Dr. Matthew Cooper, Dr. David Counts, and, my supervisor, Dr. John Colarusso, whose intelligence and encouragement will always be remembered with appreciation.
**LIST OF ABBREVIATIONS**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>adj</td>
<td>adjective</td>
</tr>
<tr>
<td>Aux</td>
<td>auxiliary</td>
</tr>
<tr>
<td>comp</td>
<td>complementizer</td>
</tr>
<tr>
<td>cop</td>
<td>copula verb</td>
</tr>
<tr>
<td>DOM</td>
<td>direct object marker</td>
</tr>
<tr>
<td>inf</td>
<td>infinitive</td>
</tr>
<tr>
<td>INF</td>
<td>infinitive</td>
</tr>
<tr>
<td>N</td>
<td>noun</td>
</tr>
<tr>
<td>NP</td>
<td>noun phrase</td>
</tr>
<tr>
<td>obj</td>
<td>direct object</td>
</tr>
<tr>
<td>pl</td>
<td>plural</td>
</tr>
<tr>
<td>pres</td>
<td>present tense</td>
</tr>
<tr>
<td>S</td>
<td>sentence</td>
</tr>
<tr>
<td>SC</td>
<td>structure change</td>
</tr>
<tr>
<td>SD</td>
<td>structure description</td>
</tr>
<tr>
<td>sg</td>
<td>singular</td>
</tr>
<tr>
<td>SOV</td>
<td>subject, object, verb word ordering</td>
</tr>
<tr>
<td>subj</td>
<td>subjunctive</td>
</tr>
<tr>
<td>SVO</td>
<td>subject, verb, object word ordering</td>
</tr>
<tr>
<td>V</td>
<td>verb</td>
</tr>
<tr>
<td>VP</td>
<td>verb phrase</td>
</tr>
<tr>
<td>1Ps</td>
<td>first person singular</td>
</tr>
<tr>
<td>1Pp</td>
<td>first person plural</td>
</tr>
<tr>
<td>2Ps</td>
<td>second person singular</td>
</tr>
<tr>
<td>2Pp</td>
<td>second person plural</td>
</tr>
<tr>
<td>3Ps</td>
<td>third person singular</td>
</tr>
<tr>
<td>3Pp</td>
<td>third person plural</td>
</tr>
</tbody>
</table>
TABLE OF CONTENTS

1.0 Introduction 1
   1.1 Defining Raising 2
      1.1.1 Rosenbaum 3
      1.1.2 Bresnan 3
      1.1.3 Burt 4
      1.1.4 Postal 5
   1.2 A Common Denominator 5

2.0 Raising in English 7
   2.1 Postal's Intention 7
   2.2 Postal's Tree Diagrams 8
   2.3 Postal's B-Verbs 9
   2.4 Postal's Tests for Raising with B-Verbs 11
      2.4.1 Passivization 11
      2.4.2 Reflexivization 12
      2.4.3 Inclusion Constraint 13
      2.4.4 Reciprocal Marking 14

3.0 Background Information 15
   3.1 Sentence Embedding 15
   3.2 Word Order and Embedding in Persian 19
   3.3 The Ezáfe 20

4.0 Moyne and Carden's Analysis 25
   4.1 Moyne and Carden's NP Raising 25
   4.2 Moyne and Carden's Infinitive Raising 28
   4.3 Applying Postal's Tests 33
      4.3.1 Passivization 34
      4.3.2 Reflexivization 38
      4.3.3 Inclusion Constraint 39
      4.3.4 Reciprocal Marking 40
   4.4 Verb Raising in Japanese 41

5.0 Proposed Analysis 43
   5.1 Structure Description 44
   5.2 Structure Change 47
   5.3 Tree Diagrams: Step by Step 49
      5.3.1 The Ke-Clause 51
      5.3.2 The Infinitival Complement 54
   5.4 Proving the Analysis 56
      5.4.1 Disproving Raising 57
      5.4.2 S-Node Pruning 58

6.0 Conclusions 62

References 66
1.0 Introduction

In this thesis, I demonstrate that the prevalent description of Raising (Postal 1974; Bresnan 1979: 173; Rosenbaum 1967: 61; Burt 1971: 177) does not apply to certain dialects of Persian, casting doubt on its stated, or implied, universality (Postal 1974: 386; Burt 1971: 1; Rosenbaum 1967: 1). By focusing on this one rule of grammar, I substantiate Comrie's claim (1981) that Chomsky's method (1965) of deriving abstract universals from the analysis of only one language should be regarded with great skepticism. That is, it would seem necessary to examine a number of languages in depth in order to ascertain the appropriate degree of abstraction or the actual universal rules of syntax.

Persian is an ideal source for testing the alleged universality of Raising since it is an important member of the Indo-European language family both historically and linguistically: if it should deviate from the presumed universal pattern, one must wonder how more distantly related or unrelated languages conform to the stated norm.

The information necessary to complete this project was obtained in two stages. I first acquired a basic knowledge of Persian during a six-month stay in Iran with a monolingual family, later improving my proficiency by maintaining contact with Iranians living in Canada. This
enabled me to carry out the second stage of my work which consisted of extensive interviews with native speakers of Persian from Tehran and the province of Mazandaran. There are many local variations of Persian and Raising might occur in some dialects (Moyne and Carden 1974: 221), however, the fact that it does not exist in all, weakens its universality and suggests that languages, proven to have Raising, may not employ it consistently in all dialects.

In order to achieve my goals I: 1) define Raising; 2) discuss Postal's work on Raising in English (1974); 3) provide background information on Persian grammar and syntax in general that is relevant to the present endeavour; 4) examine Moyne and Carden's data on Noun Phrase and Infinitive Raising in Persian (1974), demonstrating that the evidence for Noun Phrase Raising is questionable and that their appellation 'Infinitive Raising' is a misnomer; 5) show that a restructuring of the embedded sentence causes obligatory S-Node Pruning that is not equivalent to Raising.

1.1 Defining Raising

Raising has been referred to by a variety of names and described by different methods. I outline a few such analyses here to derive a common denominator and show that the core definition remains constant.
1.1.1 Rosenbaum

Labelled bracketing and the term Pronoun Replacement are used by Rosenbaum (1967: 61) to describe Raising. According to his method, string (1) generates string (2) after the application of the Pronoun Replacement Transformation.

\[(1) \text{ I believe } [\text{it}]_{TP} [\text{for} ]_{TP} [\text{John}]_{TP} [\text{to have convince+en Bill}]_{TP} \]

\[(2) \text{ I believe } [\text{John}]_{TP} [\text{for} ]_{TP} [\text{to have convince+en Bill}]_{TP} \]

John is moved out of the embedded sentence 'for John to have convinced Bill' replacing 'it' in the matrix sentence 'I believe it'. In other words, the subject of the embedding is raised to be the object of the matrix verb.

1.1.3 Bresnan

Bresnan chooses the name Subject Raising for the transformation under discussion. This term should not be confused with Raising to Subject, a process not described in this thesis, which refers to the raising of the complement subject to the subject position in the matrix sentence.

Tree diagram (3) exemplifies Bresnan's description of Subject Raising (1979: 169). Again we see that the subject NP of the embedded sentence is removed from under the domination of the embedded S-node and placed under an NP-node that is dominated by the same node as the matrix verb (in this case the VP-node).
1.1.3 Burt

Two of Burt's many diagrams (1971: 186) are reproduced here to demonstrate that the operation she refers to as It-Replacement does not differ significantly from Bresnan's Subject Raising and Rosenbaum's Pronoun Replacement.
1.1.4 Postal

Postal's work is examined in greater detail in section (2). For the present, it is sufficient to point out that his basic definition does not contradict any described herein.

