The Development of Arabic Interlanguage Morphology

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Abstract

This paper aims to establish the developmental sequence for the acquisition of verbal agreement morphology in Arabic as a second language (ASL). The paper also aims to test cross-linguistically certain claims and principles proposed in Pienemann's (1998) Processability Theory (PT). This second objective is particularly important as it explores issues of language processing and language development in a learning context where the target language (Arabic) is typologically different from languages that have been previously investigated, in particular, English, German and Spanish. The linguistic structures of the target language (TL) that are most relevant to this paper are lexical morphology, phrasal morphology (agreement within-constituent) and subject-verb agreement morphology (agreement across-constituent). These three structures reflect different patterns of (grammatical) information exchange, which require specific processing tools. Such processing tools form the various components of an implicational hierarchy accessible to learners at various points in time during the learning process (Pienemann 1998).

The theoretical analysis of the data reveals that the differences between the predicted sequences and the data-generated sequences are mainly differences of order of structures within stages rather than difference between orders of acquisition stages. Although the developmental sequence for ASL agreement morphology is slightly different from the PT-predicted sequence, it is, nevertheless, consistent with the basic principles that relate to (a) the effect of different patterns of grammatical information exchange in the TL on language development and (b) the processing resources and processing strategies required to handle such patterns. Overall, the patterns of language development in the context of ASL reflect the importance of the notion of feature unification and saliency, as described within Lexical Functional Grammar (LFG) in the acquisition of agreement morphology.
1. Introduction

The aim of this paper is to account for the development of interlanguage morphology in learners of modern standard Arabic as a second language. Besides establishing the developmental order for morphological structures, this paper will also explore the relevance of key cognitive and processing factors formulated in the Processability Theory. In the following introductory section, a theoretical description of the relevant structures is followed by a brief discussion on the interplay between these structures and the Processability Theory.

Arabic is a non-configurational Semitic language characterised by a rich agglutinative morphological system (Holes 1995; Abboud 1975). Like other Semitic languages, Arabic is heavily inflected and is known for its highly productive and complex morphological system. The morphological complexity is most apparent in terms of how words are formed (Prince and McCarthy 1990). There are three main levels to word-formation in Arabic namely the basic semantic root, vocalisation and affixes. Another aspect of Arabic inflectional morphology is the fact that its verbs may inflect for person, number, gender, tense, aspect, mood, voice as well as object suffixes. Single verbs, therefore, can constitute grammatically well formed as well as semantically complete utterances through the use of subject and object clitics as illustrated in the following example:

(1) *kallam-at-hu alba:risifata*  
spoke-3F.S-him yesterday  
‘She spoke (to) him yesterday.’

The verbal constituent in the above example is derived from the triliteral root [k-l-m], onto which are mapped two suffixes [-at] and [-hu] referring to the subject and the object of the verb, respectively, an internal vowel pattern [a-a-] and the verbal form [CvCCvC]. The basic root [k-l-m], meaning ‘to speak/talk’ can be used to illustrate the manner in which the six main categories of aspect, mood, voice, person, number and gender are marked onto the verbal phrase. The main morphological reflexes of Arabic language that are relevant to this paper are those related to agreement morphology in particular lexical, phrasal and inter-phrasal morphemes.
exchange within a single constituent (as with phrasal morphemes) or across constituents (as with subject-verb agreement), and where no features (such as person, number and gender) need to be unified at all. As far as Arabic morphology is concerned, the following structures are investigated under the covere terms "lexical morphemes":

- definite markers [al--]
- Semantic gender [Noun-at]
- Past tense [Verb-ending]

Definite markers are a good example of lexical morphemes, which form part of the lexical entry of the noun and do not need to be substituted for any other constituent. Consider the following illustrative example:

(2)  
\textit{al-walad-u jufibb-u ar-rija: dat-a.}  
\textit{the-boy-Nom like-3MS the-sport-Acc}  
'The boy likes sport.'

