Some issues related to Complex Predicates in Urdu/Hindi

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Outline

Complex Predicates (CP)

Types of N+V CP w.r.t. Verb Agreement

Types of N+V CP w.r.t Light Verb

Case Study: Light Verb $de$ 'give'
Complex Predicates (CP)

Types of N+V CP w.r.t. Verb Agreement

Types of N+V CP w.r.t Light Verb

Case Study: Light Verb $dE$ 'give'
Complex Predicates

- around 700 simple verbs in Urdu.
- many more complex predicates (Butt 1993)
- possible combinations: Noun + V, PP + V, Adv + V, ///

\[\text{nAdiyA=nE yAsin=kO yAd ki-yA} \]
\[\text{Nadya=Erg Yasin=Acc memory do-Perf.M.Sg} \]

’Nadya remembered Yasin.’ N+V complex predicate

\[\text{nAdiyA=nE mEz sAf kI} \]
\[\text{Nadya=Erg table.F.Sg clean do-Perf.F.Sg} \]

’Nadya cleans a/the table.’ Adj+V complex predicate
Outline

Complex Predicates (CP)

Types of N+V CP w.r.t. Verb Agreement

Types of N+V CP w.r.t Light Verb

Case Study: Light Verb dE 'give'
When the subject is marked by a case marker and the object is unmarked, then the verb agrees with the object.

\[\text{yAsIn}=\text{nE} \quad \text{kitAb} \quad \text{paRH-I}\]
Yasin.M.Sg=Erg book.F.Sg read-Perf.F.Sg

’Yasin read the book.’
Urdu Verbs and Agreement

- When the subject is marked by a case marker and the object is unmarked, then the verb agrees with the object.

\[ \text{yAsin=nE kitAb paRH-I} \]
Yasin. M. Sg=Erg book. F. Sg read-Perf. F. Sg

’Yasin read the book.’

- When both the subject and the object are marked by case markers, then the verb has default (masculine singular) gender.

\[ \text{nAdiyA=nE kitAb=kO paRH-A} \]
Nadya. F. Sg=Erg book. F. Sg=Acc read-Perf. M. Sg

’Nadya read the book.’
Urdu Verbs and Agreement

- When the subject is marked by a case marker and the object is unmarked, then the verb agrees with the object.

  \[
  \text{yAsIn}=nE \quad \text{kitAb} \quad \text{paRH-I} \\
  \text{Yasin.M.Sg}=\text{Erg} \quad \text{book.F.Sg} \quad \text{read-Perf.F.Sg}
  \]

  'Yasin read the book.'

- When both the subject and the object are marked by case markers, then the verb has default (masculine singular) gender.

  \[
  \text{nAdiyA}=nE \quad \text{kitAb}=kO \quad \text{paRH-A} \\
  \text{Nadya.F.Sg}=\text{Erg} \quad \text{book.F.Sg}=\text{Acc} \quad \text{read-Perf.M.Sg}
  \]

  'Nadya read the book.'
Types of N+V Complex Predicates

1. The light verb does not agree with the noun.

2. The light verb may agree with the noun.


   2.1 The noun does not have modifiers.
   2.2 The noun may have modifiers.
Types of N+V Complex Predicates

- **Class 1:** The light verb does not agree with the noun.
  - `anjum=nE  nAdiyA=kO  yAd  ki-yA`
  - Anjum=Erg  Nadya=Acc  memory do-Perf.M.Sg
  - 'Anjum remembered Nadya.'
  - `yAd 'memory' is feminine in Urdu. However, it does not take part in agreement scheme in yAd+kar complex predicates.`
Types of N+V Complex Predicates

- **Class 1:** The light verb does not agree with the noun.
  - anjum=nE nAdiyA=kO yAd ki-yA
    Anjum=Erg Nadya=Acc memory do-Perf.M.Sg
    ’Anjum remembered Nadya.’
  - yAd ’memory’ is feminine in Urdu. However, it does not take part in agreement scheme in yAd+kar complex predicates.