1.2 A Common Denominator

The common denominator of the above descriptions can be stated as: the subject of the embedded sentence, the NP directly dominated by the embedded S-node, is moved out from under that node and placed under an NP-node that is dominated by the same node that dominates the matrix verb -- variably the VP-node, the matrix S-node and an unspecified node -- making it, in effect, the direct object of the matrix sentence. Tree diagrams (6)a and b illustrate this core definition that serves for the remainder of the thesis.

(6) a)
What happens to the remaining embedded sentence is a point of debate that has not received a great deal of attention, and, has no consequence for the outcome of my work.
2.0 Raising in English

Following the generally accepted description of Raising, outlined in the introduction, Postal's mammoth text \textit{On Raising: One Rule of English Grammar and Its Theoretical Implications} (1974) represents the most thorough work that has been done on this phenomenon. I in no way attempt to refute his analysis of the English data, but his statements that "Raising is not, in fact, a particular element of English grammar but is rather only the English instantiation of an operation of universal grammar" (2), and, "some of the apparently ad hoc limitations on the classes of derivations generated by language-particular manifestations of the universal rule are themselves in part a function of universally characterizable constraints" (386).

In this section, I briefly review Postal's work to lay the foundation for a critique of Moyne and Carden's assertions concerning the presence of Raising in Modern Persian (1974), and, my own analysis of the material.

2.1 Postal's Intention

Postal deals with sentences related to (7), his '(i)', to demonstrate that "English sentences like (i) have surface structures in which Melvin is an object of the main verb, though they have underlying structures in which Melvin is a subject of the complement being mediated by a rule of
grammar called Raising" (xiii).

(7) (i) \( \text{Max} \left\{ \begin{array}{l} \text{believed} \\ \text{proved} \\ \text{found} \end{array} \right\} \text{Melvin to be immortal.} \)

2.2 Postal's Tree Diagrams

Postal's diagrams show that in the underlying structure (8), 'he' is the subject of the embedded sentence 'he is a genius', dominated by the \( S_1 \)-node. Raising takes the NP 'he' out of the the embedded sentence, moving it up to be dominated by the \( S_0 \)-node, which also dominates the matrix verb 'believes'. 'Him' then acts as the direct object of the matrix verb (see section 2.4 below) independent of the remaining embedded sentence 'to be a genius'.

(8) a)
2.3 Postal's B-Verbs

Postal classifies the verbs that trigger Raising into four groups: B-verbs, N-verbs and W-verbs that trigger Raising to Object, and, A-verbs that trigger Raising to Subject. His analysis is concentrated on the B-verbs to counter Chomsky's claim that the contrasts of the infinitival complement and the that-clause are a function of the distinction between finite and infinite clauses, rather than a result of the application of Raising (1971). Chomsky does not dispute the occurrence of Raising to Subject, and he does not analyze N-verbs or W-verbs, so Postal only examines these three groups to support his proposal concerning Raising for B-verb infinitival complement derivations (Postal 1974: 176).

B-verbs can be contrasted with the other classes of verbs, reviewed by Postal, according to the following points:

1) B-verbs exhibit two surface structures that are
equivalent in meaning, (a) that-clause and (b) infinitival complement:

(9) a) Mary believes that John is rich.
    b) Mary believes John to be rich.

(10) a) I will prove that I am innocent.
    b) I will prove myself to be innocent.

(11) a) Susan found that Bruce had left.
    b) Susan found Bruce to have left.

ii) B-verbs are raised to the object of the matrix sentence whereas A-verbs are raised to the subject position. See examples (12) and (13) respectively.

(12) a) Mona imagined that Pat was going.
    b) Mona imagined Pat to be going.

(13) a) It appears that Brian likes apple juice.
    b) Brian appears to like apple juice.

iii) B-verbs do not undergo the Equi-NP Deletion transformation as W-verbs, represented by example (15), do:

(14) a) I believe myself to be angry.
    b) *I believe to be angry.

(15) a) I want to draw.
    b) *I want myself to draw.

iv) B-verbs do not precede 'from' and a subjectless gerund as N-verbs, (b), do:
(16) a) *I proved John from leaving.
    b) I stopped John from leaving.

2.4 Postal's Tests for Raising with B-Verbs

The tests that Postal employs to prove that Raising has applied are interesting on two accounts: i) they can be used, if applicable to Persian, to disprove his first assertion that Raising is a universal; and ii) they cannot always be applied to the Persian data, disproving his second assertion that there are universally characterizable constraints. I outline four of his proofs here, analyzing them with reference to the Persian material in section 4.

2.4.1 Passivization

The different effect of passivization on English sentences with that-clauses and infinitival complements is easily seen in the following examples:

(17) a) Mary believed that Peter was innocent.
    b) That Peter was innocent was believed by Mary.
    c) *Peter was believed that was innocent by Mary.

(18) a) Mary believed Benjy to be smart.
    b) Benjy was believed to be smart by Mary.
    c) *Benjy to be smart was believed by Mary.

In the case of the that-clause, passivization acts upon the whole embedded sentence 'that Peter was innocent', while in
the case of the infinitival complement, it acts only upon the NP 'Benjy'. Since the passivization transformation can be described as (19), one must conclude that 'that Peter was innocent' and 'Benjy' are dominated by a single NP-node but that 'Benjy to be smart' is not.

(19) SD: X NP V NP Y
     1 2 3 4 5
SC: 1 4 3+be+en by#2 5

This indicates that 'Benjy' in (18) is no longer a member of the embedding leading to Postal's conclusion that it is raised out of its deep structure position within the embedded sentence.

2.4.2 Reflexivization

Pronouns only undergo reflexivization when the coreferential NP's are found within the same clause -- i.e. dominated by the same S-node with no intervening S-node. This rule explains the grammaticality of (20)a and (21)a, and the ungrammaticality of (20)b and (21)b, while giving support to a Raising analysis.

(20) a) Paul knows that he is successful.
    b)*Paul knows that himself is successful.

(21) a) Paul knows himself to be successful.
    b)*Paul knows him (he) to be successful.

(21)b would be grammatical if 'Paul' and 'him' were not
coreferential, but since coreference is intended, it is marked as ungrammatical. (21)a, however, is grammatical when 'Paul' and 'himself' are coreferents, demonstrating that they are clause mates and indicating that Raising has taken place.

2.4.3 Inclusion Constraint

This constraint does not allow clause mates to overlap in coreference, rendering (22)a-d ungrammatical when a degree of shared reference is intended.

(22) a)*I understand me.
   b)*We see me.
   c)*He laughed at them.
   d)*They joked about him.

The application of this test to that-clauses and infinitival complements following B-verbs demonstrates that the latter behave as clause mates (hence they are raised and cannot be coreferents) and the former do not:

(23) a) I believe that we arrived late.
   b)*I believe us to have arrived late.
   c) We believe that I won.
   d)*We believe me to have won.

(24) a) He proved that they knew the answer.
   b)*He proved them to know the answer.
   c) They proved that he was right.
d)*They proved him to be right.

As with (22)c and d, (24)b and d are only grammatical if there is not overlap of reference and 'he' is not one of 'them'.

2.4.4 Reciprocal Marking

Reciprocal marking, like reflexivization, is clause internal and cannot be used in the embedded sentence to refer to a member of the matrix sentence. This explains the variation in acceptability of the following sentences, again proving that Raising is applied in the case of the infinitival complement and not in the case of the that-clause.

(25) a) We believe each other to be intelligent.
    b) They imagined each other to sing beautifully.

(26) a)*We believe that each other is intelligent.
    b)*They imagined that each other sings beautifully.
3.0 Background Information

The analysis of Raising in Persian cannot be understood without examining sentence embedding in general, word order and embedding in Persian, and the *ezāfe* construction. These three topics are reviewed here in a depth suitable to the present work.