(3)  
\textit{al- `imtisia:n-u ka:na sahl-an.}  
\textit{the-exam-Nom was easy-Acc}  
'The exam was easy.'

Another lexical morpheme which is relevant to Arabic is 'semantic gender', which forms part of the noun and does not need to be mapped through information exchange. Consider the following examples:

(4)  
\textit{qa:bal-tu at-\textit{\textipa{a}}}  \textit{lib-at-a sara fi al-maktabat-i.}  
\textit{met-1S the-student-F-Acc Sara in-the-library-Gen}  
'I met the (female) student Sara in the library.'

In example (4) above, semantic gender is represented by the affix [--\textit{at-}], which forms part of the word. In Arabic verbal morphology the past tense is considered to be the base form, and is expressed in all verbs in the same way that the infinitive operates for English. Therefore, the Arabic equivalent of the English [to eat] or [to go out] would be as follows:

(5)  
\textit{xara3-a}  
\textit{weh: out-3M.SG}
(6) akal-\textit{tu} \\
aste-1SG \\
'I (already) ate.'

For this reason it is expected that the basic form of the past tense [Verb-\textit{a}]
for /3M.SG/ and [Verb-\textit{tu}] for /1SG/ would be acquired at the early stages
since there is no exchange of information required before learners are able
to produce the past tense ending. However, complex past tense marking
(inflected for plural number, gender, humanness) may be acquired at a later
stage. As far as the processing resources are concerned (Pienemann 1998), it
is category procedure that allows the appropriate marking of lexical
morphemes (such as definiteness and semantic gender) on words.

3. Phrasal morphemes (agreement within constituent)

Within a specific noun phrase, the adjective or modifier always
agrees fully with the head noun, i.e., both share the same morpho-syntactic
features (person, number and gender), the same case marking and the same
definiteness feature. A full noun phrase in Arabic consists of the following
components:

\[ NP \Rightarrow (\text{Det}) (\text{Def}) \ N (\text{AP}) \]

The processing of phrasal agreement implies that learners need to undertake
an exchange of grammatical information within a single syntactic
constituent and between a source head and a target modifier. These
processes and operations are formally identified in the Pro cess ability Theory
(Pienemann 1998) as phrasal procedure. Consider the following illustrative
examples:

(7) al-la:\textit{Si}b-\textit{u:n} al-mun\textit{ta:z-u:n} tafa\textit{Sa}Sal-\textit{u:n} a\textit{la} za:i\textit{zat-in}.
the-players-Nom the-excellent-Nom obtained-Nom on prize-Gen
'The excellent players received prizes.'

In the Arabic language, modifiers are obligatorily marked for the
same case as the head noun that they modify (Fassi Fehri 1988). Generally,
the case marking shared between the head and its modifier is phonologically
similar as illustrated in (7) above. However, sometimes the suffixes which
signal case marking may be realised differently on the modifier, because the
noun and its modifier belong to different systems of declensions (one being
regular and the other irregular plural), which exhibit different plural
derivation patterns and, hence, require alternate ways of signalling
grammatical case (Holes 1995:166). This can be seen in the following
example:

    the-players-Nom  the-tall-Nom excel-Nom the-defence.Acc
    'The tall players excel in defending.'

The head noun in the above example is a regular plural noun that requires
the suffix [--u:n], while its modifier belongs to the irregular type of
nouns/adjectives and hence requires a different case marking system [--u].
Unlike English, nouns in Arabic, including those that refer to non-human
discourse participants, inherently exhibit gender (masculine or feminine) by
virtue of their form, meaning or simple convention. Modifiers obligatorily
exhibit the same gender as the head nouns they modify, as shown in the
following example:

(9) at-ˈtaːilib-at-u  al-ʒadːi.d-at-u  taʕarraf-na Sala  al-jɔː:misat-i.
    the student-PL.F-Nom the-new-PL.F-Nom know-3F.PL about the-
    university-Gen
    'The new (female) student got to know the campus.'