- **Class 2:** The light verb may agree with the noun.
  - anjum=nE nAdiyA=sE behes k-I
    Anjum=Erg Nadya=Inst debate.F.Sg do-Perf.F.Sg
    ’Anjum argued with Nadya.’
Class 2.2: The noun of N+V complex predicates may have modifiers.

Anjum=Erg Nadya=Inst question.M.Sg do-Perf.M.Sg
'Anjum asked Nadya.'
Types of N+V Complex Predicates

- Class 2.2: The noun of N+V complex predicates may have modifiers.

- \( \text{anjum}=\text{nE} \quad \text{nAdiyA}=\text{sE} \quad \text{savAl} \quad \text{ki-yA} \)
  \( \begin{align*}
  \text{Anjum}=\text{Erg} \\
  \text{Nadya}=\text{Inst} \\
  \text{question. M.Sg} \\
  \text{do-Perf. M.Sg}
  \end{align*} \)

  'Anjum asked Nadya.'

- \( \text{anjum}=\text{nE} \quad \text{nAdiyA}=\text{sE} \quad \text{kAI} \quad \text{accHE} \quad \text{savAl} \)
  \( \begin{align*}
  \text{Anjum}=\text{Erg} \\
  \text{Nadya}=\text{Inst} \\
  \text{several good. M.Pl} \\
  \text{question. M.Pl} \\
  \text{ki-E} \\
  \text{do-Perf. M.Pl}
  \end{align*} \)

  'Anjum asked Nadya several good questions.'
More examples of class 2 complex predicates

just for revision. The sentences have an extra (third) argument.

▶ anjum=nE  nAdiyA=par EtrAz  ki-yA
Anjum=Erg Nadya=Inst  several objection. M.Sg
do-Perf. M.Sg
’Anjum objected to Nadya.’

▶ anjum=nE  nAdiyA=sE kAI  accHE savAl
Anjum=Erg Nadya=Inst several good. M.Pl question. M.Pl
ki-E
do-Perf. M.Pl
’Anjum asked Nadya several good questions.’
Modeling

- Urdu ParGram (PARallel GRAMmer), Universitaet Konstanz, Germany
- Grammar rules written using Lexical Functional Grammar (LFG) framework
- The N+V complex predicates of class 1 were already implemented in Urdu ParGram.
Modeling

nAdiyA=nE sEb kHAyA
Nadya Erg apple eat-Perf.M.Sg
Nadya ate an/the apple.

F (Functional) Structure: A rough sketch

**PRED** kar <nAdiyA,sEb>
**SUBJ** nAdiyA
**OBJ** sEb
Nadya started the work.

F (Functional) Structure of the above sentence is:

"nAdiayah nE kAm SurUe2 kiyA"

```
\[
\begin{array}{|c|c|}
\hline
PRED & 'kar<[1:nAdiayah], 'SurUe2<[21:kAm]>'' \\
\hline
\hline
PRED & 'nAdiayah' \\
CHECK & [\_NMORPH obl] \\
\hline
SUBJ & NTYPE [NSEM [PROPER [PROPER-TYPE name]]] \\
& [NSYN proper] \\
& SEM-PROP [SPECIFIC +] \\
1 & CASE erg, GEND fem, NUM sg, PERS 3 \\
\hline
OBJ & NTYPE [NSEM [COMMON count]] \\
& [NSYN common] \\
21 & CASE nom, GEND masc, NUM sg, PERS 3 \\
\hline
CHECK & [\_VMORPH [\_MTYPE infl]] \\
& [\_RESTRICTED --, _VFORM perf] \\
LEX-SEM & [AGENTIVE +] \\
TNS-ASP & [ASPECT perf, MOOD indicative] \\
77 & CLAUSE-TYPE decl, PASSIVE --, VTYPE complex-pred \\
\hline
\end{array}
\]
Modeling

nAdiyA=nE kAm SurU kiyA
Nadya  Erg  work start do-Perf.M.Sg
Nadya started the work.

F (Functional) Structure: A rough sketch

PRED  kar <nAdiyA, SurU<kAm>>
SUBJ  nAdiyA
OBJ   kAm

SurU 'start' is not the object.
Modeling

F-structure of

biccHU=nE  meNDak=sE  behes  k-I
scorpion=Erg  frog=Inst  debate.F.Sg  do-Perf.F.Sg

The scorpion argued with the frog.'

"biccHU  nE  meNDak  sE  bah2as2  ki"
Modeling

F-structure of

biccHU=nE  meNDak=sE  behes  k-I
scorpion=Erg  frog=Inst  debate.F.Sg  do-Perf.F.Sg

The scorpion argued with the frog.

F (Functional) Structure: A rough sketch

PRED  kar<biccHU,behes<mENDak>>
SUBJ  biccHU
OBJ  behes
OBL  mENDak

*behes* 'debate' is the object as well as part of the complex predicate.
The scorpion discussed several good things with the frog.

*bAt* 'thing/matter' has modifiers.

"biccHU nE meNDak sE kAI accHI bAtEN kIN"
Outline

Complex Predicates (CP)

Types of N+V CP w.r.t. Verb Agreement

Types of N+V CP w.r.t Light Verb

Case Study: Light Verb dE 'give'
Light Verbs used in Complex Predicates

There are two types of light verbs that occur in $N+V$ complex predicates.

- **"Aspectual" light verbs**
  - kar ’do’, he ’be’, hO ’become’, rakH ’put’, rah ’stay’
  - e.g. yAd ’memory’ kar ’do’ remember/memorize

- **"Semantic" light verbs**
  - dE ’give’, A ’come’, ..........
  - e.g. zOr ’pressure’ dE ’give’ ’pressurize’/’insist’
"Aspectual" Light Verbs

- *kar* 'do', *he* 'be', *hO* 'become', *rakH* 'put', *rah* 'stay'
- e.g. *yAd* 'memory' *kar* 'do' remember/memorize
- These light verbs are related with aspect.
- This set of light verbs is frequently used in N+V complex predicates.
- The noun e.g. *yAd* 'memory' can appear with any of these light verbs, if its semantics does not conflict with the light verb.
”Aspectual” Light Verbs

▶ us=kO  sabaq yAd  he
  3SG=Dat lesson memory be.Pres
  'He remembers the lesson.'
  Something/Somebody has the state.

▶ us=kO  sabaq yAd  hU-A
  3SG=Dat lesson memory become-Perf.M.Sg
  'He remembers the lesson.'
  Something/Somebody gets the state.

▶ us=nE  sabaq yAd  kiyA
  3SG=Erg lesson memory do.Perf.M.Sg
  'He remembered/learnt the lesson.'
  Something/Somebody causes something/somebody to get
  the state.
“Aspectual” Light Verbs

- \( us=kO \) \( sabaq \) \( yAd \) \( rah-A \)
  3SG=Dat lesson memory stay-Perf
  ’He remembered the lesson.’
  Something/Somebody stays in the state.

- \( us=nE \) \( sabaq \) \( yAd \) \( rakH-A \)
  3SG=Erg lesson memory keep-Perf.M.Sg
  ’He kept the lesson remembered.’
  Something/Somebody causes something/somebody to stay in the state.

Hence, we should not list the N+V complex predicates as unrelated combinations like N1+V1, N1+V2, N2+V1, ...
We should focus on the noun part of the complex predicate and find which light verbs comes with this noun.
