THE INTERACTION BETWEEN THE PASSIVE TRANSFORMATION AND OTHER TRANSFORMATIONS IN ENGLISH AND ARABIC

SALEH M. SULEIMAN
University of Jordan

1. Introduction

This paper sets out to compare and contrast the passive transformation in English and in Modern Standard Arabic (MSA) on two grounds: (1) how the passive transformation in each of the two languages interacts with other transformations, and (2) whether or not rule application in these transformations is cyclically ordered (Lakoff 1966). Arguments for the cycle and strict cyclicity have been put forward by many T.G. grammarians (e.g., Keyser and Postal 1976, Pullum 1976, Neubauer 1972, Postal 1971, and McCawley 1970). Similar arguments for “the cycle based on languages other than English have been given by Kayne (1975) for French, and Evers (1975) for Dutch and German” (qtd. in Soames and Perlmutter 1979: 172). However, no studies have dealt exclusively with the cyclical principle in Arabic grammar, but there have been some contrastive studies on the use of verb forms and agentive phrases in Arabic and English passives (Khalil 1993, 1989; Nofal 1993, Kharma and Hajjaj 1989; Kharma 1983; Saad 1982).

In this paper I will show that MSA exhibits some constructions which require cyclical rule application to allow rules like passive, object-to-subject raising, complementizer insertion, Equi-NP-Deletion, and so on, to apply in the derivation of some sentences. Evidence from Arabic will be supportive of Soames and Perlmutter’s (1979: 118) claim that the two general principles of rule interaction, namely “the cycle and strict cyclicity are linguistic universals.”

2. A structural description of the passive construction in modern standard Arabic

Given that the domain of the passive construction in Arabic is the verbal sentence, it is necessary to determine the form of the verbal sentences whose structural description satisfies the application of the passive transformation. An important element to consider is the verb and the restrictions on the possible subjects and objects
that certain verbs can take. Since an Arabic passive sentence, like an English passive sentence, is derived from an active counterpart, it is necessary to maintain an NP complement in the underlying active sentence in order for the passive transformation to operate. We should also emphasize that the selectional restrictions in Arabic active sentences should capture the two generalizations proposed by Soames and Perlmutter (1979: 31-32):

The class of possible subjects that can occur with a verb in the passive sentences is identical with the class of subjects that the same verb can have in the active sentences.

The class of possible NPs that a certain verb can have in the by-phrase in passive sentences is identical with the class of possible subjects that the verb can have in active sentences.

These two generalizations have been used by generative grammarians to support the hypothesis that active and passive sentences are derived from the same underlying structures. The same argument holds for Modern Standard Arabic, which shares this characteristic with English, e.g.,

\[ V \quad S \quad [NPI] \quad O \quad [NP2] \]

Active: (1)  
\[ \text{šarība} \quad t- \quad \text{tiflu} \quad I- \quad \text{halība} \quad (1) \]

drank \quad def. child \quad def. milk

'The child drank the milk.'

\[ \text{V \ (passive) \ Agent Substitute (A.S.)/Grammatical Subject (Gr.S.)} \]

Passive: (2)  
\[ \text{šarība} \quad I- \quad \text{halība} \]

was drunk \quad def. milk

'The milk was drunk.'

In the active sentence, the verb šarība (= drank) is transitive, and the two slots of the subject and object are filled. Also the agentive phrase, which is usually deleted in Arabic passive, is identical, when recoverable, with the subject of the active sentence. In sentence (2) above, however, it is not possible to retain an agentive phrase. This is in line with Khalil (1993: 169), who concludes that "Arab grammarians have always described the passive in Classical Arabic (CA) as an agentless construction. English, unlike CA, has both agentless and agentive passive constructions." A different argument is presented by Saad (1982: 92) who says that "semantically, Arabic passive has an external agent and that it is not agentless." This suggests that agentive passive constructions in CA and MSA may occasionally occur through the agentive by-phrases: biwaasitat 'by means of', min gibal 'on the part of', or 9ala yadi 'at the hands of' (cf. Nofal 1993: 12), e.g.,

\[ \text{V (Passive) \ A.S. \ i(Gr.S.)} \]

(3)  
\[ \text{dūbiṭa} \quad I- \quad \text{līṣu} \quad \text{biwaasitatil/9ala yadi} \quad š- \quad \text{šurṭah} \]

was caught \quad def. thief \quad by means of/at hands of \quad def. police

'The thief was caught by the police.'