This gender rule applies to both human and non-human nouns alike, but the
plural marking rule is only obligatory with human nouns, as adjectives
modifying non-human nouns are always marked for the singular number.
Consider the following examples for human and non-human referents,
respectively:

    the-teacher-PL.Nom  the-Australian-PL.Nom good-PL.Nom
    'The Australian teachers are good.'

In examples (8), (9) and (10), there are instances of both nominal agreement
[Def + Noun] as well as adjectival agreement [Def + Noun + Adjective].

4. Inter-phrasal morphemes (agreement across constituents)

Agreement between the noun phrase of a sentence and its verbal
phrase is differentiated from agreement between noun phrases and their
modifiers on the basis of syntactic borders and processing procedures. In the
former, the morpho-syntactic information, that number and gender encode,
is exchanged or transferred within the same constituent, i.e., noun phrase,
and in the latter, this same process takes place across two distinct syntactic
constituents, namely a noun phrase and a verbal phrase.
Agreement across constituents involves the marking of the subject’s syntactic features (person, number and gender) onto the verbal phrase (cf. Fassi Fehri 1988). This process may seem to be a straightforward feature copying whereby the subject’s features are cross-coded onto the verb. This argument holds for those types of agreement relations where specific criteria regarding the syntactic word order of the constituents and the semantic class of the nominal heads (subjects) are met. Let us now look at some examples of inter-phrasal morphological agreement:

    the-boy-3M.PL-Nom like-3M.PL the-playing
    ‘The boys like playing.’

    the-student-3F.SG-Nom the-German-3F.SG-Nom 3F.SG-excel the
    Arabic-Acc
    ‘The German (female) students speaks Arabic well.’

In example (11), the features [3M.PL] are cross-coded from one constituent (the subject NP) onto another (verbal phrase). Similarly, in example (12), the features [3F.SG] are cross-coded from one syntactic constituent (subject noun phrase) onto another (verb phrase). Both examples exhibit the mapping of inter-phrasal morphemes. However, since Arabic is a ‘pro drop’ language, there are instances where subject-verb agreement is undertaken in a context where the source of the agreement relation (subject head noun) is not explicitly realised at the sentence level. In such cases, learners need to look beyond the sentence level (i.e., discourse level) to identify the relevant subject noun phrase (NP), and then map the appropriate information onto the verb. Consider the following example:

    after the-class leave-3M.PL to-the-square
    ‘After class (they, referring to the students) go out to the square.’

In (13) above, the task of information exchange across constituents is further complicated by the fact that one constituent is not readily accessible within the sentence frame. Learners, in this case, need to identify the relevant information from the subject NP already established in the discourse, then cross-code this grammatical information onto the verbal constituent.
5. Interface of the target language structures and the Processability Theory

The discussion of PT in this paper focuses on the aspects of the theory that are most relevant to ASL agreement morphology. Mansouri (1999) gives a general overview of PT and the interface between its core principles and grammatical structures in the Arabic language. What is important for the purposes of the present paper is the key claims of PT that grammatical relations such as subject-verb agreement can be described in terms of patterns of grammatical information exchange, each requiring different sets of processing resources. There are necessary to cross-code the relevant marker from the source NP onto the target VP. As far as the processing of morphological structures is concerned, Pienemann (1998) argues that category procedure, phrasal procedure and sentence procedure are required for the processing of lexical, phrasal and inter-phrasal morphemes, respectively. This can be better explained through the discussion of two key aspects of the PT, namely the processing resources essential for language learning and the importance of describing IL grammar as a process of information exchange.

