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Preferred Argument Structure in Taqbaylit Berber: a preliminary study

Introduction

Taqbaylit is a discourse-configurational language that belongs to the Berber branch of the Afroasiatic phylum. The aim of this article is to assess the relevance of the distinction between intransitive subject (S), transitive subject (A) and direct object (O) in Western Taqbaylit Berber. More precisely, we will see whether the constraints of preferred argument structure hold for Taqbaylit, and if they account for the complex interplay between word order and case marking in that language.

1. Preferred argument structure

Argument structure is concerned with how noun phrases relate to their verbs, and preferred argument structure «represents a hypothesis that in spontaneous discourse, certain configurations of arguments are systematically preferred over other grammatically possible alternatives».

Considering the three arguments A (transitive subject), O (direct object) and S (intransitive subject), Du Bois proposes a set of constraints, summarized in Table 1:

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1 This assessment is limited and preliminary, and should be followed by quantitative studies bearing on a larger amount of data.
4 J. Du Bois, Argument Structure, Grammar in use, cit., p. 34.
Table 1: The constraints of preferred argument structure

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Grammar</th>
<th>Pragmatics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Avoid more than one lexical core argument</td>
<td>Avoid more than one new core argument</td>
</tr>
<tr>
<td>Role</td>
<td>Avoid lexical A</td>
<td>Avoid new A</td>
</tr>
</tbody>
</table>

Those constraints link transitivity with information structure and cognitive processing.

2. Taqbaylit Berber

In Berber, predicates can be verbal or non-verbal, but our focus in this paper will be on verbal predication. The verbal system is dominated by aspect, which is marked thanks to vocalic alternations, prefixation or consonant gemination. Pre-verbal particles are used to modify the basic aspectual schemes and provide specific modal and aspectual values (irrealis, progressive). As far as the noun phrase is concerned, there are no articles, and Noun Phrases are either in the citation (unmarked) form, also called the «free state», or in the «annexion state» (marked). Independent pronouns form a special paradigm, with no state alternations. Possessors always follow possessees, and adjectives are placed after nouns.

Morphosyntactically, the verbal stem is completed by an obligatory personal affix which represents the main participant of the event or state. The traditional analysis\(^5\), reinforced by more recent studies\(^6\) posits the personal affix as the subject. The sequence formed by the affix and the stem is considered as a complete basic utterance.

(1) ye-ĉça: SUBJ3 MS-eat(PERF)\(^7\); «he ate/has eaten»

basic utterance = personal affix: ye+ stem: ĉça

stem = root (ĉça) + aspectual scheme (here perfective, realized -a).

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\(^7\) Abbreviations are as follows: 1, 2 or 3 refer to person; S = singular, P = plural, F = feminine, M = masculine; SUBJ = subject affix; DAT = dative clitic, ACC = accusative clitic; POSS = possessive affix; AS = annexion state; FS = free state [if a nominal doesn’t mark this opposition, we do not indicate case]; PERF = perfect/-ive aspect, IMPERF = imperfective, AOR = aorist;
This sequence can be followed by clitics (dative and accusative), and a proximal or distal particle. The order of clitics is rigid.

(2) taqcict te-flka yas ten iD
girl:FS SUBJ:FS-find(PERF) DAT:3S ACC:3PM PROX
«The girl gave them to him/her»

Personal affixes and clitics can be coreferential to lexical NPs or independent pronouns, which we consider as adjuncts, following Jelinek’s analysis of pronominal argument languages. In the previous example for instance, *taqcict* is an adjunct, coreferential to the personal affix *te-*, which is the grammatical subject of the sentence.

Taqbaylit has fully flexible word-order, with a statistical preference for movement of NPs coreferential to the subject. In the following tables, O and A/S refer to lexical NPs, and V is actually the basic utterance (personal affix + stem).

**Table 2: Word-order variation in a conversational excerpt**

<table>
<thead>
<tr>
<th>O-V</th>
<th>A/S-V</th>
<th>V</th>
<th>V-O</th>
<th>V.S/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>25</td>
<td>35</td>
<td>22</td>
<td>60</td>
</tr>
<tr>
<td>0,5%</td>
<td>17,5%</td>
<td>24,5%</td>
<td>15,5%</td>
<td>42%</td>
</tr>
<tr>
<td>Prehead = 26</td>
<td>Core = 57</td>
<td>40%</td>
<td>Extended core = 60</td>
<td>42%</td>
</tr>
<tr>
<td>18%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 3: Word-order variation in a narrative excerpt**

