Causative Constructions in Modern Standard Arabic

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Abstract. This study aims to describe the causative constructions in modern standard Arabic (MSA) and discuss their analyses. To the best of our knowledge, this is the first study to discuss the causative constructions in MSA. This study shows that there are three different types of causatives in MSA: the *lexical causative*, the *periphrastic causative*, and the *morphological causative*. We discuss the three types of causatives in MSA and the associated thematic roles of arguments, especially the morphological causatives, where the number of arguments and their thematic roles are changed after the derivation. The role of the causee is always *patient*, and the role of the causer is always an *agent* of the event even if the basic verb requires a subject with a different role. The last section of this study presents a syntactic analysis of the three structures of causatives in MSA within the lexical functional grammar framework.
Keywords: Causatives, Causer, Causee, Caused event.

1. Introduction

Causative constructions usually contain two events, one of which causes the other. The agent of the first event usually forces or causes the subject of the second event to perform the event. As we will see in this study, there is more than one type of this structure. This study will discuss three types of causation: *lexical causative*, *periphrastic causative*, and *morphological causative*. We will show that the three types of causative constructions are possible in MSA.

This study is divided into five sections: The first and last sections are an introduction and a conclusion. Section 2 provides an overview of two important topics, causative constructions and argument structure. In the first subsection, we discuss the meaning of causation using some examples from the English language. This subsection differentiates between the three types of causative constructions: lexical, periphrastic, and morphological causatives, and we will argue that all three types are possible in MSA. In the first type, a verb gives a causative meaning based on its lexical meaning. In the second type, there are two verbs: The first gives the causative

meaning and the second gives the result. The third type contains a causative verb derived from another verb. The second subsection explains the argument structure because this study will show the changes in thematic roles between the basic verb and the derived verb in the morphological causative construction.

Section 3 discusses the three types of causative constructions in MSA and provides some examples of each type of causative in MSA. This section also discusses the arguments of causative verbs and the thematic roles of these arguments, focusing on the change in the arguments and their thematic roles in morphological causatives between the basic and derived form. This section discusses the types of verbs that have causative counterparts, and this discussion includes intransitive and transitive verbs.

Section 4 discusses the syntactic analysis of causative constructions in MSA within the lexical functional grammar (LFG) framework. This study discusses three types of structures that illustrate causative constructions in MSA. The analysis of the three structures shows the syntactic differences between them and between the basic form and the derived form in morphological causative constructions.

2. An overview

This section is divided into two subsections, the first of which provides an overview of causative constructions and shows the three structures of causation that will be discussed in MSA. The second subsection discusses the argument structure because we show the change in thematic roles between basic forms and derived forms when we discuss morphological causatives in MSA.

2.1 Causatives

The following three examples illustrate the meaning of causative constructions:

(1) a. John eats.

b. Mary caused John to eat.

c. Mary feeds John.

The example in (1a) contains a single clause that has a simple event involving one argument, which is *John* (this predicate requires one argument in one use). The example in (1b) is different because it contains two clauses that show two events. The complement clause in this example describes the same event shown in (1a), which is *John eats*. The main clause in (1b) expresses a different event, in which *Mary* does an unspecified action to cause the event in the complement clause. There is a relationship between the two events in this example, and it is a causative relationship, meaning that the event in the complement clause is the result of the event in the main clause. The example in (1c) is similar to that in (1b) with some differences. Example (1c) indicates that *Mary* personally feeds *John*, whereas the example in (1b) is more appropriate if the event of eating is an indirect result of some action that was done by *Mary*. However, there is an overlap between the second and third sentences in that both imply a causative relationship between the two events. The causing event in both examples is something that was done by *Mary*, and the result is the event shown in the example (1a).

Both examples in (1b) and (1c) illustrate causative constructions in English. A causative construction contains a complex situation involving two events, one of which is caused by another, or is the result of another. The name of the actor in the first event is the *causer*, while the argument enforced to do the second event is called the *causee*. Additionally, the event that is the result of the first event is called a *caused event*.

The two examples in (1b) and (1c) illustrate that causative constructions differ in their grammatical structures. While the example in (1b) shows the causative meaning by using two verbs in two clauses, providing the cause and result separately, the example in (1c) shows the causative meaning by the semantic meaning of a single verb that is used in a single clause.

Causative constructions are usually divided into three types based on their differences in grammatical structures. The first type is the *periphrastic causative*, which contains two clauses. This type of causation is illustrated by the aforementioned example (1b), and is found in English and other languages, including MSA, as shown below.