As far as the structural description of Arabic passive is concerned, two important aspects should be discussed, namely (1) the form of the verb, and (2) the subject.

2.1. Form of the Verb

The passive verb in Arabic is marked for tense and is always identified as either past or present. In the most general terms, the past tense, which consists of the radicals (f-9-l) in its underlying form, is known to take the surface passive form (fu-9-ilu), by inserting the case marker vowel affixes: dammān = -u, the kasrah: -i, and the fathah: -a, after the radicals (f-9-l), respectively. This establishes that any past tense that corresponds to the prescribed passive form is a passive. Examples are given in Table 1 below:

<table>
<thead>
<tr>
<th>Root</th>
<th>Active</th>
<th>Passive</th>
</tr>
</thead>
<tbody>
<tr>
<td>f-9-l</td>
<td>fu9ala</td>
<td>fu9ila</td>
</tr>
<tr>
<td>k-s-r</td>
<td>kasara (= 'break - past')</td>
<td>kusira</td>
</tr>
<tr>
<td>q-t-l</td>
<td>qatara (= 'kill - past')</td>
<td>qutila</td>
</tr>
<tr>
<td>k-s-f</td>
<td>kasafa (= 'reveal - past')</td>
<td>kušifa</td>
</tr>
</tbody>
</table>

The same applies to words with 'geminates' such as affa - luffa, 9adda - 9udda, and damma - dumma, which undergo the following process:

| 1-f-f | laffa | \( \rightarrow \) (laffa = 'wrapped') | lufta | \( \rightarrow \) luffa |
| 9-d-d | 9adda | \( \rightarrow \) (9adda = 'counted') | 9udda | \( \rightarrow \) 9udda |
| d-m-m | damma | \( \rightarrow \) (damma = 'annexed') | dumma | \( \rightarrow \) dumma |

The above examples show that the vowel a, which is inserted after the second radical in the active base form, is deleted and thus yielding the surface active verbs: luffa, 9adda, and damma, respectively. The derived forms include the doublets (i.e., geminates ‘ff’, ‘dd’, ‘mm’) resulting in ‘emphasis.’ When passive applies to the surface active forms: luffa, 9adda, and damma, they yield the passive counterparts luffa ‘was wrapped’, 9udda ‘was counted’, and dumma ‘was annexed’, respectively, whose base passive forms, prior to the deletion of the vowel i following the second
radical, were lusifaa, 9udida, and dumima, respectively. What actually happens is that the underlying passive forms given above are changed into their surface counterparts lusifaa, 9udida, and dumima, through the Arabic morpho-phonemic rule of 'idyaam ‘assimilation’, for the ease of pronunciation.

It is worth noting here that one of the schools of Arabic linguistics, namely the Kufan school believes that “the passive form is not transformed from its active counterpart and that it must be added to the well-known forms to become four: fa9ula, fa9ila, fa9ula, and fa9ilia” (Nofal 1993: 43). But proponents of the Basra school, another prominent school of Arabic linguistics, believe that verbs like junna ‘went mad’, which the Kufans believe to have no active equivalent, “do actually have their active counterparts, but they are not frequently used, e.g., (a) junna = passive, and (b) junna= active” (Nofal 1993: 43).

On the other hand, the present tense of the passive verb takes the form yu-f-9a-lu, in which case the first radical is followed by the vowel dammah: -u, and the penultimate is followed by the vowel fathah: -a. Thus, any present tense that corresponds to the prescribed passive form is said to be a passive. Examples are given in Table 2 below:

<table>
<thead>
<tr>
<th>Root</th>
<th>active</th>
<th>passive</th>
</tr>
</thead>
<tbody>
<tr>
<td>f-9-1</td>
<td>ya-f-9a-lu</td>
<td>yu-f-9a-lu</td>
</tr>
<tr>
<td>š-r-š</td>
<td>ya-š-ra-bu</td>
<td>yu-š-ra-bu</td>
</tr>
<tr>
<td>m-d-h</td>
<td>ya-m-da-hu</td>
<td>yu-m-da-hu</td>
</tr>
<tr>
<td>q-t-š</td>
<td>ya-q-ta-9u</td>
<td>yu-q-ta-9u</td>
</tr>
</tbody>
</table>

2.2. Underlying Subject

The surface structure subject in Arabic passive sentences, the agent substitute or the grammatical subject (hereafter Gr.S.), often follows the verb and carries the nominative case marker, dammah: -u, which marks the subject. Nevertheless, Arab grammarians do not refer to it as subject but as naa'ib faa9u “agent substitute”. Consequently, I chose to distinguish it from the logical subject by labelling it “grammatical subject” (cf. Khalil 1993, 1989).