3.1 Sentence Embedding

Sentence embedding is the process by which an S-node can be dominated by an NP-node and thus dominated by a higher S-node:

\[(27) \ a)\]

\[
\text{S} \\
\text{NP} \\
\text{N} \\
\text{S} \\
\text{VP}
\]

\[
\text{S} \\
\text{NP} \\
\text{V} \\
\text{NP} \\
\text{N} \\
\text{S}
\]
Diagrams (27)a and b represent sentences that exhibit a head noun, as in (28)a and b. Diagrams (27)c and d, on the other hand, illustrate sentences that have no head noun but a sentential subject or object exemplified respectively by (29)a and b.

(28) a) The claim that I am angry is absurd.
    b) Rona holds the opinion that Michael is crazy.

(29) a) That Peggy left surprised Morris.
    b) Mary heard that David was a teetotaller.

An NP-node can be dominated by an S-node which can in turn be dominated by an NP-node, making recursiveness
possible:

(30)  a) Right-embedding

b) Centre-embedding

Recursion permits the formation of sentences with repeated embedding such as (31)a and b, corresponding to the diagrams (30)a and b.

(31) a) I denied the claim that I knew that Peggy said that she loved to dance.

b)*That that Sam is talkative is certain is questionable.

While both are structurally correct, the right-embedding of (31)a is easily comprehensible though the centre-embedding of (31)b obscures the meaning.

Kuno (n.d.) has shown that centre-embeddings, particularly those with the same clause boundaries (e.g. that), generally reduce comprehensibility due to limitations on human short-term memory. Persian examples demonstrate
corresponding acceptability:

(32) a) Right-embedding

man goftam ke kāve midānad ke
I said-1Ps that Kaveh know-3Ps that

ān mard nemixāhad beravād
that man not-want-3Ps subj-go-3Ps

= I said that Kaveh knows that that man doesn't want to go.

b) Centre-embedding

*In ke in ke ān mard nemixāhad
this that this that that man not-want-3Ps
biāyad vāze ast be nazār miāyad
subj-come-3Ps clear is to appear come-3Ps

= *That that that man doesn't want to come is clear appears.

English and Persian both use extrapositioning to eliminate the problems of centre-embeddings, transforming the unacceptable (31)b and (32)b to the more acceptable (33)a and b.

(33) a) It is questionable that it is certain that Sam is talkative.

b) be nazār miāyad ke vāze ast ke an to appear come-3Ps that clear is that that mard nemixāhad biāyad man not-want-3Ps subj-come-3Ps

= It appears that it is clear that that man doesn't want to come.

The problem of centre-embedding in Persian is also alleviated through the formation of infinitival complements.
which I shall discuss more fully below.

3.2 Word Order and Embedding in Persian

Persian is an SOV language with prepositions, post-nominal positioning of attributives and clause-initial conjunctions, illustrated by (34).

\[(34) \text{man be mard ke didi } \text{tup-rā dādam} \]
\[= \text{I gave the ball to the man that you saw.} \]

Ordinarily SOV languages use clause-final conjunctions, postpositions and attributives that precede the noun (Greenberg 1963: 110), avoiding the problem of centre-embedding. Persian, however, with its opposition on each point creates difficult centre-embeddings that must undergo heavy NP-shift (Colarusso 1975) or extrapositioning. In fact, prepositions, post-nominal positioning of attributives and clause-initial conjunctions are normally associated with VSO languages (Greenberg 1963: 110), the form which Persian resembles after undergoing extrapositioning, verb-person concord (suffixal) and PRO-deletion:

\[(35) \quad \begin{align*}
\text{a)} & \quad \text{man in ke ānhā raftand rā midānam} \\
& = \text{I know that they went.} \\
\text{b)} & \quad \text{midānam ke raftand} \\
& = \text{I know that they went.}
\end{align*} \]
The nominalization of the verb, creating an infinitival complement, is another way that Persian deals with the awkwardness of centre-embedding that is inherent in its structure. Although the application of nominalization is limited, it functions to lighten the centre-embedding as shown in the following.

(36) a) centre-embedded that-clause

man in ke sārā be tehrān raft rā I this that Sarah to Tehran went-3Ps DOM
midānestam
knew-1Ps .

= I knew that Sarah went to Tehran.

b) nominalization (infinitival complement)

man raftan-e-sārā be tehrān rā midānestam I to go Sarah to Tehran DOM knew-1Ps

= (gloss) I knew of Sarah's going to Tehran.

This construction will be examined in greater detail in sections 4 and 5.

3.3 The Ezafe

It is necessary to understand the function of the ezafe in Persian before examining Moyne and Carden's work on Raising in that language (see section 4).

The 'ezafe' refers to the 'e' that is used in Persian to join words of a phrase together as in (37).

(37) a) zan-e-zibā = the (a) beautiful woman
woman beautiful
b) bačče-hā-ye-baď = (the) bad children
child-pl bad

c) nazdik-e-mān = beside me
beside I

d) ketāb-e-kāve = Kaveh's book
book Kaveh

e) raftan-e-ali = Ali's leaving
to go Ali

In traditional theory the ezāfe was considered to have two different functions: to adjoin the attribute to the head noun, exemplified by (37)c-e, or the description to the described, (37)a-b (Windfuhr 1979: 58). More recently, the case grammar approach has been used to derive one class of ezāfe constructions from an underlying relative clause containing either 'budan' (to be) or 'dāštān' (to have) -- roughly equivalent to the attributive and adjectival ezāfes of the traditional grammarians (Palmer 1970). Thus, the a-sentences of (38) and (39) would be derived from the underlying b-sentences.

(38) a) ketāb-e-kāve = Kaveh's book
book Kaveh
b) kāve ketāb dārad = Kaveh has a book.
Kaveh book have-3Ps

(39) a) zan-e-zibā = the (a) beautiful
woman beautiful
b) zan . zibā ast = the woman is beautiful
woman beautiful is

The 'dārad' (have) and the 'ast' (be) are regarded as
predictable and can consequently be omitted. While such an argument may seem logical and coherent according to a case theory approach to grammar, still no reason is given for the presence of the ezāfe. If subjects and objects may remain unmarked in the deep structure, why is it necessary to introduce the ezāfe to mark them in the surface structure? A functional explanation would appear more meaningful.

The traditional analysis of attribute and attributed to, or description and described, is more in keeping with a functional analysis of the problem. In a sense the underlying structure is not that important in understanding the ezāfe: it is a surface phenomenon, not present in the written language, that serves to unite members of a noun phrase and reduce ambiguity. In an SOV language noun phrases can occur side by side resulting in ambiguities similar to those of (40)-(44). The a-sentences are an imaginary unmarked form that could be interpreted as either c or b, the actual marked forms. The c-sentence is of course marked by the zero-morph in contrast to the ezāfe of the b-sentence.

(40) a) pesar boland ast
    boy tall is

    b) pesar-e-boland ast = It is the tall boy.
    boy    tall is

    c) pesar boland ast = The boy is tall.
    boy    tall is

(41) a) doxtar mariam-rā did
girl Mary-DOM saw-3Ps
b) doxtar-e-mariam-rā did
girl Mary-DOM saw-3PS
= He saw Mary's daughter.
c) doxtar mariam-rā did
girl Mary-DOM saw-3Ps
= The girl saw Mary.

(42) a) bačče-hā sārā vā ali hastand
child-pl Sarah and Ali are
b) bačče-hā-ye-sārā vā ali hastand
child-pl Sarah and Ali are
= They are Sarah and Ali's children.
c) bačče-hā sārā vā ali hastand
child-pl Sarah and Ali are
= The children are Sarah and Ali.