The second type of causative construction is the *lexical causative*. This type of structure contains one verb that includes the meaning of causation in its semantic meaning. The lexical causative is illustrated by the aforementioned example (1c), where the verb *feed* means to cause someone to eat. However, the two verbs *feed* and *eat* have no morphological relationship. There are other verbs in English and other languages that have the same sort of meaning, including *kill*, which means to cause someone to die, and *inform*, which means to make someone or something know. Additionally, some causative verbs have phonological similarity with the basic verbs, such as *seat* and *sit*, *walk* (cause someone to walk) and *walk*, *fell* and *fall*, and *lay* and *lie*. However, this phonological relationship is irregular because there is no morphological relationship between these verbs, meaning that the causative verb is not derived from the basic verb.

The third type of causative construction is the *morphological causative*. In this type, a causative verb is derived from another verb, meaning that there is a morphological relationship between the causative verb and the basic verb. This derivation can be achieved by adding a prefix or suffix. In English, the causative form can be derived from the basic form by adding a suffix to a basic verb, such as adding the suffix *en* to the verb *short*, and the result will be the causative verb *shorten*, or adding the suffix *ize* to the word *normal* to obtain the causative verb *normalize*. The third type of causative construction involves some changes in the argument structure of the basic verb because the causer should be a new participant in the causative construction. This means that the semantic valence of the verb that indicates the causative meaning will be greater than that of the basic verb. The changes in the argument structure should be related to other changes in syntactic functions. The causer usually functions as the subject of the causative verb, while the causee should be assigned a new function, which differs from one language to another.

2.2 Argument structure

There is a relationship between the semantic roles of arguments and the syntactic functions of these arguments. In this study, we will discuss the changes in syntactic functions and semantic roles between causative verbs and their basic forms in the morphological causatives present in MSA. Semantic and syntactic structures differ and have separate constraints. The difference between the two structures can be shown by discussing verbs such as *eat* and *rain* in English. At the semantic level, the verb *eat* requires two semantic roles, namely, *an agent* and *a patient*. The first is the individual who eats, and the second is the food that is eaten. At the syntactic level, the verb *eat*

can function as a transitive and an intransitive verb in English, meaning that both examples below are grammatical (see Dalrymple (2001)):

(2) a. I ate chicken.

b. I ate.

The verb *eat* is transitive in example (2a) and intransitive in example (2b). In the second use, this verb has one argument which is the agent, while the patient, which is semantically required by this verb, is understood. This requirement is different in syntax because the second argument is not expressed, meaning that this verb requires only a subject. There is evidence that this verb is used as an intransitive verb, which comes from *out*-prefixation. As stated by Bresnan et al. (1980), only intransitive verbs can be used in *out*-prefixation. This means that the following example, which is a grammatical example and shows that the verb *eat* is used with the prefix *out,* demonstrates that this verb can be used as an intransitive verb.

(3) Mary outate John.

This means that the verb *eat* can be used as monovalent in syntax, requiring one argument, which is the subject, but in this use, the verb is bivalent in semantics, requiring a relation between an agent and a patient.

In contrast, verbs such as *rain* in example (4a) requires one argument, which is a subject, but this verb does not denote any semantic roles, meaning that the argument of this verb does not play any semantic role; therefore, if we replace the subject of this verb in (4a) by another subject, the result will be an ungrammatical sentence, as shown in (4b) below:

(4) a. It rains.

b. *He rains.

The requirement of the verb *rain* shows the same fact that the syntactic valence differs from the

semantic valence, which means that the syntactic structure and the semantic structure are different and should be represented in separate forms. However, the semantic structure should have some influence on the syntactic structure, and this is clear when we do not accept a subject or object in the syntactic structure because of the semantic meaning. Pinker (1989) has two hypotheses about aspects in semantic structure that constrain the syntax. The first hypothesis claims that any semantic aspect can be reflected in syntax and constrains the syntactic form. The second hypothesis shows that one type of semantic feature can constrain syntactic structures, which are argument structures.

Linguists usually agree about the kind of information that should be included in the argument structure, which should be semantic information, but the literature debates about the amount of this information. Some linguists claim that the argument structure should include very little information, while others argue that the argument structure is rich in semantic information. We can find different information and different presentations in a framework such as LFG, as shown in Jackendoff (1983), Jackendoff (1990), Dowty (1991), Ackerman (1992), Zaenen (1993), Alsina (1996), Butt (1996), Broadwell et al. (1998), and Ackerman and Moore (2001)).