As far as the agitative phrase is concerned, Arabic passive constructions normally occur without it, since it is uniquely recoverable from the context. This is not the case with the by phrase in English passive which, according to Liles (1979: 73), is usually deleted when: (a) “the subject in the active sentence is an indefinite pronoun,” and may be deleted when (b) “the meaning of the verb suggests that only one performer of the action is likely,” e.g.,

(4) a. Someone hit him.
   b. He was hit.
(5) a. The policeman arrested the thief.
   b. The thief was arrested. (cf. Liles 1979: 73)

This suggests that whereas the agent is not normally retained in Arabic passive constructions, since the agenerative phrase is often not explicitly stated, it is treated as an optional part of the passive rule in English. The same opinion is expressed by Nofal (1993: 127) who reports that “agents in Arabic passive sentences generally do not appear in surface structure...; however, some Arabic passive sentences incorporate an overtly expressed agent.” A counter argument is forwarded by Khalil (1989: 23) who points out that “the agent is obligatorily deleted in the Arabic passive.”

3. Clauses as objects of higher verbs

The passive rule in Arabic designates the semantic object in the active sentence as the grammatical subject of the derived passive equivalent. When passive applies, it is often the case that certain verbs take the whole clause as an object and not just the NP that immediately follows the verb; e.g.,

V S Od
(6) a. šaráfa | Šalbyun [anna zaydan sa- yasili yadan] knew Ali that Zayd will arrive tomorrow
   ‘Ali knew that Zayd would arrive tomorrow.’

The deep structure can be represented in terms of a phrase marker as follows:

```
S  V Sub  Od
```

The passive rule then applies to generate:

(6) b. V (passive) Gr. S.

<table>
<thead>
<tr>
<th>Durfa</th>
<th>Anna zaydan sa- yasili yadan</th>
</tr>
</thead>
<tbody>
<tr>
<td>was known that Zayd will arrive tomorrow</td>
<td></td>
</tr>
<tr>
<td>‘It was known that Zayd would arrive tomorrow.’</td>
<td></td>
</tr>
</tbody>
</table>

In this case, the entire clause (i.e., the Od in the active string) becomes the grammatical subject in the passive counterpart. In such constructions, Arabic also allows the NP object alone, without its complement, to be the grammatical subject. The case for English was discussed by Stockwell (1977: 128), who rules out the possibil-
The interaction between the passive transformation ...
5.1. Dative Movement and Passive

One area of investigation is the interaction of dative movement and passive. Dative movement has the effect of transforming the structure underlying sentences such as (10a) into the structure underlying sentences such as (10b):

(10a)  V  S  Od  Oi
       manaha  mudiiru ja'a'izatan  li  l- faa'izi

gave  def. master prize  prep. def. winner

   'The headmaster gave a prize to the winner.'

Dative movement:

(10b)  V  S  Oi  Od
       manaha  mudiiru  li- faa'iza ja'a'izatan

gave  def. master  def. winner prize

   'The headmaster gave the winner a prize.'

We notice that the dative movement rule has moved the indirect object (i.e., the NP within the prepositional phrase) in (10a) to the position of a direct object immediately following the verb in (10b). When the two rules (i.e., dative movement and passive) interact, the preferred order for them in MSA is for the dative movement to apply before the passive rule. Therefore, sentence (10b) can yield the desired passive:

(11a)  V (passive)  Gr. S.
       muniha  faa'izu ja'a'izatan

   was granted  def. winner prize

   'The winner was given a prize.'

Had we attempted to apply the passive transformation to sentence (10a) before applying dative movement, we could have generated the ungrammatical string:

(11b)  *muniha  li- faa'izi ja'a'izatan

   was given  prep.  def.  winner prize.

   'To the winner was given a prize.'