<table>
<thead>
<tr>
<th>O-V</th>
<th>A/S-V</th>
<th>V</th>
<th>V-O</th>
<th>V.S/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>15</td>
<td>51</td>
<td>21</td>
<td>20</td>
</tr>
<tr>
<td>2,5%</td>
<td>14%</td>
<td>46,5%</td>
<td>19%</td>
<td>18%</td>
</tr>
<tr>
<td>Prehead = 18</td>
<td>Core = 72</td>
<td>65,5%</td>
<td>Extended core = 20</td>
<td>18%</td>
</tr>
<tr>
<td>16,5%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CAUS = causative prefix; PASS = passive prefix; PROX = proximal particle, ANAPH = anaphoric particle, IRR = *irrealis* particle, CONC = concomitance particle; COP = copula; REL° = *realis* relative marker; REL* = *irrealis* relative marker; NEG = preverbal negator; POSTNEG = postverbal negator; :: affix boundary ; = : clitic boundary.


10 A. Mettouchi, *Word Order in conversational Taqbaylit Berber: Preposed and Postposed subjects*, cit. Counts were based on 143 3rd person verbal predications.

11 A. Mettouchi, *Discourse-configurationality and the encoding of semantic macroroles in Taqbaylit Berber*, cit. Counts were based on 110 3rd person verbal predications.
Taqbaylit also has a binary case system, with a marked member (annexion state) and an unmarked one (free state). Carrying further Galand’s analysis of the annexion state\textsuperscript{12} we have shown that it is a dependency mark, that links right-branching adjuncts to the basic utterance\textsuperscript{13}.

Word order marks information structure, clearly demarcating predicate-focus from sentence-focus, in Lambrecht’s\textsuperscript{14} terminology. It interacts with case-marking in a way that can be summarized in the following table, where the head refers either to a verb or an aspectual, negative or irrealis particle:

<table>
<thead>
<tr>
<th></th>
<th>Contrastive topic</th>
<th>Continative topic</th>
<th>Antitopic</th>
<th>Sentence-focus</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-head</strong></td>
<td>NP Free State</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(any function)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Core</strong></td>
<td></td>
<td>affix, clitic</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Extended core</strong></td>
<td></td>
<td></td>
<td></td>
<td>NP Annexion State (S or A function)</td>
</tr>
<tr>
<td><strong>Post-core</strong></td>
<td></td>
<td></td>
<td>NP Annexion State (any function)</td>
<td></td>
</tr>
</tbody>
</table>

The pre-head position is that of contrastive topics, whereas continuative topics are expressed thanks to the use of basic utterances without lexical adjuncts. The post-head position is that of direct objects (in the free state), sentence focus (lexical A or S, in the annexion state, in the extended core of the clause), and antitopic (S, O IndO, and other functions, in the annexion state, and in the post-core position).

Does this complex interplay between word order and case-marking\textsuperscript{15} have anything to do with the constraints of preferred argument structure?

3. Preferred argument structure in Taqbaylit Berber

In order to carry on a preliminary study of preferred argument structure in Taqbaylit, we have tagged the second episode\textsuperscript{16} of an oral tale, recorded in

\textsuperscript{12} L. Galand, *L'Enoncé verbal en berbère*, cit.
\textsuperscript{13} A. Mettouchi, *Word Order in conversational Taqbaylit Berber: Preposed and Postposed subjects*, cit.
\textsuperscript{16} Paragraphs 16 to 30.
Kabylic in June 2002\(^{17}\). We chose this episode because it was representative of the core of the tale in terms of narrative sequencing. It also contains a short dialogue.

Among the 71 tagged verbal utterances, 56 contained only a personal affix, and 15 a lexical adjunct coreferent to the personal affix or clitics. We are aware of the fact that percentages or generalizations on such small amounts of data are to be handled cautiously, but we nevertheless sum up the details in the following table\(^{18}\):

<table>
<thead>
<tr>
<th>S (intransitive subject)</th>
<th>A (transitive subject)</th>
<th>O (object)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lexical</td>
<td>Pers. affix</td>
<td>Lexical</td>
</tr>
<tr>
<td>9</td>
<td>43</td>
<td>6</td>
</tr>
<tr>
<td>12,6%</td>
<td>60,5%</td>
<td>8,5%</td>
</tr>
<tr>
<td>4 postverbal,</td>
<td>6 postverbal,</td>
<td>all postverbal</td>
</tr>
<tr>
<td>2 preverbal</td>
<td>3 preverbal</td>
<td></td>
</tr>
</tbody>
</table>

3.1. Avoid lexical As (Non-Lexical A constraint)

The constraint is respected: only 6 As are lexical, as opposed to 15 Os. It is interesting to note that most of the lexical items are postverbal (another pattern emerges than simply A versus S). This points to the fact that Taqbaylit, as a pronominal argument language, does not need a lexical subject. Therefore, preverbal topics are rare, and their pragmatic function is contrastive.