(43) a) dozd talā-rā did
thief gold-DOM saw-3Ps
b) dozd-e-talā-rā did
thief gold-DOM saw-3Ps
= He saw the thief who stole the gold.
c) dozd talā-rā did
thief gold-DOM saw-3Ps
= The thief saw the gold.

(44) a) pezeški mādaram ast
doctor mother-1Ps is
b) pezeški-ye-mādaram ast
doctor mother-1Ps is
= He is my mother's doctor.
c) pezeški mādaram ast
doctor mother-1Ps is
= The doctor is my mother.

Thus, the ezāfe reduces ambiguities that would arise
in conversation, giving us a 'natural' explanation for this phenomenon.

In the case of the infinitival complement, examined in the next two sections, the nominalized verb can be considered the attributed to (i.e. the head noun), and the following noun, the attribute. The ezāfe merely joins the members of the phrase together, not being needed prior to the transformation since the components were directly dominated by an S-node with all its concomittant information, and not by an NP-node with its loss of information.
4.0 Moyne and Carden's Analysis

Moyne and Carden (1974) argue that NP Raising and Infinitive Raising are present in Persian. I question their assertions on the basis of their data for the former and their analysis of the latter.

4.1 Moyne and Carden's NP Raising

Moyne and Carden concentrate their analysis of NP Raising in Persian on sentences with the verb 'farmān dādan' (to order). In English, this verb superficially appears to be the same as B-verbs that trigger the Raising transformation. However, more careful examination reveals that Equi-NP Deletion has applied. Sentences with that-clauses and for-to complements illustrate this fact:

(45) a) I ordered Alice that she leave.
   b) I ordered Alice to leave.
(46) a) I believed that Alice had arrived.
   b) I believed Alice to have arrived.

In the case of 'ordered', we cannot say that the presence of 'Alice' in the matrix sentence is a result of Raising since it also exists with the that-clause. Rather, one must explain the single reference to 'Alice' in the sentence with the infinitival complement and this can be accomplished by
Equi-NP Deletion. It is not necessary to invoke this transformation in the examples with 'believed' since 'Alice' is referred to only once in each sentence.

I question if Raising takes place in Persian sentences with 'farmān dādan' and if Equi-NP might not be applied. They state that (47) is possible in Persian, which does suggest a Raising analysis, but my informants considered it to be archaic at best.

(47) man ali-rā be āmadan farmān dādam
I Ali-DOM to to come order gave-1Ps

= I ordered Ali to come.

Corresponding sentences with B-verbs, (48)-(53), are completely unacceptable after Raising has applied, casting doubt on Moyne and Carden's conclusions that are derived from such limited data.

(48) a) man bāvar dāram ke kāve xub ast
I belief have-1Ps that Kaveh is good

= I believe that Kaveh is good.

b)*man kāve-rā be xub budan bāvar dāram
I Kaveh-DOM to good to be belief have

= I believe Kaveh to be good.

(49) a) sārā tesavor mikonad ke ali āmad
Sarah imagine do-3Ps that Ali came-3Ps

= Sarah imagines that Ali has arrived.

b)*sārā ali-rā be āmadan tesavor mikonad
Sarah Ali-DOM to to come imagine do-3Ps

= Sarah imagines Ali to have arrived.
(50) 

a) bābā sābet kard ke māmān druq goft 
   dad proof did-3PS that mum lie said-3Ps 
   = Dad proved that mum told a lie.

b)*bābā māmān-rā be druq goftan sābet kard 
   dad mum-DOM to lie to say proof did-3Ps 
   = Dad proved mum to have lied.

(51) 

a) mitrā fahmid ke zest bud 
   Mitra understood-3Ps that ugly was-3Ps 
   = Mitra understood that she was ugly.

b)*mitrā xodas-rā be zest budan fahmid 
   Mitra self-s-DOM to ugly to be understood-3Ps 
   = Mitra understood herself to be ugly.

(52) 

a) neşun dādand ke yāsamin asebānī bud 
   show did-3Pp that Jasmine angry was-3Ps
   = They showed that Jasmine was angry.

b)*yāsamin-rā be asebānī budan neşun dādand 
   Jasmine-DOM to angry to be show did-3Pp
   = They proved Jasmine to be angry.

(53) 

a) midānim ke dāryuš māsin dārad 
   know-1Pp that Darius car have-3Ps 
   = We know that Darius has a car.

b)*dāryuš-rā be māsin dāštān midānim 
   Darius-DOM to car to have know-1Pp 
   = We know Darius to have a car.

Since Moyne and Carden do not present such material one
cannot ascertain if this form of Raising would be present in
the dialect that they study. I doubt this possibility on
the basis of the strong negative reaction from my informants
who are familiar with other dialects of Persian, and, on the
lack of evidence to the contrary.

4.2 Moyne and Carden's Infinitive Raising

Moyne and Carden propose that ke-clauses and infinitive constructions are derived from the same underlying structure (54)a, producing (54)b as a result of Extrapositioning and (54)c through Infinitive Raising (1974: 217).

\[(54)\]
\[
\begin{align*}
(54) \text{a)} & \quad \text{man} \quad \tilde{z}ala \quad \tilde{a}mad/-a- \quad \text{faran} \tilde{a}n-d\tilde{a}dam \\
& \quad \text{I} \quad \text{Zhala come/comp} \quad \text{ordered} \\
(54) \text{b)} & \quad \text{man} \quad \text{faran} \tilde{a}n-d\tilde{a}dam \quad \text{ke} \quad \tilde{z}ala \quad \text{bey\r{a}yad} \\
& \quad \text{I} \quad \text{ordered} \quad \text{that} \quad \text{Zhala come(subj)} \\
& \quad = \quad \text{I ordered that Zhala come.} \\
(54) \text{c)} & \quad \text{man} \quad \tilde{a}madan-e \quad \tilde{z}ala \quad \text{ra} \quad \text{faran} \tilde{a}n-d\tilde{a}dam \\
& \quad \text{I} \quad \text{come(inf)} \quad \text{Zhala-obj} \quad \text{ordered} \\
& \quad = \quad \text{I ordered that Zhala come.}
\end{align*}
\]

Their accompanying tree diagrams (218) are reproduced here to illustrate this idea.

\[(55)\]
\[
\begin{align*}
(55) \text{a)} & \\
\end{align*}
\]
There are three serious objections to the analysis of Infinitive Raising in Persian. First, it overlooks another possible way of saying the above sentence (54).

(57) a) man in ke zāla beyāyad rā
     I this that Zhala subj-come-3Ps DOM
farman-dādam
ordered

= (gloss) I ordered that Zhala come.

This option demonstrates that without Extrapositioning or
Infinitive Raising the whole embedded sentence is governed by
the direct object NP-node that is marked with 'ra' and
diagrammed in (58).

(58)

Bearing this in mind, one is more likely to predict an
underlying structure similar to the one proposed by
Akmajian and Heny for English (1975: 347):

(59)
According to these authors, in order for something to be raised, it must be removed from under the S-node and placed under the N-node as shown in (60).

\[(60)\]

a) \[
\begin{array}{c}
S \\
\downarrow \\
NP \quad \text{Aux} \quad VP \\
\downarrow \\
tense \\
John \quad \text{pres believe it Bill be a criminal}
\end{array}
\]

b) \[
\begin{array}{c}
S \\
\downarrow \\
NP \quad \text{Aux} \quad VP \\
\downarrow \quad \downarrow \\
tense \quad V \quad NP \\
John \quad \text{pres believe to be a criminal} \quad Bill
\end{array}
\]

If one assumes the underlying structure for sentences (54)b and c and (57) is similar to (59), taking into consideration the SOV ordering of the language, one would predict an underlying structure (61) being transformed to (62)-(64).
The second problem with Moyne and Carden's analysis is that they state Infinitive Raising has taken place when their diagram shows that both the VP and the NP have been removed from under the $S_1$-node and placed under the newly created $NP_e$-node. If one is raised, then the other must also be raised, unless one can explain the restructuring in some other way. These authors, however, offer no explanation for the $NP_e$ which leads to the third problem in their analysis: they make "no claims about the internal structure of ezāfe constructions" (218). If no explanation is given for the ezāfe construction, statements such as "a rule of Infinitive Raising nominalizes the verb to an infinitive āmadan and attaches ūala to the resulting NP in an ezāfe construction" are relatively meaningless. How is 'ūala' attached to the NP and how can one determine what has been raised?