Nevertheless, we can apply passive before dative movement if we change the focus from the animate direct object, li- faa'izi 'to the winner', to the inanimate direct object, ja'a'izatan 'a prize' in the active sentence (10a), and consequently add an inflectional ending (i.e., the feminine gender marker -t to the passive verb) so that we can generate:

(11c)  V- passive
       munihat ja'a'izatan  li- faa'izi

   was given  a prize  to  def.  winner

   'The winner was given a prize.'

The same is true in English, which requires for the dative movement to apply before passive, otherwise, we will generate the ungrammatical string:

(11d)  *To the winner was given a prize.

5.2. Passive and Questions

Another area of investigation is the ordering of the passive and question transformations. First, let us deal with the Yes-No questions as shown in this sentence:

(12a)  V  S  O
       halla  majlisu  mu'askilatun

   solved  def. council  def. problem

   'The council solved the problem.'

If we apply the passive rule first, we obtain:

(12b)  V (passive)  Gr. S.
       kullat  al- mu'askilatun

   was solved  def.  problem

   'The problem was solved.'

And by applying the question transformation next, we generate:

(12c)  V (passive)  Gr. S.
       hal  kullat  al- mu'askilatun?

   Interr. was solved  def. problem

   'Was the problem solved?'

Similarly, if we reverse the order of the rules and apply the question transformation to sentence (12a) and then the passive, the output string will be equally grammatical. If we apply the question rule first, we obtain:

(12d)  hal  halla  majlisu  mu'askilatun?

   inter. solved  def. council  def. problem

   'Did the council solve the problem?'

The same argument holds for wh-questions in which question words like man 'who,' mataa 'when,' ayna 'where,' etc., are manifested. But it should be pointed out that although the output string is not affected significantly by rule ordering, the semantics of the derived sentence is more sound when the passive transformation applies first. Thus, after applying passive to the original string (12a):

(12e)  a.  V  S  O
       halla  majlisu  mu'askilatun

   solved  def. council  def. problem

   'The council solved the problem.'
we obtain:

(12) e. V (passive) Gr. S.
    ḥullat al- muškilatu
    was solved def. problem

in which case the focus is shifted to the action itself (i.e., the act of solving the problem, in the above example) irrespective of the agent. Or else we can generate (12f), where focus is on the object, which now has a 'grammatical subject' function as a result of preposing:

(12) f. al- muškilatu ḥullat
    def. problem was solved
    'The problem was solved.'

This can only be achieved if the passive transformation applies first. When this is done, we start an investigation on 'how the problem was solved' and 'when,' etc., by applying the wh- question to generate:

(12) g. Kayfa ḥullat al- muškilatu
    how was solved def. problem
    'How was the problem solved?'

But there is nothing to suggest, on purely syntactic grounds, that the passive should apply before the question. Consequently, we assume that in the interaction of passive and question, there is no adherence to the "strict ordering" theory, but to the "free application" theory (Soames and Perlmutter 1979: 144). Let us consider the following examples in which the question transformation may apply before passive:

(13) a. ḥalla l- mudiiru l- muškilata → WH Question
    solved def. master def. problem
    'The headmaster solved the problem.'

b. kayfa ḥalla l- mudiiru l- muškilata? → PASS
    how solved def. master def. problem
    'How did the headmaster solve the problem?'

c. kayfa ḥullat al- muškilatu?
    how was solved def. problem
    'How was the problem solved?'

Similarly, if we reverse the order of transformations, we can still generate the following grammatical strings:

(14) a. ḥalla l- mudiiru l- muškilata → PASS
    solved def. master def. problem

(14) b. ḥullat al- muškilatu. → WH-Question
    was solved def. problem

(13) b. kayfa ḥullat al- muškilatu?
    how was solved def. problem

In this respect, Arabic differs from English, which requires passivization to apply before question.

5.3. Passive through Extraposition

Passive may also apply through extraposition, a rule that "moves the subject to the right of the predicate" (Stockwell 1977: 129). Thus, in the sentence:

(15) a. SCs
    an taylıba 9aliyyan amrun sa9b
    to beat Ali act difficult
    'It is difficult to beat Ali.'

Extraposition:

(15) b. (innahu) (la)- amrun sa9bun an taylıba 9aliyyan
    it is emph. act difficult to beat Ali
    'It is difficult to beat Ali.'

Passive:

(15) c. Gr. S. V passive
    9aliyyun sa9bun an yuğlaba
    Ali difficult to be beaten
    'Ali is difficult to be beaten.'

