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Department of English Literature and Linguistics

A Research proposal for M.A Thesis

Agreement with a QNP in Spoken Arabic

התאם עם צירופים שמניים מכומתים בערבית מדוברת

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1.Section 1:

1. Introduction

The current research examines how verbal agreement works with a quantified noun phrase subject in the Dialect of Arabic spoken in the mixed cities of Ramleh, Lod and Jaffa. I will focus on the type of QNPs where the quantifier is followed by a genitive noun as illustrated in the following examples:

1. nus il - shilleh ʔuseeb /ʔuseeb-at bi- il -ʖadwa

half.M. s DEF-gang.F.S infect-PAR.3.M.S/infect.PAR.F.S in-DEF-infection.F.S.

'Half of the gang was infected`

When the subject is a quantified noun phrase (QNP), a phrase that consists of at least a quantifier and a noun has two possible agreement triggers, the subject-verb agreement isn't as rigidly determined as in canonical agreement. Rather, it sometimes involves variability. Following Danon (2012), QNPs that have similar syntactic structures and similar semantic interpretation don't trigger a unified agreement pattern as illustrated in (2).

2.a. aʕlabiyyet le-ktab *bti7ki /bi7ki ʖan masʔalet il-batale fi il-mujtamaʔ

most.F.S DEF -book.M.S *talk.F.S /talk.M. s about issue. F.S DEF- unemployment.F.S in DEF-society.M.S

'most of the book addresses the issue of unemployment in society'

2.b. ʔktarreyet il-saf nij7-u / nij7at fi il-imti7an

most.F. s DEF-class.M.S succeed.Past.3.M.P /succeed.past.3.F.S in DEF-exam.M.S

'Most of the class passed the exam`

Cross linguistically, there are 4 agreement options with a QNP: (Danon, 2013)

1. Q-agr: the quantifier triggers the agreement and the verb agrees with the quantifier.
2. N-agr: the noun triggers the agreement and the verb agrees with the noun.
3. Semantic agreement: the interpretation of the subject triggers the agreement and the verb agrees with the subject in a way that reflects its semantic number and gender.
4. Default agreement. When the verb carries features that neither agree with the quantifier nor with the noun. (Dreimel and Stojkovic, 2019)

Another factor affecting subject agreement in Arabic is linearity in order as stated by Benmamoun (1999), Driemel & Stojkovic (2015), Attia (2008) and Harbert W., Bahloul M. (2002). Preverbal subjects behave differently than post verbal subjects in the agreement process and each triggers different patterns of agreement on the verb as in 3 from Standard Arabic.

3.a kull-u t-tullaab-i žaaʔ-uu

all-NOM the-students-GEN come. past-3MP (Benmamoun,1999:635)

3.b. žaaʔ-a kull-u ṭ-ṭullab-i

come. PAST-3.M.S all-NOM the-students-GEN

ʽAll the students came.ʾ (Benmamoun,1999:635)

Assuming that the sensitivity to linearity also exists in Spoken Arabic as illustrated in 4, it is the purpose of this study to find what agreement patterns are possible and what agreement patterns are not possible for preverbal and postverbal QNP subjects in Spoken Arabic. Also, I aim to examine how likely it is that a speaker will choose a certain agreement pattern for each type of subject.

4.a. dal. /dal-luu talat ʔsʔile

left-3.M.S /left-3.M.P three questions- 3.M.P

4.b. talat ʔsʔile dal-luu-3.M.P /*dal-3.M.S

Three questions-3.M.P left-3.M.P /*left-3.M.S

`Three questions left`

I aim to investigate QNP agreement in Spoken Arabic through the interaction of two factors: The properties that QNPs bear and the effect of word order on agreement. As part of my investigation, I will try to provide an analysis which will be based on previous analyses developed for other languages.

Following Danon (2013), Benmamoun (1999) and Pérez-jiménez & Demonte (2019), I will assume that as for structure, no structural differences are witnessed between the QNPs that trigger Q-agr and those that trigger N-agr. These QNPs have one hierarchical structure with one single head. I will follow these works assuming that Q is the head that occupies a structurally higher position leading Q to c-command the embedded NP which is the complement. However, the existence of variation in agreement seems to violate 2 conditions that agreement is subject to and which will be discussed later in section 2.2. : the locality condition assumed in both the Minimalist approach and the HPSG frameworks and the case condition presented by Bobaljik (2008).