4.3 Applying Postal's Tests

Postal's tests can be applied to see if NP Raising
or Infinitive Raising has taken place. If either of them
has, one would expect the raised item to behave independently
of the embedding from which it was raised, and, if it is an
NP, to behave as a clause mate of the matrix NP. The tests
outlined in section 2 are now applied to the Persian data
provided by Moyne and Carden, and my informants.

4.3.1 Passivization

In Persian, the passive is not widely used (Windfuhr
1979: 106) and Moyne and Carden have chosen to call it the
pseudo-passive (1974: 215). Passivization is often accom­
plished by taking a participle of the verb in the active sen­
tence and following it with the appropriate form (tense, person,
number) of the verb 'šodan' (to become). This transformation
cannot be applied to all active, transitive sentences, as in
English, and seems particularly unnatural when the agent is
known. Sentences (65) and (66) illustrate the passive with
and without an agent.

(65) sārā be vasile-ye-mo?lem zade šod
Sarah by means of teacher hit became-3Ps
= Sarah was hit by the teacher.

(66) iraj va xosro košte šodand
Iraj and Khosro killed became-3Pp
= Iraj and Khosro were killed.

Example (66) is considered quite normal, while (65),
with a known agent, would seem more natural in the active
Comparing sentences (65) and (66) to some B-verbs that undergo the Passive Transformation (not always as described above), it is evident that the whole infinitive complement, and not the nominalized VP or the NP alone, becomes the new matrix subject. This indicates that nothing has been raised out of the complement and it is still functioning as one unit.

(68) a) kesi bašande budan-e-bābak-rā sābet kard
someone generous to be Bobak-DOM proof did-3Ps
= Someone proved Bobak to be generous.

passivize

b) bašande budan-e-bābak sābet šode bud
generous to be Bobak proof became was-3Ps
= (literal: *Bobak to be generous was proven.)
= (gloss) Bobak was proven to be generous.

(69) a) kesi motā?l budan-e-ali-rā fahmid
someone married to be Ali-DOM understood-3Ps
= Someone understood Ali to be married.

passivize

b) motā?l budan-e-ali fahmide šod
married to be Ali understood became-3Ps
= (literal: *Ali to be married was understood.)
= (gloss) Ali was understood to be married.

When passivization takes place, the direct object
marker is dropped, indicating that nothing remains as direct object, and, the ezāfe is maintained to link the infinitive and the following NP as one unit.

The effect of Passivization on the embedded in-ke clause exhibits completely parallel behaviour which supports the notion that the embedding is not broken up when Nominalization of the VP occurs:

(70) a) kesi in ke bābak bašande ast rā someone this that Bobak generous is DOM sabet kard proof did-3Ps
    = Someone proved that Bobak is generous.

passivize

b) in ke bābak bašande ast sabet šode bud this that Bobak generous is proof became was
    = That Bobak is generous was proven.

(71) a) kesi in ke ali motā?l ast rā someone this that Ali married is DOM fahmid understood-3Ps
    = Someone understood that Ali is married.

passivize

b) in ke ali motā?l ast fahmide this that Ali married is understood šod became-3Ps
    = That Ali is married was understood.

It is interesting to note that in both English and Persian the passivized forms are likely to undergo Extrapositioning so that sentences such as (71)b become:
(72) fahmide šod ke ali motā?l ast understood became-3Ps that Ali married is
= It was understood that Ali is married.

Another point that strengthens the argument that NP
Raising does not apply is that the verb of the matrix sentence
remains singular even after the passivization of an embedding
that has a plural subject. Thus, the singularity of the
verb is in agreement with the whole embedding and not just
the subject NP('s).

(73) a) kesi xub budan-e-kāve vā bābak-rā
someone good to be Kaveh and Bobak DOM
sābet kard
proof did-3Ps
= Someone proved Kaveh and Bobak to be good.

b) xub budan-e-kāve vā bābak sābet šode bud
good to be Kaveh and Bobak proof became was
= (literal:*Kaveh and Bobak to be good was
proven.)
= (gloss) Kaveh and Bobak were proven to be
good.

Thus, Passivization proves that Infinitive and Noun
Phrase Raising do not occur on the basis of four points: i)
the direct object marker is removed indicating that nothing
is left behind after Passivization acts upon the complement;
ii) the ezāfe is maintained to tie the members of the
complement together demonstrating again that no one part is
acting independently of the others; iii) the infinitival complement behaves the same as the in-ke embedding, suggesting that the restructuring during Nominalization has not affected membership to a unit; and, iv) if the subject of the embedding is plural, the verb of the matrix sentence remains singular after passivization.

4.3.2 Reflexivization

Reflexivization seems to offer proof to the contrary: the (in)ke-clause subject does not act as a clause mate of the matrix subject although the NP of the infinitival complement does. That is, one does not reflexivize the coreferent to the matrix sentence subject in the embedded sentence, but one does reflexivize a coreferent in the infinitive construction. See examples (74) and (75).

(74) a) man bāvar dāram ke xiči bad nakardam
    I belief have-1Ps that nothing bad neg-did-1Ps
    = I believe that I did nothing wrong.

b)*man bāvar dāram ke xodam xiči
    I belief have-1Ps that self-1Ps nothing
    bad nakardam
    bad neg-did-1Ps
    =*I believe that myself did nothing wrong.

(75) a) man fahmidan-e- xodam- rā nešun dādam
    I to understand self-1Ps DOM show gave-1Ps
    = I showed myself to understand.

b)*man fahmidan-e-man nešun dādam
    I to understand I(me) show gave-1Ps
    =*I showed me to understand.
Although this would seem to support a Raising analysis, I demonstrate in section 5 that there is an explanation that accommodates the contrasting behaviour of the infinitive construction after the application of Passivization and Reflexivization.

4.3.3 Inclusion Constraint

This test also aims at establishing the matrix NP and the infinitival complement NP as clause mates. As explained in section 2, this constraint does not allow an overlap in coreference between NP's dominated by the same S-node with no intervening S-node. Yet, in Persian, the constraint simply cannot apply. Both sentences of (76) may or may not be coreferential and there is always a certain amount of ambiguity.

(76) a) sārā midānad ke ėstebā mikonand sarah know-3Ps that error make-3Pp
    = Sarah knows that they are wrong.

b) sārā ėstebā kardan-e-ānhā-rā midānad sarah error to make they-DOM know-3Ps
    = Sarah knows them to be wrong.

In Persian, (76)a and b are both ambiguous while in English, according to Postal, (76)a is ambiguous -- i.e. it may or may not overlap in coreference -- but (76)b, strictly disallowing coreference, is not. One may argue that in Persian this constraint does not apply since in (76)b 'sārā'
and 'ānhā' are not, in fact, clause mates, the infinitival complement being dominated by an embedded S-node (as some authors suggest for the English gerundive, e.g. Akmajian and Heny 1974: 291). However, the constraint still does not apply in sentences that unquestionably contain clause mates that might overlap in reference, and ambiguity is retained:

(77) sārā barāye ānhā xiči naxaride
Sarah for them nothing not-bought-perfect-3Ps

= Sarah hasn't bought anything for them (the others).

or = Sarah hasn't bought anything for them (herself included).