6. Processing resources

Mansouri (1999) offers a brief but focussed discussion on the nature of language learning and reports on the now widely accepted view in the literature that languages are acquired in an essentially incremental manner (c.f., Pienemann 1998; Ellis 1994; Levelt 1989; Kempen & Koekamp 1987). Pienemann (1998:45) outlines the set of processing resources required for the learner's developing grammar as follows:

- Subordinate clause procedure
- S-procedure (exchange of information between internal constituents)
- Simplified S-procedure (information exchange from internal to salient constituent)
- Phrasal procedure (phrasal morphemes)
- Category procedure (lexical category)
- Lemma (information on word class)

The interface of the processing procedures and grammatical structures in Arabic are discussed in the following section on key patterns of information exchange.
7. Exchange of Grammatical Information

According to Pienemann (1998:76), the process of exchange of grammatical information, is not possible unless (1) the lexicon is fully annotated (i.e., lexical items are assigned features such as the diacritic parameters of number, gender and case as well as syntactic categories such as N or V), and (2) the syntactic procedures have specialised to hold specific grammatical information.

Therefore, we can predict that beginning learners will be unable to produce structures where there is exchange of grammatical information specific to the target language (L2) using syntactic procedures (or in Lexical Functional Grammar (LFG) terms ‘feature unification’) at the early stages of acquisition. This claim is discussed further in this study since the Arabic language is highly inflected and since both lexical and grammatical morphemes require relatively complex patterns of information exchange between the source and the target. This is manifested in the acquisition of Arabic case marking by English-speaking background learners. Case marking is used in Arabic to mark grammatical relations while the learners’ L1 (English) relies primarily, but not exclusively, on word order to signal grammatical relations. Case marking in the Arabic language does not involve information exchange within or across constituents since it is employed essentially to mark the grammatical functions of noun phrases in a sentence. This type of process is similar to lexical morphemes in that it does not require phrase procedure or any higher level exchange.

A second type of grammatical information exchange occurs in phrasal agreement where information needs to be matched between the head noun and its modifiers within the same NP. As far as the Arabic language is concerned, adjectival agreement is a perfect example of this type of information exchange since information from the head noun must be matched (feature unification) with that mapped onto the modifier. In this regard, Pienemann (1998) argues that the lemma information for a given noun needs to be deposited in the NP-procedure and kept for the activation of the lemma relating to the modifier (e.g., determiner). Unlike lexical morphemes, this type of grammatical information does require phrasal procedures.

A third type of grammatical information relates to the exchange of information between heads of different syntactic constituents. This is essentially an information exchange across-constituents as is the case with Arabic subject-verb agreement (Barlow 1992). For this type of information to take place, the information regarding the source NP needs to be identified and withheld in the syntactic procedure until it is used for mapping onto the verb lemma.
These three different types of grammatical information exchange require different processes. These processes range from no utilisation of phrasal procedures for lexical morphemes to essential utilisation of phrasal procedures for phrasal agreement. As for inter-phrasal agreement, the grammatical information is stored in the syntactic procedure. These three patterns of information exchange correspond to the following three Arabic morphological structures: lexical/grammatical morphemes, phrasal agreement marking and inter-phrasal (subject-verb) agreement marking. If these different patterns of information exchange are acquired in a manner that reflects their processing requirements and complexities, then the argument that (a) learners can only acquire what they can process and (b) that the processing operations form an implicational hierarchy will be validated. A data-generated developmental sequence that does not reflect these processing realities is likely to raise questions on the status of processing prerequisites in second language acquisition research and the availability of an implicational processing hierarchy able to predict developmental sequences in learner language.

Therefore, so far as Arabic agreement morphology is concerned, the following developmental sequence can be predicted on the basis of the pattern of grammatical information exchange, saliency and the processing resource required to handle it:
Table (1): Processing prerequisites for Arabic morphology:

<table>
<thead>
<tr>
<th>Order</th>
<th>Processing Prerequisites</th>
<th>Pattern of Information exchange</th>
<th>L2 Morphology Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Subordinate Clause Procedure</td>
<td>Main to Subordinate clauses</td>
<td>Relative pronouns in multi-propositional discourse</td>
</tr>
<tr>
<td>5</td>
<td>WO rules S-procedure</td>
<td>Inter-phrasal: Non-salient</td>
<td>SV-agreement (Subject implicit)</td>
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<tr>
<td>4</td>
<td>WO rules S-procedure (saliency)</td>
<td>Inter-phrasal: Salient</td>
<td>SV-agreement (Subject explicit)</td>
</tr>
<tr>
<td>3</td>
<td>Phrasal procedures</td>
<td>Phrasal: Nominal [Det N]</td>
<td>Nominal agreement (case marking)</td>
</tr>
<tr>
<td></td>
<td>Phrasal procedures</td>
<td>Phrasal: Adjectival [Det N Adj]</td>
<td>Adjectival Agreement (Grammatical Gender and Number)</td>
</tr>
<tr>
<td>2</td>
<td>Category procedures</td>
<td>None</td>
<td>Lexical Morphemes (Semantic Gender; Definiteness; basic past tense)</td>
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<tr>
<td>1</td>
<td>Words/Lemma</td>
<td>None</td>
<td>Undifferentiated words</td>
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</table>

8. Methodology

The main data eliciting procedures were oral interviews and oral transformation tasks conducted during the academic years of 1996 and 1997. The learners were all of English-speaking background studying modern standard Arabic in their home country (Australia). The interviews were conducted separately for each pair of students as they were at different levels of proficiency. The period of the data collection stretched over three semesters of language learning that consisted of 39 instruction weeks and approximately 160 contact hours of formal tuition.

As far as beginners are concerned, at the time of the first data collection, they had already had two introductory semesters during which they learned the orthographic and the phonological systems of the Arabic language. As for the development of grammar, they were still at the very early stages of producing inflected words. Therefore, beginners were first
interviewed at the end of the first semester of their second year of formal learning.

As for the intermediate learners, at the time of the first data collection, they had already had the two basic introductory units (the same as the beginners), as well as two additional units at the second year level, during which they learned the basic grammatical patterns of the Arabic language. It should be noted that the first year of formal learning is not included in this representation since it focuses on the teaching of orthographic and sound system of Arabic language, as well as basic conversational skills, more than on morphological and syntactic patterns. This can be seen in the stated objectives of the textbook learners were using (Alosh 1990).

To better show the continuous and complementary nature of the data collected for this study let us consider the following weekly distribution of the data.

<table>
<thead>
<tr>
<th>Time 1</th>
<th>Time 2</th>
<th>Time 3</th>
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<tbody>
<tr>
<td>Beginners</td>
<td>Beginners</td>
<td>Intermediate</td>
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<td>Intermediate</td>
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<td>Data set 1</td>
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<td>Data set 2</td>
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<td>Week 13</td>
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<td>Week 52</td>
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9. Data analysis

The following tables present an overview of ASL morphology. The data is both quantified and analysed linguistically by means of refined distributional analyses. What is important in this section is the overall order of acquisition stages for all learners, rather than the variation across individual learners at a given point in time. The results from all sets of data are displayed together so that any trend in the developmental sequences of morphology can be identified.
Table (3): The acquisition of Agreement Morphology across individual learners:

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<tr>
<th>Structures</th>
<th>(J.H)</th>
<th>(L.P)</th>
<th>(J.H)</th>
<th>(L.P)</th>
<th>(C.S)</th>
<th>(G.D.)</th>
<th>(C.S)</th>
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<td>Main/Sub Clauses: Relative</td>
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<td>SV Agreement (Non-salient)</td>
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<td>Case Marking</td>
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<td>Non-basic Past Tense [Inflected]</td>
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<td>N-Adj agreement</td>
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<td>Basic Past Tense - [1SG; 3M.SG]</td>
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<td>Definite article [al—N]</td>
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<td>Semantic Gender</td>
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The results of data analysis indicate that the first three structures (semantic gender, definite articles and basic past tense) have been acquired by all four learners as illustrated in examples (14), (15) and (16), respectively which are produced by Learner 4. Inter-learner variability is
apparent in the development of morphology with Learner 4 language exhibiting the signs of full acquisition of as early as the first set of data, while data produced by Learner 3 during the second set of data shows that these same structures are still in an emerging phase. Again the variation noticed in the development of morphology relates essentially to pace rather than order of acquisition stages and, therefore, does not weaken the overall claims generated through the Processability approach.