Section 2: Goals of the research

2.1 Overview

The current research has two purposes: descriptive and theoretical. Descriptively this study aims to get a better description regarding the variability available in the agreement patterns triggered by a QNP in the Arabic dialect spoken in the mixed cities of Ramleh, Lod and Jaffa. Hence, experimental data will be collected in order to see what happens to the verb when the subject is a QNP. The following questions motivate the design of the experimental study.

1. Do different morphological gender properties of the quantifier trigger different agreement choices? Do masculine quantifiers behave differently than feminine quantifiers in the choice of agreement?
2. Does the meaning that the noun conveys affect he chosen features of the verb? Specifically, do collective nouns behave differently than individual nouns? Or do animate nouns behave differently than inanimate nouns.
3. Does the linear order of the QNP relative to the verb have some effect on the verbal agreement? Do preverbal QNP subjects and post verbal QNP subjects behave differently in the process of agreement?

The second purpose is theoretical. An analysis will be conducted to the descriptive facts to try and explain the variability found to be available in Spoken Arabic using a theory that best explains the source of the features that the verb bears.

2.2. Describing the alternation

This work will address 2 factors that seem to have a systematic effect on the availability of agreement patterns:

The effect of quantifier morphology

In many cases, the features on the verb match the gender morphology that a Q bears. I am interested to examine whether quantifiers that bear feminine morphological properties in Spoken Arabic like *aʕlabiyyeh* `most` and *baʔiyyeh* `the rest of` behave differently that masculine quantifiers like *aʕlab*`most` and *baʔi* `the rest of`. Are the frequencies of agreement patterns that a masculine value triggers different than the frequencies of agreement patterns triggered by a feminine value?

The effect of noun type

A correlation between the choice of agreement pattern and the noun type or class is worth investigation. Another question asked in the current research is whether the type of noun affects the choice of agreement. Do the number and meaning that a noun bears affect the choice of agreement? Do singular nouns trigger different agreement patterns than plural nouns, or do singular and plural nouns behave the same? Do animate singular collective nouns change the choice of agreement in comparison to inanimate singular object nouns? Also, how likely it is that a speaker will choose a certain agreement pattern for each noun type.

2.3 Theoretical background

Theoretically, this study aims to find the rules that explain the variability found in agreement with QNP subjects in Spoken Arabic. While there is no previous research on verbal agreement with a QNP subject in Spoken Arabic, there is work on other languages. I assume that analysis proposed for other languages would be relevant for the analysis of the Arabic facts.

Danon (2012), for example, explains the variability discussed in (2) through an interaction of syntax with semantics and morphology and how they contribute to feature values and agreement. This thesis will follow Danon (2012) and Pérez-jiménez & Demonte (2017) who build upon an HPSG analysis assumed by Wechsler and Zlatic (2000, 2003) and adopt it to the Minimalist framework to explain the variation in agreement with a QNP subject in Hebrew and Spanish and to clarify the apparent violations of the locality and case constraints discussed below.

First, the Minimalist framework subjects verb agreement to locality constraints. Chomsky (2000, 2001) states that agreement is always a relation between the head of the relevant subject and the closest matching goal. Thus, the hierarchical structure allows no optionality or free alternation in the agreement process. However, having one hierarchical structure headed by Q and embedding a genitive NP seems to lead T to skip the higher projection of QP and agree with the lower genitive embedded projection of NP when N-agr is allowed and hence, seems to result in violating the locality condition. In addition, N-agr also seems to violate a case condition. A generalization given by Bobaljik (2008) is that the phrase that T agrees with is a nominative. However, when the verb agrees with noun, it seems to agree with a non-nominative phrase because NP is an embedded genitive NP phrase. Although the whole QNP phrase is nominative, the NP is genitive.