4.3.4 Reciprocal Marking

Reciprocal Marking, like Inclusion, cannot be applied as a constraint in Persian either. Sentences (78)a-c are all equally acceptable, even though (78)a is not acceptable in English.

(78) a) mitrā vā sārā fahmidand ke ān Mitra and Sarah understood-3Pp that that
digare dustāštāni bud other friendly was-3Ps

= *Mitra and Sarah found that each other was friendly.

= (gloss) Mitra and Sarah found each other to be friendly.

b) mitrā vā sārā dustāštāni budan-e- ān Mitra and Sarah friendly to be that
digare-rā fahmidand other-DOM understood-3Pp
Mitra and Sarah found each other to be friendly.

\[
\text{c) mitrā vā sārā ān digare-rā didand Mitra and Sarah that other-DOM saw-3PPp}
\]

\[
= \text{Mitra and Sarah saw each other.}
\]

Although certain constraints are valid for the Persian data, there are others that are meaningless. This leads one to question if the constraints that appear to apply, really indicate the same thing as they do in English. For example, because Reflexivization occurs between the the matrix NP and the infinitive construction NP but not between the matrix NP and the embedded NP, does this necessarily prove anything about clause membership in Persian? It seems that it does, but, on the basis of the doubtful universality of rules and constraints established in this thesis, each rule and constraint warrants careful language-specific investigation.

The purpose of the present work is not to examine the putative universals in question, but to point out their weaknesses.

4.4 Verb Raising in Japanese

Verb Raising, found in some languages, is totally unrelated to the phenomenon of Infinitive Raising as described by Moyne and Carden. In this section I briefly examine Verb Raising in Japanese to show that Persian does not employ this transformation.

Kuno (1973: 334) illustrates the effect of the Verb
Raising Transformation in Japanese by the following diagrams:

(79) a) Before Aux Deletion and Verb Raising

First, Equi-NP Deletion operates to remove the embedded NP 'John'. Then the verb is raised out of the embedded sentence, its auxiliary is deleted since it now shares the auxiliary of the matrix verb, and the S-node is pruned.

The Infinitive Raising of Moyne and Carden cannot be a form of Verb Raising since equivalent NP's are not necessary, NP Deletion does not occur and the auxiliary of the matrix verb is not shared.
5.0 Proposed Analysis

The previous section establishes that neither Noun Phrase Raising nor Infinitive Raising applies in Persian, although there is a transformation that causes the complement NP to behave as a clause mate of the matrix subject. I suggest that Nominalization of the embedded verb triggers S-Node Pruning so that a surface structure (80)b is derived from an underlying structure (80)a.

The embedded NP 'sārā', now lacks any S-node between itself and the matrix NP and acts as a clause mate though it
has not undergone Raising.

5.1 Structure Description

In order to undergo Nominalization and S-Node Pruning, the following structure description must be fulfilled:

\[(81) \text{SD: } X \text{ comp } NP \left\{\text{adj-cop}\right\}(rā) Y\]

1 2 3 4 5 6 7

This structure description yields a number of possibilities:

i) If neither the optional adjective nor the 'rā' of element 4 is chosen, the embedding would consist of either an intransitive verb or a transitive verb with an unspecified object. E.g.:

\[(82) \text{a) in ke sārā raft}\]
\[\text{this that Sarah left-3Ps}\]
\[= \text{that Sarah left}\]

\[\text{b) in ke rafi košt}\]
\[\text{this that Raffi killed-3Ps}\]
\[= \text{that Raffi killed}\]

ii) If only the adjective of element 4 is chosen, the embedded verb would be the copula 'budan' (to be) and the NP of element 3 would be the subject of the embedding.

\[(83) \text{in ke mā xub budim}\]
\[\text{this that we good were-1Pp}\]
\[= \text{that we were good}\]
iii) If only the 'rā' of element 4 is chosen, the preceding NP would be the direct object of a transitive verb with an unspecified subject.

(84) in ke ānhā-rā zad
   this that they-DOM hit-3Ps
   = that someone hit them

It should be noted here that it is impossible to chose both the adjective and the 'rā' of element 4 since it would produce ungrammatical sentences such as:

(85) a)*pesar-rā xub budim
    boy-DOM good were-1Pp
    = *We were good the boy.

   b)*pesar-rā zešt didam
    boy-DOM ugly saw-1Ps
    = *I saw ugly the boy.

iv) The four possible structures of i-iii may be contained within a sentential subject or a sentential object, explaining the optionality of the 'rā', element 6. Thus, the examples (82)-(84) can appear as variants in (86) and (87).

(86) Sentential Subjects
   a) in ke sārā raft be nazār miāyad
      this that Sarah went-3Ps to appear come-3Ps
      = (literal:*That Sarah left appears.)
      = (gloss) It appears that Sarah left.
b) in ke rafi košt vaze ast
this that Raffi killed-3Ps clear is
= (literal: *That Raffi killed is clear.*)
= (gloss) It is clear that Raffi killed someone.
c) in ke mā xub budim yāqin ast
this that we good were-1Pp sure is
= (literal: ?That we were good is sure.)
= (gloss) It is sure that we were good.
d) in ke ānhā-rā zad mohaqqaq ast
this that they-DOM hit-3Ps certain is
= (literal: That someone hit them is certain.)
= (gloss) It is certain that someone hit them.

(87) Sentential Objects

a) ma in ke sārā raft rā bāvar
I this that Sarah went-3Ps DOM belief
mikonam
do-1Ps
= I believe that Sarah left.
b) ma in ke rafi košt sābet kardim
we this that raffi killed-3Ps proof did-1Pp
= We proved that Raffi killed someone.
c) šomā in ke mā xub budim rā
you-pl this that we good were-1Pp DOM
tesavor mikonid
imagine do-2Pp
= You imagine that we were good.
d) to in ke ānhā-rā zad rā
you-sg this that they-DOM hit-3Ps DOM
fahmidi
understood-2Ps
= You understood that someone hit them.

5.2 Structure Change

I propose that the structure (81) would change to (88) after the Nominalization of the verb and S-Node Pruning.

(88) SD: X comp NP \( \text{adj-cop} \{ \text{ra} \ - \ V \} \) (ra) Y

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
</table>
| SC: | 1 | ∅ | 4 | 5-e-3 | 6 | 7 | delete 4 if 'ra'-V is chosen.

The condition placed on the structure change that element 4 must be deleted if 'ra'-V is chosen permits the formation of grammatical sentences like (89) and (90)b precluding the ungrammatical (90)a.

(89) man başande budan-e-kāve bāvar mikonom
I generous to be Kaveh belief do-1Ps

= I believe Kaveh to be generous.

(90) a)*to rā didan-e-yāsamin rā midāni
you-sg DOM to see Jasmine DOM know-2Ps

= *You know to see Jasmine you.

b) to didan-e-yāsamin rā midāni
you-sg to see Jasmine DOM know-2Ps

= You know someone to see Jasmine.

Although 'ra' (DOM) may appear in the deep structure embedding, it does not appear in the surface. This undoubtedly has a functional explanation: if the DOM of the complement remained after Nominalization of the verb and S-Node Pruning, sentences (91)a-b would be possible.
The juxtapositioning of the two DOM's would be confusing and this is probably reason enough to have a Ra-Deletion Transformation. Yet, more essentially, the direct object of the embedding is now an attribute, just as the subject of the embedding is. Although at times this may create ambiguous sentences, such as (92)a, equivalent to (92)b in English, the fact remains that the attribute can no longer be considered a direct object of the verb.

(92) a) zadān-e-sārā
to hit Sarah

= someone hit Sarah or Sarah hit someone

b) the hitting of Sarah

= someone hit Sarah or Sarah hit someone

Hence the sentences (86)-(87) given in the section on structure description would change to (93)-(94) according to the structure change (88).