3.2. Avoid New As (Given A Constraint)

Out of 71 verbal predications, there is only one example of new A, which is postverbal, a configuration associated with sentence-focus, or thetic utterances\(^{19}\).

\[(3) ma \quad t\text{-}sell\text{-}emt \quad i \quad wuzedd\text{-}uz\text{-}agi\]

\[
\text{If} \quad \text{SUBJ2FP-hear(IMPERF)} \quad \text{to} \quad \text{stick.AS=DEICT} \\
\text{ye\text{-}ttawi=t} \quad \text{ube\text{-}hri /} \\
\text{SUBJ3MS-take(IMPERF)=ACC3MS} \quad \text{wind.AS(A)}
\]

"If you hear this stick being moved by the wind..."

\(^{17}\) The transcript is to appear in A. Mettouchi, \textit{Un conte kabyle} in \textit{Studi Berberi e Mediterranee. Hommage au professeur Luigi Serra}, ed. by A.-M. di Tolla, Università degli Studi di Napoli "L'Orientale", Napoli, to appear. The speaker is Mrs Tounisia Rabia, a monolingual woman, aged 45, who has always lived in the village of At Ikhlef, Western Kabylia, Algeria.

\(^{18}\) The percentages amount to more than 100\% because lexical S and A cooccur with personal affixes, which are obligatory. This is also valid for lexical objects and clitics.

3.3. Avoid more than one lexical core argument per clause (One Lexical Argument Constraint)

We found only 3 examples with more than one lexical core argument.

(4) netta ladýa / e::: i-qleb taswîêt /
him(A) then / e::: SUBJ3MS-change(PERF) moment.FS(O)/
«He then / e::: changed his mind »

Here, however, one can argue that there are in fact two utterances, with one lexical NP (or independant pronoun) per tone unit. It would be interesting to confront Du Bois’s generalisations to the units of spoken language, rather than to syntactic units such as clauses.

The following two examples are more conclusive. It is to be noted that they contain at most one new referent. In (5) both lexical NPs are given, and in (6) the direct object is a semantic filler for the verb, whereas the postverbal subject is given. Cognitive processing is therefore rather undemanding.

(5) abehri-nni ye-tawi azedduz-nni //
wind.FS(A)-ANAPH subj3MS-take(IMPERF) stick.FS(O)-ANAPH //
«The wind made the stick move»

(6) t-xeddem=ed tiyrifin
SUBJ3FS-do(IMPERF)=PROX pancakes.FS(O)
tmeçtut-nni n babatsent /
wife.AS(A)-ANAPH of their.father /
«Their stepmother was cooking pancakes»

Those examples are rather rare, but not totally absent from narratives. In our corpus, they tend to occur when the story-teller wants to give a full picture of the situation, a summary of a particularly salient fact or situation. On a prosodic level, those utterances all show an F0 prominence (on yettawi, and tiyrifin), and a rise in intensity.

It would be interesting to conduct a thorough study of the contexts of occurrence of those configurations.

3.4. Avoid more than one new core argument per clause (One New Argument Constraint)

The constraint is respected, we found no counterexamples.

It appears therefore that even in a short excerpt such as the one we chose, it is possible to say that broadly speaking, the constraints Du Bois poses as universal are valid. However, they need to be qualified by other factors in Taqbaylit, namely word order and case marking.
4. Word order and preferred argument structure

The constraints of preferred argument structure have correlates, that we have explored in order to see whether they were relevant for Taqbaylit.

One of them is the tendency for the single lexical item to occur either in the S or in the O role, since it appears only rarely in the A role (Non-Lexical A constraint). Our data point toward a qualification of this statement, which is true for O, which represents half of the lexical arguments, but less clearly so for A and S: lexical S appears in 9 verbal utterances, whereas lexical A appears in 6 cases, only three less than S. The ‘S versus A’ distinction may not be that relevant in Taqbaylit, at least as far as its lexical expression is concerned.

In terms of pragmatics, the correlate of Du Bois’s Given A constraints, which posits that there should only be one piece of new information per clause, and that this piece should not be the A, is that this single piece of new information tends to appear in the O or S role. In order to test this correlate, we tagged our episode according to the newness of referents, and we obtained the following results: all new referents were lexical, and they amounted to 9 out of the 30 lexical mentions. Among them, 1 was an A, 2 were S, and 6 were O.