According to a Minimalist analysis inspired by ideas from HPSG proposed by Danon (2012) and Pérez-jiménez & Demonte (2017), nominal elements have a dual nature. They carry two bundles of formal features: concord and index. Concord features are often matched to the gender and number morphemes of the noun and hence visible at PF while index features often match the semantic properties of the noun and determine the subject-verb agreement and hence visible at LF. The concord bundle includes Gender, Number and Case features while the index bundle includes gender Number and Person features. The nominal index features that a head noun bears articulate the interaction between syntax and semantics. According to this approach, the existence of multiple agreement patterns is a result of the composition of the phi features, i.e. person, number and gender properties, of the head of the QNP. The difference between N-agr and Q-agr is due to the source of the index features of the alternating head of the quantified noun phrase rather than the syntax itself. Unlike most nouns whose index features are specified in the lexicon and always match their concord features, alternating heads of QNPs are characterized by not always having index features fixed in the lexicon. According to Danon (2012), rather, they can get their index features from two possible sources: either in the lexicon or in syntax, via agreement. The head's index features are optionally not valued in the lexicon. In the first possibility, the head`s index features are specified in the lexicon and match its concord features the same as nouns. Moreover, since the whole QNP gets its index features from the head, T agrees with the whole nominative QNP. In the second option, the head`s index features are not specified in the lexicon. As in percolation-based approaches, the Q head probes for the embedded NP`s index features since the embedded NP is the closest XP that carries index features and dominated by the head. Then, the whole QNP gets its features from the head whose index features were copied from the embedded NP. As a result, two successive agreement operations take place rather than one direct Agree operation between T and NP as proposed by LeTourneau (1995) cited in

Danon, 2013. Since the index features of a QNP are the same of the head`s features, subject-verb agreement is in fact index agreement with the whole nominative QNP and never with its non-nominative sub-constituents. In short, different mechanisms for assigning different values for the QNP`s index features give rise to the existence of multiple agreement patterns on the verb. (Danon, 2013). The question asked here is whether the concord-index analysis proposed by Danon (2013) and Pérez-jiménez & Demonte (2017) can explain the facts that I will get in my research for Spoken Arabic.

Another analysis that is worth investigating for the Spoken Arabic facts of the current research is an analysis by Driemel & Stojkovic (2019) which accounts for correlations between agreement and linear order in Serbo-Croatian where preverbal QNP subjects behave differently than post verbal QNP subjects in the agreement process and each triggers different patterns of agreement on the verb as in Standard Arabic as illustrated in (2) by Benmamoun (1999). In Serbo-Croatian, all types of quantifiers that assign genitive case to the modified noun allow alternation between Q-agr, N-agr and default agreement when the QNP is in a preverbal position. A post verbal QNP, on the other hand, can alternate only between Q-agr and default-agr. N-agr isn't available with post verbal QNPs. The analysis suggests that a quantified noun phrase which Driemel & Stojkovic (2019) refer to as KP is a phrase headed by the functional head K. The quantifier is its specifier while the following noun is its complement (Driemel & Stojkovi,2019). The probe that the head carries can bear multiple values that relate to both arguments. Hence, the root node projects these values. (Murphy & Puškar, 2015). Driemel & Stojkovic (2019) apply a rule order derivational model developed by Murphy & Puškar (2015) to account for the phenomenon. According to the model, the order of the application of the 4 syntactic operations of Upward Agree, Downward Agree, Move and Merge can correctly predict the values that the quantified noun phrase bears and hence can well explain the choice of agreement. (Driemel and Stojkovic, 2019).

In this work I aim to examine whether the descriptive data relevant for Spoken Arabic supports Driemel and Stojkovic's derivational analysis which is based on word order or on the contrary supports Danon's (2012) analysis which isn't based on word order and hence, getting an answer to the effect of linear order on verbal agreement.

Section 3: Research methods

3.1. Experiments and theoretical analysis

Since more than one agreement choice is possible, but still we don't know how speakers choose between them, 4 experiments where each tests the effect of one of the variables presented in section 2.1 will be conducted.

One experiment will test the effect of the quantifier morphology and hence aims to compare any changes occurring in the choice of agreement between quantifiers with feminine agreement features such as *aʕlabiyyeh* 'most' and quantifiers with masculine agreement features such as *aʕlab* 'most'.

A second experiment will test the effect of the type of noun. Two properties of a noun are examined in the current research: the number and meaning. Hence, one sub-experiment will examine the effect of the number that a noun bears and hence, will compare any differences between agreement patterns triggered by singular nouns such as *shajara* 'tree' and agreement patterns triggered by plural nouns such as *banat* 'girls'. Another sub-experiment will examine the effect of the meaning that a noun bears and hence will compare agreement patterns between singular object nouns such as *beit* 'house' and singular collective nouns such as *madraseh* 'school'.

Another experiment will examine the effect of linear order on the choice of agreement and hence it will compare any differences in the choice of agreement between a preverbal QNP and a post verbal QNP.