This does not suggest, however, that the proposed ordering of rules is fixed, since the passive transformation can apply directly to sentence (15a) above:

(15) a. SCs
    an taylıba 9aliyyan amrun sa9b
    to beat Ali act difficult
    'It is difficult to beat Ali.'

(15) d. V passive Gr. S.
    an yuğlaba 9aliyyun amrun sa9b
    to be beaten Ali act difficult
    'For Ali to be beaten is difficult.'

followed by extraposition, as in (15b) above.
5.4. Adverb Fronting and Passive

Adverb fronting is a focusing rule which focuses on the fronted adverb; e.g.,

(16) a. sa- yahkmu l- qaadi fi l- qadiyyati yadan will rule def. judge in def. case tomorrow 'The judge will give his verdict tomorrow.'

With regard to the application of adverb fronting and passive, there are no restrictions concerning rule ordering. Thus, the order can be either adverb fronting followed by passive as in:

Adverb fronting:

(16) b. yadan sa- yuhkmu fi l- qadiyyah tomorrow will be ruled in def. case 'The verdict will be given tomorrow.'

Passive:

(16) c. V passive sa- yuhkmu fi l- qadiyyah will be ruled in def. case tomorrow 'The verdict will be given tomorrow.'

or the reverse (i.e., by applying the passive first as in (16c) followed by adverb fronting as in (16b) above).

This shows that in the interaction of passive and adverb fronting the rule application adheres to the free application theory and not to the strict ordering principle (cf. Soames and Perlmuter 1979: 118).

5.5. Reduced Complements and the Passive Transformation

Akmanian and Heny (1975: 298) define a reduced complement as "one that seems to have a subject which is co-referential with the subject of the matrix sentence," e.g.,

(17) a. "I would hate it if I found the house empty."

When reduced:

(17) b. I would hate to find the house empty" (Heny 1975: 298).

The same argument applies to MSA when a given string satisfies the SD of the passive transformation with the rules ordered as follows:

(18) a. yastahsin 9aliy an yadhhab 9aliy ila l- haflah prefer Ali to go Ali to def. party

'Eli would like for Ali/himself to go to the party.'

Equi-NP-Deletion

(18) b. yastahsin 9aliy an yadhhab ila l- haflah Subject-to-Object Raising

Passive

(18) c. anaa astahsin [9aliy yadhhab ila l- haflah] l prefer Ali go to def. party

or be preferred to go Ali to def. party

'lt is preferable for Ali to go to the party.'

Equi-NP-Deletion also occurs with the verb 'force' yujbir, in embedded sentences like:

(19) a. 'ajbara 9aliyyun zaydan an yarhalal mubakkiran forced Ali Zayd to leave early

'Ali forced Zayd to leave early.'

which has the underlying structure:

(19) b. 'ajbara 9aliy zayd [zayd yarhalal mubakkir] force Ali Zayd Zayd leave early

shown in terms of phrase marker as:

```
S1
  NP   NP   NP   NP
  'ajbara 9aliy zayd

S2
  NP   VP
  yarhal V  Adv
```

Mubakkir
In the derivation of sentence (19a) from structure (19b), a number of transformations apply to the original underlying string (19b) as follows:

(19) b. 'ajbara 9aly zayd [zayd yarhalmubakkar] forced Ali Zayd leave early

    Equi Deletion
    forced Ali Zayd __ leave early.

    complementizer insertion

(19) c. 'ajbara 9aly zayd an yarhalmubakkar.
forced Ali Zayd to leave early

    Passive
    V passive Gr. S. COMP. Adv.
(19) d. 'uybira zaydun an yarhala/9ala r- rahili mubakkiran
was forced Zayd to leave/on def. leaving early

    'Zayd was forced to leave early.'

In light of the above, one can gather that there is not much of a problem between Equi-NP-Deletion and passive in Arabic because the SD of the active sentence (cf. (19c) above):

V  S    O    COMP.
'ajbara 9alyyun zaydan an yarhala mubakkiran
forced Ali Zayd to leave early

can yield, on applying the passive transformation, the desired passive counterpart (cf. 19d) above:

    V passive Gr. S. COMP. Adv.
    'uybira zaydun an yarhala/9ala r- rahili mubakkiran
was forced Zayd to leave/on def. leaving early

    'Zayd was forced to leave early.'