It is interesting to note here that Learner 4 at the time of the second interview (T4) has acquired all the morphological structures listed in the above tables. This is in sharp contrast to Learner 2 and Learner 1 in particular, who showed little movement along the developmental scale at the time of the second interview (T2). In fact, the only positive movement is from the status of not being acquired (−) to the status of emerging structure (+/-) for inter-phrasal agreement and only a partial movement towards full acquisition (+) for the syntactic feature ‘person’. This may be an indication that during this period of learning (second year of formal instruction), learners are unable to achieve significant progress in the target language because of limited access to processing resources on the one hand, and the linguistic complexity of the L2 structures on the other hand.

It is clear from the results of data analysis displayed in table (3) that the concept of local versus non-local morphemes, as with basic past tense and the definite marker [al-] respectively, is a sound psycho-linguistic basis for predicting and accounting for ASL interlanguage morphology. Similarly, ASL morphology is equally influenced by the notions of markedness (Ellis 1994; Zobl 1983) and complexity of affixation with infixing being acquired at a later stage than either prefixing or suffixing. An example of the importance of markedness is the case of SV-agreement marking (Barlow 1992). In fact, the learner language exhibits a systematic variation in the degree of accuracy in SV-agreement marking. This frequency of production and the rate of accuracy correlate with the morphosyntactic features of the subject NP in the following manner:

When S = SG, production is more frequent and accuracy rate is higher
When S=PL, production is less frequent and accuracy rate is lower

This rule, however, relates not to the learner’s ability to perform SV-agreement but rather to his/her ability to perform SV-agreement when the grammatical information to be cross-coded from the source NP to the target VP is not basic. This tendency, therefore, does not alter the final analysis for ASL acquisition stages since the main acquisition criteria adopted in this study is that of the first productive emergence of a structure in grammatical and lexical variant context (Pienemann 1998:145).
The status of case marking in ASL interlanguage morphology is consistent with the PT-generated prediction for non-configurational languages (Pienemann 1998:79). In fact, non-configurational languages such as Arabic can exhibit an almost free word order with case marking playing a major role in assigning grammatical and semantic roles. Therefore, it is not surprising that the learner’s inevitable reliance on case marking to signal grammatical relations would result in case marking being developed at relatively early stages (it coincides with phrasal morphology).

Another point that needs to be clarified relates to the acquisition of relative pronouns. Relative pronouns in Arabic allow the speech producer to link main clauses with a multitude of subordinate clauses without the need to initiate new sentences. Relative pronouns in Arabic can exhibit the same morphosyntactic features as the main head noun they refer to. As such, relative pronouns can perform the same role in SV-agreement as any subject NP. Because of this syntactic and morphological dual role, relative pronouns are usually produced in multi-propositional discourse at the relatively latest stages of ASL interlanguage grammar.

10. Discussion

This issue of inter-learner variability and other developmental issues is discussed from a PT perspective in the following section. As far as the acquisition of lexical morphemes is concerned, one can notice that the acquisition of the basic past tense is statistically perfect (100% across all learners at the various points in time). This can lead to the conclusion that past tense is one of the first morphological structures to be acquired in Arabic IL. However, it is worth remembering that the basic past tense marker in Arabic is a defective morphological pattern that does not vary and that is, in fact, considered part of a ‘defective verbal base form’ where past tense is almost equivalent to the English infinitive. Consider the following illustrative examples:

(24) *Ali xara3-a*
   Ali left-3M.S
   ‘Ali left (already).’

(25) *al-bana:tu xara3-u:*
   the-girls left-3F.PL
   ‘The girls left (already).’