For the purpose of this study, we will represent the information of argument structure as shown in Kaplan and Bresnan (1982), which is a simple presentation that shows the relation between syntactic functions and semantic roles. For example, a transitive verb such as *hit* in the following sentence requires two arguments, and the thematic roles of these arguments are *agent* and *patient*. The subject, *Mary*, is the agent and the object, *John*, is the patient. This relation between the syntactic functions and thematic roles can be represented as shown in (5b) below:

(5) a. Mary hit john.

b. SUBJ OBJ

‘HIT < (——), (——)>’

AGENT PATIENT

Additionally, the list of thematic roles may differ between syntactic and semantic analyses (see Radford (1988), Carnie (2007), Kearns (2011), and Aarts (2017)). Despite the fact that these roles come from the same system, they may differ in their usage. We use the following list of

thematic roles, which are briefly shown with some examples in (6) below:

(6) a. *Mary* hit *John*. **Agent/ Patient**

b. David threw *the ball*. **Theme**

c. *Mary* is happy. **Experiencer**

d. Louisa bought a car for *Sue*. **Beneficial**

e. John hit Sue *with a stick*. **Instruments**

f. Louisa put the letter in *the box*. **Local**

g. Mary passed the letter to *John*. **Goal**

h. Louisa took the letter from *Sue*. **Source**

3. Causative Constructions in MSA

As aforementioned, there are three structures that can express the meaning of causation: lexical causative, periphrastic causative, and morphological causative. In this section, we argue that all three structures are possible in MSA. This section is divided into two subsections: The first shows the existence of lexical and periphrastic causatives and the second that of morphological causatives, explaining the differences between the basic form and derived form in the number of arguments and their thematic roles.

3.1 Lexical and Periphrastic Causativity

MSA is similar to other languages in expressing causative meanings in the lexicon and through periphrastic structures. As mentioned above, we mean by lexical causative verbs those verbs that provide the causative meaning by their semantic content so long as these verbs have not been derived from other verbs. In contrast, periphrastic causatives contain two separate verbs in two

separate clauses. MSA contains few verbs that contain the semantic meaning of causation without derivation because, as shown below, MSA has a rich derivational system and causative verbs usually have basic counterparts. One example of a lexical causative verb is the verb *qatala 'kill'*, because if you kill someone, you cause their death. The example in (7a) illustrates the use of this verb in MSA:

(7) a. al-ḏiʔb-u qatala al-māᶜiz-a.
DEF-wolf-NOM kill.PFV.3SGM DEF-goat-ACC
'The wolf killed the goat'

b. SUBJ OBJ
'CAUS < (————-), (————-)>'
AGENT PATIANT

In (7a), the causative verb, which is the predicate of this sentence, is a transitive verb that requires a subject and an object, as shown in (7b). The thematic role of the subject, which is the causer, is the *agent* and the thematic role of the object, which is the causee, is *patient*.

In addition, MSA has a second type of causation, which is periphrastic causatives. In this kind of causation, the sentence contains two verbs that occur in two separate clauses. There are some verbs in MSA that can express the causative meaning in this structure, such as *ǧaᶜala* 'made' and *sayyara* 'made'. The following examples illustrate both verbs with causative meanings.

(8) a. ǧaᶜala zayd-un salim-an yaʔkulu
make.PFV.3SGM zayd-NOM salem-ACC eat.IPFV.3SGM
al-tamr-a.
DEF-dates-ACC
'Zayd made Salem eat the dates'

b. ṣayyara zayd-un salim-an yaʔkulu
make.PFV.3SGM zayd-NOM salem-ACC eat.IPFV.3SGM
al-tamr-a.
DEF-dates-ACC
'Zayd made Salem eat the dates'

The syntactic analysis of this structure will be discussed in Section 4. The syntactic requirements of both causative verbs and their thematic roles are shown below in (9):

(9) $\underset{\text{AGENT}}{\text{SUBJ}}$ $\underset{\text{PATIENT}}{\text{OBJ}}$ $\underset{\text{GOAL}}{\text{COMP}}$
'CAUS < (————-), (————-), (————) >'

Importantly, both examples in (8) show periphrastic causatives, in which the verbs in main clauses illustrate causative verbs. However, the requirements and meanings of both verbs can be changed. For example, if we do not use both verbs with verbal complements, they may denote another meaning besides causation. The following examples illustrate this meaning, where both verbs mean *changing*:

(10) a. ğa^{c}ala zayd-un al-ḥašab-a kursiy-an.
make.PFV.3SGM zayd-NOM DEF-wood-ACC chair-ACC
'Zayd changed the wood to a chair'

b. ṣayyara zayd-un al-ḥašab-a kursiy-an.
make.PFV.3SGM zayd-NOM DEF-wood-ACC chair-ACC
'Zayd changed the wood to a chair'

3.2 Morphological causativity

MSA has an interesting system of derivation, in which we can derive some forms of verbs from the basic root. Traditional grammarians argue that a string of three consonants, a so-called ''triliteral root," denotes the general idea of a verb in Arabic, and other forms can be derived by adding other consonants or vowels. For example, a simple verb like *Fahima* 'understood' is assumed in traditional grammar to be the basic form of the imperfective form *yafhamu* 'understand', the active participle *fā̄him* 'understanding', and the passive participle *mafhū̄m* 'understood'. This means that MSA has a rich morphological system that allows it to derive many examples of morphological causatives. In this subsection, we provide some examples of morphological causative constructions and compare these examples with their basic

constructions, focusing on the difference in the number of arguments and the difference in thematic roles between the basic and causative constructions. As mentioned above, by morphological causatives we mean structures that contain a causative verb that is derived from a basic verb, meaning that there is a morphological relationship between the causative and basic verbs. As seen below, this type of derivation increases the number of arguments. In other words, if the basic verb is intransitive, the causative verb should be transitive, requiring an object, and if the basic verb is transitive, it should be ditransitive, requiring two objects. We begin with intransitive verbs and then transitive verbs.

Many verbs in MSA can produce causative counterparts through morphological derivation. Intransitive verbs can yield causative verbs, and in this case, the causative verb becomes transitive. We will assume that there are two types of intransitive verbs: the first is a kind of verb that does not require any function except the subject, such as the verb *samina* 'be fat'. The second type includes verbs that require prepositional phrases with their subjects, such as the verb *wasala* 'arrived'. Additionally, there is usually more than one causative form of the basic verb. For example, both *samina* 'be fat' and *wasala* 'arrived' can produce two causative forms, as will be shown below. The following examples in (11) illustrate the use of the basic verb *samina* 'be fat' with the two forms *sammana* 'made fat' and *ʔasmana* 'made fat'. The form *sammana* 'made fat' is derived by geminating the consonant *m* in the middle of the basic verb, and the second is derived by adding the consonant *ʔ* at the beginning of the basic verb.

(11) a. saminat maryam-u.
be.fat.PFV.3SGF Maryam-NOM
'Maryam became fat'

b. sammana Zayd-un al-dağāğat-a.
be.fat.CAUS.PFV.3SGM Zayd-NOM DEF-chicken-ACC
'Zayd made the chicken fat'

c. ʔasmana Zayd-un al-dağāğat-a.
be.fat.CAUS.PFV.3SGM Zayd-NOM DEF-chicken-ACC
'Zayd made the chicken fat'

In (12), we show the difference in arguments between basic and causative verbs. As shown below, the basic predicate requires one argument, which is the subject, and the thematic role of this argument is *agent*. The causative form requires two arguments: a subject and an object. The subject or the causer is a new argument, and the thematic role of the causer is *agent*. The

causee in this example, which was the subject of the basic verb, becomes the object and its thematic role is *patient*. Both causative forms in (11b) and (11c) have the same requirements, which are represented in (12b) below:

(12) a. $\underset{\text{AGENT}}{\overset{\text{SUBJ}}{\text{‘BE.FAT} < (\text{———})>\text{’}}}$

b. $\text{‘CAUS} < \underset{\text{AGENT}}{\overset{\text{SUBJ}}{(\text{————}-)}}, \underset{\text{PATIENT}}{\overset{\text{OBJ}}{(\text{————}-)}}>\text{’}$

As for the second structure, the following examples illustrate the basic verb *wasala* ‘arrived’ and its causative counterparts because this verb similarly produces two causative forms, as shown below:

(13) a. waṣala yasir-un ʔilā al-bayt-i.
arrive.PFV.3SGM Yasir-NOM to DEF-house-GEN
‘Yasir arrived at the house’

b. waṣṣala Zayd-un yasir-an ʔilā al-bayt-i.
arrive.CAUS.PFV.3SGM Zayd-NOM Yasir-ACC to DEF-house-GEN
‘Zayd made Yasir arrive at the house’

c. ʔwṣala Zayd-un yasir-an ʔilā al-bayt-i.
arrive.CAUS.PFV.3SGM Zayd-NOM Yasir-ACC to DEF-house-GEN
‘Zayd made Yasir arrive at the house’