(93) a) raftān-e-sārā be nazar miāyad
to go Sarah to appear come-3Ps

= Sara appears to leave.
b) koştan-e-rafi vazeh ast
to kill Raffi clear is
= Raffi's killing is clear.
c) xub budan-e-sārā yāqin ast
good to be Sarah certain is
= Sarah is certain to be good.
d) zadan-e-ali mohaqqaq ast
to hit Ali sure is
= Someone is sure to hit Ali.
or = Ali is sure to hit (someone).

(94) a) man raftan-e-sārā-rā bāvar mikonam
I to go Sarah-DOM belief do-1Ps
= I believe Sarah to have left.
b) mā kostan-e-rafi-rā sābet kardim
we to kill Raffi-DOM proof did-1Pp
= We proved Raffi to have killed someone.
or = We proved someone to have killed Raffi.
c) šomā xub budan-e-sārā-rā tesavor mikonid
you-pl good to be Sarah-DOM imagine do-2Pp
= You imagine Sarah to be good.
d) to zadan-e-ali-rā fahmidi
you-sg to hit Ali-DOM understood-2Ps
= You understood Ali to be hit.
or = You understood Ali to hit someone.

5.3 Tree Diagrams: Step by Step

In section 5.0, I state that I intend to show how
(80)b is derived from (80)a. In this section, I do so with
step by step tree diagrams for each transformation.
I believe the method of Akmajian and Heny (1975: 347) which provides alternate complementizers in the deep structure, each triggering different transformations, is best. This allows the deep structure the greatest degree of abstractness, without the questionable assumption that one surface structure is more natural than another. Thus, I chose (95) as the base form for my analysis, where $S_1$ may have the alternate structures, illustrated by (96)a-c, if Nominalization is to operate.

(95)

(96)  a)
5.3.1 The Ke-Clause

If the complementizer 'ke' (that) is chosen, there are two possible surface structures: one which results from the application of Extrapositioning and the other which maintains the centre-embedding. The former undergoes the following transformations. (It should be noted that I am only dealing with transformations on the cycle that effect the embedding.)
(97) a) Deep Structure

```
(Sense) S0  
   VP  
     V
   -rä bāvar mikonim
     DOM
   -rä bāvar mikonim
     DOM
   in
     {ke} sarā raft {tense} inf
     Aux

b) Chose Complementizer

```

```
(Sense) S0  
   VP  
     V
   -rä bāvar mikonim
     DOM
   in
     {ke} sarā raft {tense} inf
     Aux

```

c) Chose Auxiliary

```
(Sense) S0  
   VP  
     V
   -rä bāvar mikonim
     DOM
   in
     {ke} sarā raft tense
     Aux
```
d) Person and Number Agreement - Affix Hopping

```
S₀
   /\    \
  NP   VP
   /     /
 ma   N   
    /     \\
   Comp  S₁
        /
   in   ke
```

```
Comp S₁
  /
  ra
      \
   S
```

```
N  DOM
  /
 in
```

```
bāvar mikonim
```

```
Sara miravad
```

e) Extrapositioning

```
S₀
   /\    \
  NP   VS
   /     /
 ma   S   
    /     \\
   NP     V
        /
   Comp  S₁
        /
   ke   NP
```

```
bāvar mikonim
```

```
sara miravad
```

f) In-Ra Deletion

```
S₀
   /\    \
  NP   VP
   /     /
 ma   V   
    /     \\
   Comp  S₁
        /
   ke   NP
```

```
bāvar mikonim
```

```
sara miravad
```
g) S-Node Pruning

\[
\begin{array}{c}
S_0 \\
\text{NP} \\
\text{VP} \\
\text{S} \\
\text{Comp} \\
\text{NP} \\
\text{V} \\
\text{ke} \\
\text{bāvar} \\
\text{mikonim} \\
\text{Sarah} \\
\text{miravād} \\
\end{array}
\]

h) Surface Structure =

\[
\text{mā bāvar mikonim ke sārā miravād we belief do-1Pp that Sarah go-3Ps}
\]

= We believe that Sarah is leaving

If the complement is not extraposed, then (97)d would represent the final step in the derivation with the surface structure:

\[
\text{(98) mā in ke sārā miravād ra bāvar mikonim we this that Sarah go-3Ps DOM belief do-1Pp}
\]

= We believe that Sarah is leaving.

5.3.2 Infinitival Complement

If the \( \phi \) complement is chosen, it triggers the choice of the infinitive auxiliary, rather than tense, and the subsequent restructuring outlined below.
(99) a) Deep Structure

```
(99) a) Deep Structure
S0
  |    VP
  |     \\
  |      |    V
  |      |   bāvar
  |      | mikonim
  |      \\
  |     \\
  |      |
N     S
  in  Comp S1
  \\
  |  _____ \
  |     \\
  |      |
N  ma
```

b) Chose Complementizer

```
(99) b) Chose Complementizer
S0
  |    VP
  |     \\
  |      |    V
  |      |   bāvar
  |      | mikonim
  |      \\
  |     \\
  |      |
N     S
  in  Comp S1
  \\
  |  _____ \
  |     \\
  |      |
N  ma
```

c) Chose Auxiliary

```
(99) c) Chose Auxiliary
(In-Deletion)
S0
  |    VP
  |     \\
  |      |    V
  |      |   bāvar
  |      | mikonim
  |      \\
  |     \\
  |      |
N     S
  in  Comp S1
  \\
  |  _____ \
  |     \\
  |      |
N  ma
```

- **S0**: Sentence Initial Node
- **NP**: Noun Phrase
- **VP**: Verb Phrase
- **V**: Verb
- **Aux**: Auxiliary
- **Comp**: Complementizer
- **S**: Sentence
- **DOM**: Domain
- **N**: Noun
- **sara**: \(\text{sara}\)
- **raft-**: \(\text{raft-}\)
- **bāvar**: \(\text{bāvar}\)
- **mikonim**: \(\text{mikonim}\)
- **ke**: \(\text{ke}\)
- **inf**: \(\text{inf}\)
- **an**: \(\text{an}\)
d) Scrambling Rule - Affix Hopping

\[
\begin{align*}
S_0 & \rightarrow NP \rightarrow VP \\
& \quad \rightarrow ma \\
S_1 & \rightarrow S \\
& \quad \rightarrow DOM bavar \\
& \quad \rightarrow mikonim \\
& \quad \rightarrow raftan e \\
& \quad \rightarrow raftan sara \\
& \quad \rightarrow raftan ra \\
& \quad \rightarrow Sarah DOM belief do-1Pp \\
& \quad \rightarrow mā raftan-e-sārā rā bāvar mikonim \\
& \quad \rightarrow We believe Sarah to be leaving.
\end{align*}
\]

5.4 Proving the Analysis

In order to prove my analysis, I: i) review the points that negate a Raising solution; and ii) demonstrate that the S-node has been pruned.
5.4.1 Disproving Raising

In the previous section I show that Raising, as described by Postal and others, does not fit Moyne and Carden's analysis in Persian and that Kuno's description of Verb Raising in Japanese offers no parallel to Persian either. To review, the main reasons for denying the Raising (NP or Infinitive) analysis are:

i) The application of the Passivization Transformation causes the deletion of the direct object marker (DOM), indicating that nothing is left behind, at least as direct object.

ii) The ezāfe remains to unite the members of the infinitive construction, during Passivization, which shows that no one part is acting independently of the other (i.e. N-VP and NP).

iii) Also during Passivization, the infinitival complement behaves in a parallel manner to the ke-clause embedding. This further suggests that the embedded NP has not been broken up and the members are still joined together (i.e. dominated by the same node).

iv) If the subject of the matrix sentence is plural, after Nominalization of the verb and Passivization one would expect the matrix verb to be in the plural if the NP has been raised. This, however, is not the case.

v) The Infinitive Raising of Moyne and Carden is unlike the proven Verb Raising of other languages such as Japanese.

vi) If the process in Persian were a simple case of Raising
there would not be the restrictions on the structure
description outlined in section 5.1. That is, in English,
an embedding that is to undergo Raising may have both a
specified object and a specified subject.