In English, however, Equi-NP-Deletion can apply after passive because the subject of the matrix sentence is identical with the subject of the embedded sentence, e.g.:

(20) a. We forced Bill to leave early.

which has the underlying structure as:

(20) b. We forced Bill [Bill leave early].

Passive can apply first to yield:

    Bill was forced [Bill leave early]

followed by Equi-NP-Deletion and complementizer insertion (i.e., infinitive marking) to yield:

(20) d. Bill was forced to leave early.

6. Cyclical rule application in complex embedded sentences

In the previous section we have shown that the passive transformation in MSA is often rule governed and that the SD of some sentences may not undergo the passive transformation unless other rules apply to the string before the passive can apply. Evidence was found in extraposition and reduced complements. With this in mind, I will show how the passive transformation in Arabic complex embedded sentences (i.e., sentences in which the surface string incorporates a number of interacting deep structure transformations) is realized in the light of rule ordering and the cyclical principle of rule application.

Soames and Perlmutter (1979: 126) state that in early transformational grammar "rules apply from bottom to top; i.e., rules first apply to the most deeply embedded S and then to the next deeply embedded S, and so on". Let us test the applicability of this argument to standard Arabic with the understanding that Arabic is a VSO language. For example, the passive sentence:

(21) a. 'uybira zaydun an yarhala mubakkiran
was forced Zayd to leave early

    'Zayd was forced to leave early.'

has the underlying structure:

(21) b.

    S1
      NP
      NP
      NP
      VP

      'ajbara 9aly Zayd (forced)
      (Ali) (Zayd)
      Zayd (Zaydun) (leave)
      V
      Adv
      yarhala (early)
      Mubakkiran
In the derivation of sentence (21a) from (21b), Equi-NP-Deletion is applied on the S2 cycle producing the derived structure:

\[ (21) \text{c.} \]

\[
\begin{array}{c}
\text{NP} \quad \text{NP} \quad \text{NP} \quad \text{NP} \\
\text{\textcolor{red}{'ajbara}} \quad \text{9aliy} \quad \text{zayd} \quad \text{S2} \\
\quad \text{(forced)} \quad \text{(Ali)} \quad \text{(Zayd)} \\
\end{array}
\]

\[
\begin{array}{c}
\text{VP} \\
\text{yarahal} \quad \text{Mubakkir} \\
\quad \text{(leave)} \quad \text{(early)} \\
\end{array}
\]

\[
\begin{array}{c}
\text{NP} \quad \text{NP} \quad \text{NP} \\
\text{\textcolor{red}{'ajbara}} \quad \text{9aliy} \quad \text{zayd} \quad \text{yarhal} \\
\quad \text{(forced)} \quad \text{(Ali)} \quad \text{(Zayd)} \quad \text{mubakkir} \quad \text{yarahal} \quad \text{mubakkir} \\
\quad \text{(leave)} \quad \text{(early)} \quad \text{(leave)} \quad \text{(early)} \\
\end{array}
\]

On the S1 cycle, complementizer insertion also applies. Complementizer insertion is triggered by the identity of Zayd in S1 and Zayd in S2, deleting the lower occurrence and leaving a finite verb without a subject, which makes the complementizer insertion rule necessary:

\[ (21)d. \]

\[
\begin{array}{c}
\text{NP} \quad \text{NP} \quad \text{NP} \quad \text{NP} \\
\text{'ajbara} \quad \text{N} \quad \text{N} \quad \text{S2} \\
\quad \text{(forced)} \quad \text{(Ali)} \quad \text{(Zayd)} \\
\end{array}
\]

\[
\begin{array}{c}
\text{Complementizer} \\
\text{\textcolor{red}{\text{yarhal}}} \quad \text{Mubakkir} \\
\quad \text{\textcolor{red}{\text{(to)}}} \quad \text{(early)} \\
\end{array}
\]

\[
\begin{array}{c}
\text{NP} \quad \text{Complementizer} \quad \text{VP} \quad \text{Adv} \\
\text{'ajbara} \quad \text{zayd} \quad \text{an} \quad \text{yarhal} \quad \text{mubakkir} \\
\quad \text{(forced)} \quad \text{(Zayd)} \quad \text{(to)} \quad \text{(leave)} \quad \text{(early)} \\
\end{array}
\]

\[
\begin{array}{c}
\text{'ijbira} \quad \text{zaydun} \quad \text{an} \quad \text{yarhal} \quad \text{mubakkiran} \\
\quad \text{(to)} \quad \text{(leave)} \quad \text{(early)} \quad \text{mubakkiran} \\
\end{array}
\]