(26) *al-bana:tu sa-taxru3-na ba3da qali:lin*
   the-girls will-leave-3F.PL after while
   ‘The girls will leave in a while.’
In example (24) the verbal form is in the past tense and is marked for the morphosyntactic features [3M.S]. This form is also the basic verbal form in Arabic grammar. Example (25) shows the same verbal form inflected for different features [3M.PL], while example (26) shows the same lexical verb but this time indicating future rather than past. Unless learners are able to produce past tense with such grammatical and lexical variations, it is not possible to claim that the production of the basic verbal form is, in fact, evidence of the acquisition of past tense.

This is why it is essential to investigate the acquisition of past tense in inflected verbs i.e. verbs where past tense is realised by means of different markers. This study revealed that such instances of past tense are significantly fewer, and for the few examples of inflected past tense these do not exhibit the same level of grammatical accuracy as the defective basic past. It should also be stated that to use the label of ‘lexical morphemes’ as opposed to ‘phrasal’ or ‘inter-phrasal’ morphemes can lead to an assumption that one is dealing with different types of morphemes. The truth is that, at least as far as Arabic is concerned, we are dealing with the same morphemes: number, gender, person, definiteness, case marking etc. What is different is the psycho-linguistic context within which these morphemes are produced namely a specific pattern of information exchange: lexical, within-constituent and across-constituent.

Therefore, I would state that lexical morphemes are acquired as independent (free) morphemes before any significant discussion of phrasal and inter-phrasal morphemes can be undertaken. It is true that accuracy of the production of certain morphemes is not dependent on whether these remain within constituent or whether they cross constituent’s boundaries, however the additional cognitive operations involved in phrasal and inter-phrasal agreements render this task somewhat more demanding.

There is no doubt that the mental operations and processes required to undertake grammatical marking in inter-phrasal structures are more complex than those required for phrasal morphemes. As such, it is only natural that inter-phrasal marking develops later than phrasal marking. The issue that the development of ASL morphology raises is that within an inter-phrasal structure such as SV-agreement, there is a language-specific hierarchy of patterns of information exchanges that differ in terms of direction and amount of encoding. With regard to SV-agreement, this can be explained as follows:

If SV-agreement occurs in a SVO-type sentence: AGR is total (gender and number)
If SV-agreement occurs in VSO-type sentence: AGR is partial (gender only)
If SV-agreement occurs in OVS-type: AGR is defective (basic)
This means that learners of Arabic as L2 are faced not only with the task of undertaking the processes required for across-constituent information exchange, but more importantly they need at the same time to take into account the role of word order variation in the morphological realisation of grammatical information. Whether this can be dealt with separately (i.e. independent of inter-phrasal morphology) or not is an issue that still awaits research.

11. Conclusion

The individual acquisition sequences form an implicational set characterised by a systematic developmental process. The developmental sequence across all individuals coincides with the predictions generated through the Processability Theory: this is a clear indication that the explanatory tools employed can accurately predict developmental sequence across languages.

Overall, it seems that Arabic verbal morphology is acquired earlier than English or German verbal morphology: this is because morphology in Arabic is the primary source of information for grammatical roles and semantic relations, whereas syntax plays a secondary role (Arabic has almost a free word order). Learners of Arabic as L2, from the very early stages, are bound to produce words that are heavily inflected at least for the basic features of number, gender and person. Such features are realised through a number of affixes (mostly suffixes and to a less degree prefixes).

Certain claims of the theory remain in need of further explanation and/or clarification. One such a claim relates to the availability of processing procedures to learners at different developmental stages and the type of production procedures that may be transferred from L1 to L2 (Carroll 1998). Also the status of perceptual salience, a non-form principle, as a processing prerequisite alongside five other formal ones might potentially render perceptual salience an ad hoc principle (Hulstijn 1998).

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References

Carroll, J. (1998), "On processability theory and second language acquisition:..."