"Aspectual" Light Verbs

- \( us=kO \) \( sabaq \ yAd \) \( rah-A \)
  \( 3SG=Dat \) lesson memory stay-Perf
  'He remembered the lesson.'
  Something/Somebody stays in the state.

- \( us=nE \) \( sabaq \ yAd \) \( rakH-A \)
  \( 3SG=Erg \) lesson memory keep-Perf.M.Sg
  'He kept the lesson remembered.'
  Something/Somebody causes something/somebody to stay in the state.

Hence, we should not list the N+V complex predicates as unrelated combinations like N1+V1, N1+V2, N2+V1, ...
We should focus on the noun part of the complex predicate and find which light verbs comes with this noun.
Verb Classes and Syntax

- Ahmed and Butt (2011)
- Commonly used light verbs in N+V complex predicates: *kar* ‘do’, *he* ‘be’ and *hO* ‘become’.
- Every noun does not occur with each of these light verbs.
- We follow Levin (1993)’s classic assumption that semantic predicational classes can be identified on the basis of a study of the syntactic contexts the predicates occur in.
List of first 45 nouns occurring in N-V combination with either of the light verbs *kar* ‘do’, *he* ‘be’ and *hO* ‘become’ in a POS tagged corpus compiled by CRULP.
Methodology

- List of first 45 nouns occurring in N-V combination with either of the light verbs *kar* 'do', *he* 'be' and *hO* 'become' in a POS tagged corpus compiled by CRULP.
- A full set of combinatorial (im)possibilities of these nouns compiled by using native speaker judgment.
Methodology

- List of first 45 nouns occurring in N-V combination with either of the light verbs *kar* 'do', *he* 'be' and *hO* 'become' in a POS tagged corpus compiled by CRULP.
- A full set of combinatorial (im)possibilities of these nouns compiled by using native speaker judgment.
- An analysis of the resulting patterns identified distinct semantically coherent classes/classification patterns.
- Pertinent semantic factors appear to be stative vs. eventive nouns, agentivity vs. experiencer verbs (psych predications) and the licensing of a dative recipient.
Verb Classes

- **Class A**
  
Pysch verbs: *yaqln 'belief', piyAr 'love'*
  
  Subj (Experiencer)  Obj (Theme)  N+*kar 'do'*
  Subj (Experiencer)=Dat  Obj (Theme)  N+  *hO 'become'*
  Subj (Experiencer)=Dat  Obj (Theme)  N+  *he 'be'*

- **Class B**
  
  Main pattern (38/45): *ijAd 'invention', tAmir 'construction'*
  
  Subj (Agent)  Obj (Theme)  N+*kar 'do'*
  Subj (Theme)  N+*hO 'become'/?he 'be'*
  *Subj=Dat  Obj  N+*hO ''become'/?he 'be'*
Verb Classes

- **Class A**
  
  nAdiyA=kO  kahani  yAd
  Nadya.F.Sg=Dat  story.F.Sg.Nom  memory
  hu-I/he
  be.Perf-3.F.Sg/be.Pres-3.F.Sg
  ‘Nadya remembers/knows a/the story.’

- **Class B**
  
  *(nAdiyah=kO)*  makAn  taa2mIr
  Nadya.F.Sg=Dat  house.M.Sg.Nom  construction
  hu-A/?he
  ‘A/the house got constructed./ A/the house is constructed.’
Other Verb Classes

Class C

- This class allows dative subject like class A. However, it does not allow N+\(hO\) 'become' construction.

- \(n{\text{AdiyA}}=kO\ \ y{\text{AsIn}}=kA\ \ \text{intizAr}\)
  
  Nadya.F.Sg=Dat Yasin.M.Sg=Gen waiting
  
  he/*hu-A
  

  ‘Nadya waited for Yasin.’

- \(hO\) 'become' does not work with these nouns because the subject is too agentive to be felicitous as the undergoer of a become predication.
Light Verbs used in Complex Predicates

- "Aspectual" light verbs
- "Semantic" light verbs
  - $dE$ 'give', $A$ 'come', ..........