5.4.2 S-Node Pruning

In order to prove that the S-node is pruned, once
the lack of Raising is established, it is only necessary to
demonstrate that either i) the NP's of the matrix sentence
and complement behave as clause mates, or, ii) the complement
does not act like a sentence. Here, both types of proof are
put forward:

i) Extrapositioning is a transformation that takes an
embedded sentence and moves it to the right or the left of
the matrix sentence. In English and Persian the movement
is rightward. See (100) and (101).

(100) a) That you are careless worries me.
extrapose b) It worries me that you are careless.

(101) a) in ke sārā gom șode be nazar this that Sarah lost became to appear
miāyad
come-3Ps
= (literal:*That Sarah has gotten lost appears).
= (gloss) It appears that Sarah has gotten lost.
extrapose b) be nazar miayad ke sara gum șode
to appear come-3Ps that Sarah lost became
= It appears that Sarah has gotten lost.
Although Extrapositioning is used quite extensively in Persian and English, it is interesting to note that the Persian infinitive complement and the English gerundive, which seem similar, cannot be extraposed. This suggests that the two constructions are not governed by S-nodes. Notice the difference between the grammaticality of the following.

(102) a) That you are careless worries me.
extrapose
b) It worries me that you are careless.
extrapose
c) Your being careless worries me.
extrapose
d)*It worries me your being careless.

(103) a) in ke raftand vaze ast this that went-3Pp clear is = That they left is clear.
extrapose
b) vaze ast ke raftand clear is that went-3Pp = It is clear that they left.
extrapose
c) raftan-e-ānhā vaze ast to go they clear is = Their leaving is clear.
extrapose
d)*vaze ast raftan-e-ānhā clear is to go they = *It is clear their leaving.

The embedded sentence, definitely governed by an S-node, is easily extraposed producing what is often the preferred form. The same sentence, with the infinitive or gerundive, however, may not be extraposed. I suggest that
this is because a nominalized verb is dominated by an N-node and the requirements for a sentence are no longer met, causing S-Node Pruning and leaving a noun phrase that may not be extraposed.

Heavy Noun Phrase Shift which is sometimes used in Persian (Colarusso 1975) to remove a lengthy phrase from between the subject and the verb does not apply in this case. This is because the infinitive constructions do not exhibit a head noun necessary for HNP Shift.

(104) a) raftan-e-ali be tehrān
to go Ali to Tehran
= Ali's going to Tehran

b) xub budan-e-kāve
good to be Kaveh
= Kaveh's being good

c) didan-e-tup
to see ball
= the seeing of the ball

Longer embeddings would generally be extraposed rather than reduced to a noun phrase and then shifted. Indeed, the latter process would seem to be dysfunctional even if it were possible to apply HNP Shift to NP's without head nouns.

ii) If the traditional argument that Reflexivization can only occur between clause mates (Postal 1974: 69) is accepted, then the NP's of the infinitive complement and the matrix sentence are members of the same clause. This has already been shown
in section 4.3.2 so further illustration is not necessary.

iii) Just one NP is allowed in an infinitival complement. This restriction does not meet with the normal description of a sentence. Sentences are permitted to have both subject and object NP's depending on the verb type (i.e. transitive or intransitive or copula). The presence of this constraint supports the analysis that the infinitive construction is not dominated by an S-node but by an NP-node which acts as the direct object of the matrix verb.
6.0 Conclusions

In this thesis, I have shown that Postal's description of Raising and the accompanying constraints do not apply to certain dialects of Persian, and, that Moyne and Carden's analysis of "Infinitive Raising" is incorrect. These points lead one to conclude that Raising is not a universal and that the existence of "universally characterizable constraints" is doubtful. In turn, these conclusions lead to implications of far greater significance to the study of transformational-generative grammar and syntax in general.

The method normally used to derive abstract universals -- the in-depth analysis of only one language, usually English (e.g. Chomsky 1965) -- is inadequate: even though the universals may be cross-checked with another, unrelated language (e.g. Postal 1974: 374, Raising in Japanese), the case examined herein shows that exceptions may still be extant. Correspondingly, if other syntactic universals were studied in relation to more languages, their universality might also be disproven. As stated in the introduction, if Persian deviates from the supposed universal pattern, then more distantly related and/or typologically distinct languages may exhibit further and extensive exceptions or 'oddities'. English has generally been the source language
for the transformational grammarians, so one can only wonder about the universals that would have been posited if Malagasy (both unrelated to English, and, as a VOS language, typologically distinct from it), for example, had provided the theoretical base.

The belief that one can derive abstract universals from a single language underlies the whole theory of transformational syntax. It is reasoned (Chomsky 1968: 27) that there is an innate language-learning mechanism, programmed with specific universals, that enables children to learn this complex system, i.e. language, with relative speed. Yet, if the kinds of universals proposed by Chomsky and his followers (e.g. Burt 1971; Bresnan 1979; Rosenbaum 1967; Postal 1974) do not carry weight when tested empirically, what can they tell us about language learning and the human mind? They give us, at best, a statistical likelihood. By disproving the validity of an accepted universal, other universals must be considered questionable until further evidence has been supplied. If universals are being reviewed, so must the idea of universal grammar, as it is known, with its theories of an innate language-learning mechanism.

I do not wish to claim that the concept of language universals per se has no validity, for after all, humans are one species and language is a species-specific form of communication. Rather, I find that the specificity of the universals makes the system too rigid to incorporate the
the great variety of forms found in diverse languages. In fact, this specificity reduces the mind to an inelastic mechanism, pre-programmed to internalize data in a precise way -- an idea that would fit in well with the theories of sociobiologists and other extremists on the side of genetics in the nature vs nurture debate.

Syntactic universals of a more abstract sort (e.g. there is always a point of reference, verbs are the most inflected form of speech, centre-embedding is avoided by various techniques) most probably exist but material must be collected and analyzed before theoretical claims can be substantiated. Furthermore, the presence of universals does not necessarily imply innateness of syntactic rules or patterns: a developmental approach may prove to be more fruitful, or a theory that is based on semantics might be more suitable. I am not suggesting that the study of syntax be turned into a discipline of "shreds and patches", but that the comparative analyses of 'exotic' languages could dramatically change the present idio-centrism of the discipline. (It should be noted here that I am concerned with only the derivation of abstract universals and not the concrete universals or tendencies derived by Greenberg (e.g. 1963) and others who do indeed examine a wide range of languages).

Taking the points raised here into account, I suggest that further work in language universals should involve:
i) a realistic set of universals based on empirical data from a wide range of languages;

ii) a realistic level of abstraction (specificity);

iii) a realization of the tentative status of a great many of the present universal claims.

I believe that if such realism and prudence are employed, a set of universals could be derived that would tell us a good deal about the nature of language and the mind.
REFERENCES CITED

Akmajian, A. and F. Heny  

Bresnan, J. W.  

Burt, M. K.  

Chomsky, N.  

Colarusso, J.  

Comrie, B.  

Greenberg, J. H.  

Kuno, S.  
Moyne, J. and G. Carden
1974 Subject Reduplication in Persian. Linguistic Inquiry, 5:205-249

Palmer, A. S.

Postal, P. M.

Rosenbaum, P. S.

Windfuhr, G. L.