Each experiment will involve an equal number of sentences in each of the tested agreement patterns for every factor value.

The empirical basis for this analysis is provided by grammaticality judgements of native speakers of Spoken Arabic. The data will be collected in a survey in Google Forms, based on grammaticality judgements on a 7-points scale (1- completely bad while 7 sounds excellent). The judgements will be given to native speakers of Arabic from the mixed cities of Lod, Ramleh and Jaffa. Fillers that don't follow the pattern examined are added to the survey. The sentences will be introduced to the participants in a randomized order. In addition, a statistical analysis will be conducted in order to test whether any observed effects are significant. After getting the data from the experiments and analyzing it, I will also try to apply the different theoretical models discussed earlier to the Arabic structures and see if they can account for the results of the experiments.

3.2. Hypothesis & Preliminary observations

Some hypotheses can be made to try to predict which variables have a stronger influence on verbal agreement. As for the effect of morphology, I predict that when the quantifier bears an overt gender morphology, the quantifier would have a strong influence on the verbal agreement and hence a Q-agr would be more acceptable as in 6(a) in comparison to 6(b) where Q doesn't bear an overt gender morphology and Q-agr isn't acceptable.

6.a. ʔktarreyet il-saf nij7-u / nij7at fi il-imti7an

most.F. S DEF-class.M.S succeed.Past.3.M.P /succeed.past.3.F.S in DEF-exam.M.S

'Most of the class passed the exam`

6.b. Nus il-madraseh iltazm-at /* iltazam bi- taʒlimat wizaret il-si77a

Half M.S. DEF-school.F.S keep.past-3.F.S /* keep.past-3. M.S. in-instructions.P ministry.F.S DEF-health

'Half of the school kept the instruction of the Health Ministry`

As for the effect of the number that a noun bears, plural nouns are expected to trigger N-agr as in 7(a) more than singular nouns as in 7(b) because a plural verb will reflect the fact that the subject consists of multiple individuals while Q-agr will refer to the subject as an entity.

7.a. baʔi il-7ayyatat bishtiʕlu /*bishtʕel min il-bet

rest.M.S DEF-dressmakers.F.P work.3.P/ /*work.3.M.S from DEF-home.M.S

`The rest of the dressmakers work from home`

7.b. baʔi il-shajara ʔbit7arrak/ btit7arrak

rest.M.S. DEF-story. F.S ʔmove.M.S / move. F.S

'The rest of the story is moving`

As for the meaning of the noun, animate singular collective nouns are expected to have a stronger effect on verbal agreement than inanimate singular object nouns because the meaning denoted by the VP applies to multiple individuals rather to a single entity while Q-agr will result in the subject being marked as an entity. Hence, S-agr and N-agr are expected to be more acceptable with collective nouns than with object nouns as in (8).

8.a. aʕlab il-firʔa *ʔuseeb /ʔuseeb-u bi-l-ɔadwa

most.M.S. DEF-band.F.S *infect. PAR-3.M.S/ infect. PAR-.F.S in DEF-infection.F.S

'most of the band was infected`

8.b. aʕlab il-binayeh mabni /mabniyyeh ɔala il-tiraz il-7adeeth

most.M.S DEF –building.F.S built.PAR-3.M.S on/built.PAR-3.F.S on DEF –style.M.S. DEF-modern.M.S.

`Most of the building is built in a modern style`

As for the effect of linear order, I expect that linear order affects agreement patterns as written for Serbo-Croatian by Driemel & Stojkovic (2019). It seems that is some cases, linear order has some effect on Q-agr as illustrated in (9) due to differences in the hierarchical structure between sentences with preverbal QNP subjects and sentences with postverbal subjects.

9.a. ʔktarreyet il -saf nije7-u. / nij7-at fee l-imti7an

most.F.S DEF-class.M.S succeed. past -3.M.P/ succeed. past -3. F.S in DEF-exam.M.S

'Most of the class passed the exam`

9.b. nije7-u / *nij7-at. ʔktarreyet.F.S il-saf fee l-imti7an

succeed. past -3.M.P/ succeed. past -3. F.S most.F.S. DEF-class.M.S. in DEF-exam.M.S.

'Most of the class passed the exam`

These preferences can be noted even without a formal experiment, but the patterns are not always clear. It is my aim to clarify these tendencies.

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