On the S1 cycle, passive changes the verb format, reorders, then deletes the subject 9aliy 'Ali', and gives the verb its passive form 'ijbira 'was forced,' yielding the desired passive construction (21a) above, which can be represented as:

\[ (21)e. \]

Thus the preferred ordering of rule application is:

1. Equi-NP-Deletion
2. Complementizer insertion
3. Passive

In other words, there is no strict adherence to rule ordering because, as shown in (5.7: 19a-d) above, the passive transformation can apply to the active string without the need to go through Equi-NP-Deletion.

The application of the cyclical rules in the passive transformation may also be detected in the following example:

\[ (22) \text{a. ya\textit{t}aqidu \textit{ll}}\quad \text{naasu} \quad \text{anna} \quad \text{\textit{ma\textit{s}}ya} \quad \text{mu\textit{fi}dun} \\
\text{believe def. people that def. walking useful} \\
\quad \text{'People believe that walking is useful.'} \\
\]

whose underlying structure is:
(22) b. \textit{ya9taqid al-naas} S2 [\textit{al-ma\=sy} mufiid]

On the S2 cycle, raising the nominal sentence [\textit{al-ma\=sy} mufiid] as [object + complement] of higher verb \textit{ya9taqid} 'believe' (i.e., subject-to-object raising) applies to produce:

(22) c.

On the S1 cycle, complementizer insertion applies to mark 'objectivity.' The inserted complementizer \textit{anna} 'that', is a tracer element which codes embedding.

(22) d. \textit{ya9taqidu l-naasu anna l-ma\=sy} mufiidun

People believe def. people that def. walking useful

On S1 cycle, passive applies to delete the subject \textit{al-naasu} 'people' and change the verb into its passive form \textit{yu9taqadu} 'is believed.'

\begin{itemize}
  \item 1. Subject-to-Object raising
  \item 2. Complementizer/Tracer insertion
  \item 3. Passive
\end{itemize}

A fairly complex display of cyclical rule application in MSA may be evidenced in the following example:
(23) a. *dabata* al- *saa’iq* musri9an wa- quddima li- l- *muḥaakamah*
    was caught def. driver speeding and was sent to def. trial
    'The speeding driver was caught and tried.'

which has the underlying structure:

(23) b. *dabata* as- *ṣūrṭiy* as- *saa’iq*[al- *saa’iq* kaana musri9]
    caught def. policeman def. driver def. driver was speeding
    wa- qaddamat idaarat al- muruur as- *saa’iq* al-
    and sent administration def. traffic def. driver def.

musr9 li l- *muḥaakamah*
speeding to def. trial
'The policeman caught the speeding driver and the motor-vehicle department sent him to court for trial.'

and is represented as:

(23) c.

On the S3 cycle, the NP *as-saa’iq* (= 'the driver') is replaced with the pronoun *huwa* (= him), (i.e., pronominalization applies). After that, pronoun adjunction applies obligatorily to attach the disjointive pronoun *huwa* 'him' to the transitive verb *qaddamat* 'sent' to change it into *qaddamat-hu* 'sent him,' (i.e., the noun *as-saa’iq* 'the driver' is the antecedent of the pronoun *huwa* 'him'). This yields the derived structure:

(23) d. *qaddamat-hu* idaarat al- muruur li- l- *muḥaakamah*
    sent him dept. def. traffic to def. trial

represented as:

(23) e.

On the S2 cycle, Equi-NP-Deletion, triggered by the identity of *as-saa’iq* in S1, applies to delete the lower occurrence of *as-saa’iq* 'the driver':

(23) f. *as- *saa’iq*[as- *saa’iq* kaana musri9]
    def. driver def. driver was speeding

On the S2 cycle, the relative clause marker *allādi* 'who' is inserted as tracer element:

(23) g. *as- *saa’iq* allādi kaana musri9an
    def. driver who was speeding

S1

V NP NP Conj

S2

V NP antecedent PP

S3

V VP

NP (sent) NP (Dept. traff.)