  - e.g. $zOr$ 'pressure' $dE$ 'give' 'pressurize'/'insist'
  - The choice of the light verb depends on other semantic properties of the noun.
Outline

Complex Predicates (CP)

Types of N+V CP w.r.t. Verb Agreement

Types of N+V CP w.r.t Light Verb

Case Study: Light Verb dE ’give’
In this section, we present the case study of one "semantic" light verb \textit{dE 'give'}. We claim that the change in argument structure in a N+V sequence shows that noun and verb forms a complex predicate that has a modified argument structure.
Main verb $dE$ 'give'

The Subcategorization frame of $dE$ 'give' is SUBJ,OBJ,OBJgoal.

$nAdiyah=nE(SUBJ)$ $yAsIn=kO(OBJgoal)$ $kitAb(OBJ)$ $dI$

Nadya=Erg Yasin=Dat book do.Perf

'Nadya gave a book to Yasin.

The dative $kO$ marked recipient receives a theme that is given by the subject.
N+dE bigrams

- We searched bigrams of N+dE 'give' in a Urdu corpus.
- We analyzed most frequently occurring 55 N+dE sequences that are potential candidate for complex predicates.
  - We noted the subcategorization frames (the other arguments) for each N+dE sequence.
Subcat frames of N+dE sequences

The following table shows the arguments (other than SUBJ) for N+dE 'give' sequences.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Arguments</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>OBJ PREDLINK</td>
<td>qarAr</td>
</tr>
<tr>
<td>1</td>
<td>OBJ OBJ-goal</td>
<td>sONp 'hand over'</td>
</tr>
<tr>
<td>3</td>
<td>OBJ OBL-on</td>
<td>zOr 'pressure, tavajja 'attention'</td>
</tr>
<tr>
<td>3</td>
<td>OBJ</td>
<td>taSkll 'constitute', janam 'birth'</td>
</tr>
<tr>
<td>5</td>
<td>OBJ-goal OBL-gen</td>
<td>darja 'rank', dars 'lesson'</td>
</tr>
</tbody>
</table>

The remaining N+dE sequences have canonical arguments i.e. SUBJ,OBJgoal.
**sONp dE - an extra argument**

- **sONp dE** is a complex predicate.
  
  \[
  \begin{align*}
  &\text{us=nE(SUBJ) bETE=kO(OBJgoal) hukUmat(OBJ)} \\
  &3Sg=Erg \quad \text{son=Dat} \quad \text{government} \\
  &\text{sONp} \quad \text{dI} \\
  &\text{hand-over give.Perf} \\
  &'\text{He handed over the government to the son.}'
  \end{align*}
  \]

- compare it with the canonical **dE**

  \[
  \begin{align*}
  &\text{us=nE(SUBJ) bETE=kO(OBJgoal) hukUmat(OBJ) dI} \\
  &3Sg=Erg \quad \text{son=Dat} \quad \text{government} \quad \text{give.Perf} \\
  &'\text{He gave the government to the son.}'
  \end{align*}
  \]
**jHARU dE - a minimum pair**

- *jHARU dE* is a complex predicate in the following example as the argument structure is changed (dative marked recipient is not allowed).

  meN=nE(SUBJ) kamrE=mEN(OBL-loc) jHARU dI

  1Sg=Erg room=in broom give.Perf

  'I swept in the room.'

- The following is the canonical usage of *dE* in which *jHARU* is the object. There is no complex predicate in this example because there is no change of argument structure.

  meN=nE(SUBJ) us=kO(OBL-goal) jHARU(OBJ) dI

  1Sg=Erg 3Sg=Dat broom give.Perf

  'I gave him the broom.'
We concluded that if there is a change in argument structure, the N+V sequence is considered as a complex predicate.

However, we cannot comment on whether the other N+V (N+dE in this case study) sequences have metaphorical usage of dE or they constitute a complex predicate.

It is an open question whether inTarviyU 'interview' + dE 'give' 'get interviewed' and SHikast 'defeat' + dE 'give' 'defeat' etc. have metaphorical objects or they constitute a complex predicates.
Thanks and Questions