It appears that O is a favoured grammatical function for the introduction of new referents. But S does not seem to be as favoured as Du Bois’s predictions state. It is closer to A in terms of frequency, even if, once again, the limited number of occurrences makes it difficult to be definite about that.

Another factor patterns with newness of referents in a more obvious way: the postverbal position. Indeed all the lexical items that introduced new referents were after the verb, which is significant since, Taqbaylit being a flexible-word-order language, the preverbal position was available to all three functions. Those findings are not unexpected, since the prehead position is topical, and the postverbal one focal20, and since focus is often, though not systematically, associated to newness of referents.

5. New information and the postverbal position in Taqbaylit Berber

Now that we have seen that the postverbal position patterned with new information better than functions linked to transitivity, S and O, it is important to investigate how new information is distributed between the postverbal subject and the object.

It appears from the study of the whole tale (as well as from previous work21), that objects tend to be trackable, or to complement activity verbs,


21 A. Mettouchei, *Discourse-configurationality and the encoding of semantic macroroles in Taqbaylit Berber*, cit.
whereas postverbal subjects are associated to thetic (sentence-focus) predications.

5.1. Objects

Trackability is the tendency for referents to resurface later in the tale. In that respect, objects do introduce referents that tend to appear at other points in the narrative, as in the following example, with the lion, which becomes one of the protagonists of the episode:

(7) ufa-nt=ed izem /
    find(PERF)-SUBJ3FP=PROX lion.FS(O) /
    ye-zwar=asent=id yizem //
    SUBJ3MS-cut.way(PERF)=DAT3FP=PROX lion.AS(A) /
    «They found a lion, a lion cut their way (menacingly)»

Objects also tend to complement activity verbs, thus acting as semantic fillers for the specification of activity-types, here pancake-cooking.

(8) t-xeddem=ed tiyrifin
    SUBJ3FS-do(IMPERF)=PROX pancakes.FS(O)
    tmeṭṭut-nni n babatsent /
    wife.AS(A)-ANAPH of their.father /
    «Their stepmother was cooking pancakes»

5.2. Postverbal subjects

The trackability of postverbal subjects is not an issue. What is new and in focus is the whole predication (sentence-focus, thetic utterances):

(9) ma t-sell-emt i wuzedduz=agi
    If SUBJ3FP-hear(IMPERF) to stick.AS=DEICT
    ye-ttawi=t ubehri /
    SUBJ3MS-take(IMPERF)=ACCUS3MS wind.AS(A)
    «If you hear this stick being moved by the wind ...»

The data show a difference in the treatment of postverbal elements, between objects (free state) and postverbal subjects (annexion state), so that case marking, by distinguishing between government (objects) and dependency (postverbal subjects) also plays a role in pragmatic information processing. There is also a distinction between all postverbal arguments and preverbal ones, the latter being topical (contrastive topic). Does this imply that the distinction between S and A is irrelevant in Taqbaylit?
6. Transitivity and aspect in Taqbaylit Berber

A study of the distribution of S and A in the second episode points towards a relationship of the A versus S distinction, not with given/new information, but with aspectual distinctions. A tends to appear with the imperfective aspect, and S with the perfective.

Morphologically, the perfective as an aspectual form is primitive, and its opposition to the aorist and the negative perfective is based on apophony. On the contrary, the imperfective is a more recent form, derived from the aorist by consonant gemination or prefixation.

We have shown\(^{22}\) that the imperfective aspect was associated to dynamicity, and the perfective to stativity. Indeed, the imperfective is incompatible with truly stative verbs, and adds a feature of progressivity or change of state to quality verbs. Moreover, as a derived form, it has a feature of intentionality: as Cohen\(^{23}\) states, consonant gemination or tension corresponds to an expressive reinforcement («renforcement de l'expressivité») and derivation by affixation underlines the participation of the subject in the process («les modifications exprimées par l'adjonction de morphèmes dérivatifs concernent le mode de participation du sujet au procès»).

Therefore, Taqbaylit shows a pattern associating transitivity, dynamicity and imperfectivity on the one hand, and intransitivity, stativity and perfectivity on the other hand.

Conclusion

Although the constraints of preferred argument structure can be considered to be valid for Western Taqbaylit, the entailed relevance of the distinction between A (transitive subject) and S (intransitive subject) does not hold on the same level. Indeed this distinction has been ascribed to referential status (new versus given information) in other languages, whereas in Western Taqbaylit, it is more closely related to the semantic features of the participants in the process (actor versus undergoer), and to aspectual distinctions. Transitivity tends to be linked to dynamicity and to the imperfective aspect, whereas intransitivity tends to be linked to stativity and to the perfective aspect.