S1

V NP NP

S2

V Adv

S3

V NP

NP (sent) NP (Dept. traff.)

NP (driver)

NP (driver)

NP (speeding)

NP (driver)

NP (speeding)
On the S2 cycle relative clause reduction applies, so the adjective clause alladikaarna musri9an becomes al-musri9 ‘the speeding’; thus

(23) i. dabata aš-šurtiy as-saa’iq al-musri9
    caught def. policeman def. driver def. speeding

(23) j.

S
  V
  NP NP NP
  dabata al-šurtiy al-saa’iq
  caught def. policeman def. driver

S2
  Adj
  al-musri9
  def. speed dir

On the S1 cycle, passive applies to delete the subject aš-šurtiy ‘the policeman’ and to change the verb dabata ‘caught’ into the passive form dubita ‘was caught.’ Also, the verb, qaddamat-hu ‘sent him’, takes the passive form quddima ‘was sent’ in order to be compatible with the passive form of the verb dubita ‘was sent’

(23) k. dubita as-saa’iq al-musri9 – quddima li- l-muhaakamah
    was caught def. driver def. speeding was sent for def. trial

S
  V
  NP Adj
  dabata [+Gr. Subject] al-musri9
  [+Passive] as-saa’iq de. speeding [+passive]
  (was caught) (def. driver) (was sent)
  li-l-muhaakamah
  (for trial)

On the final cycle, the coordinating conjunction wa ‘and’ is inserted in front of the passive verb quddima ‘was sent’ to become wa-quddima ‘and was sent’ in order to account for the two major actions of ‘catching the driver’ and then ‘sending him to court for trial.’ Thus, the conjunction wa ‘and’ is introduced to produce the original surface string (23a):

(23) k. dubita s- saa’iq musri9an wa quddima li- l- muhaakamah
    was caught def. driver speeding and was sent for def. trial
    ‘The speeding driver was caught and sent to court for trial.’

Thus, in the derivation of the output sentence the rules must apply in the following order:
1. Pronominalization
2. Pronoun adjunction
3. Equi-NP-Deletion
4. Tracer element insertion
5. Relative clause reduction
6. Passive
7. Coordinating conjunction insertion

The argument presented in the previous example provides evidence that Modern Standard Arabic adheres, to a great extent, to rule ordering and that the cyclical principle of rule application in the passive transformation is well justified.

7. Conclusion

The comparison that I have drawn between English and Arabic passive shows that Modern Standard Arabic can be affected by the cyclical principle of rule application resulting in a complete structure that is broken into different domains of rule application. Although Lakoff (1966) argues that the cyclical principle is based on the assumption that syntactic rules are ordered, the case for Modern Standard Arabic shows that “the cycle may be adopted whether or not rules are ordered” (Soames and Perlmutter 1979: 131). This is evidenced in the interaction of passive with other rules, such as reduced complements and extraposition, where rules are found to apply freely, since they are not strictly ordered. Nevertheless, the cycle is found to apply in such constructions.

The paper also argues that an obligatory rule like dative movement should apply before the optional rule of passive and that, in some cases, Modern Standard Arabic adheres to the principle of rule government. For example, Equi-NP-Deletion can only delete the subject of a complement if it is coreferential with the subject of the higher clause.

The importance of the cycle in Modern Standard Arabic is justified by the need to derive grammatical sentences, which can only be generated by allowing rules in a lower cycle to apply before obligatory rules in a higher one; e.g., the application of the optional rule of passive before the obligatory dative movement. In addition, the cycle allows rules to apply more than once; e.g., Equi-NP-Deletion, passive, raising, and so on.
If we bring the findings of this study about Modern Standard Arabic together with Kayne's (1975) about French, Evers' (1975) for French and German (qtd. in Soames and Perlmutter 1979), as well as other arguments in favor of the cycle, we support the thesis that the cyclical principle of rule application is a language universal.

Symbols

The following list of symbols represents sounds found in the Arabic phonemic system. A description of each sound according to place and manner of articulation is given below:

\[ h: \] voiceless pharyngeal fricative
\[ 9: \] voiced pharyngeal fricative
\[ q: \] voiceless uvular stop
\[ y: \] voiced velar fricative
\[ s: \] emphatic voiceless alveolar stop
\[ d: \] emphatic voiced alveolar stop
\[ g: \] emphatic dento-alveolar fricative

REFERENCES