(14) a. $\text{‘ARRIVE} < \underset{\text{AGENT}}{\overset{\text{SUBJ}}{(\text{———})}}, \underset{\text{LOCATIVE}}{\overset{\text{OBL}}{(\text{———})}}>\text{’}$

b. $\text{‘CAUS} < \underset{\text{AGENT}}{\overset{\text{SUBJ}}{(\text{————}-)}}, \underset{\text{PATIENT}}{\overset{\text{OBJ}}{(\text{————}-)}}, \underset{\text{LOCATIVE}}{\overset{\text{OBL}}{(\text{————})}} >\text{’}$

As shown in the previous examples, verbs that have morphological causative counterparts usually require a subject that has one thematic role, which is the agent. However, in intransitive verbs in MSA, the verb that has a causative counterpart may be a psych verb, and in this case, the

verb requires a subject that is *experiencer*. There are some examples of this kind of verb in MSA, such as *hazina* 'be sad' and *fariha* 'be happy'. The causative form of the first is *hazzana or ?ahzana* 'make sad' and that of the second is *farrha or ?afraha* 'make happy'. Despite the fact that the subject of the basic verb may have different thematic roles, we observe that the causer and causee in the derived form, which has a causative meaning, have the same thematic roles, which are agent and patient. In (15) below, we show the thematic roles of the syntactic functions that are required by the two verbs *hazina* 'be sad' and *fariha* 'be happy' and their causative counterparts:

(15) a. 'BE SAD/ BE HAPPY < (SUBJ ——) >'
EXPERIENCER

b. 'CAUS < (SUBJ ——–), (OBJ ——–) >'
AGENT PATIENT

The verbs that have causative counterparts in MSA can be transitive verbs, and in this case, the derived form should be ditransitive. The examples in (16) illustrate the basic form, which is transitive and the derived form, which is ditransitive:

(16) a. šariba zayd-un al-māʔ-a.
drink.PFV.3SGM Zayd-NOM DEF-water-ACC
'Zayd drank the water'

b. šarraba salem-un zayd-an al-māʔ-a.
drink.CAUS.PFV.3SGM Salem-NOM Zayd-ACC DEF-water-ACC
'Salem caused Zayd to drink the water'

The example in (16a) contains a basic verb, which is a verb in the perfective form, and it is transitive, requiring a single object. The subject is the proper noun *Zayd*, and the object is water. The thematic role of the subject is the *agent*, while the thematic role of the object is *patient*. However, when we derive the causative form by duplicating the consonant *r* in the middle of the verb, the number of arguments required by the causative form will increase. The causative verb in (16b) requires three arguments: the subject, which is a new argument not required by the basic form. The second and third arguments are the primary and secondary objects, meaning that the verb after derivation becomes ditransitive. The thematic role of the causative verb's subject, which

is the causer in this example, is *agent*, while the primary object, which is the causee, is *patient* and the secondary object is *theme*. In (17a), we show the relationship between the syntactic functions and thematic roles for the basic verb, while (17b) shows the difference in the causative verb, where the verb requires three syntactic functions after derivation, that are connected with three thematic roles. There is a new argument in the causative structure, which is the causer, and it functions as a subject of the causative verb. The causee, which is the subject of the basic verb, becomes the primary object of the causative verb with a new thematic role. The new thematic role for the causee is *patient*, and it is *agent* with the basic verb.

(17) a. ‘DRINK < (SUBJ: AGENT), (OBJ: PATIENT)>’

b. ‘CAUS < (SUBJ: AGENT), (OBJ: PATIANT), (OBJ2: THEME) >’

Interestingly, the order of objects can be changed in this structure, which means that the secondary object can be the primary object, and this entails that the primary object becomes the secondary object. However, this does not require any changes in thematic roles. The following example in (18a) shows this change, and (18b) shows the change in the relationship between syntactic functions and thematic roles:

(18) a. šarraba salem-un al-mā?-a zayd-an
drink.CAUS.PFV.3SGM Salem-NOM DEF-water-ACC Zayd-ACC
‘Salem caused Zayd to drink the water’

b. ‘CAUS < (SUBJ: AGENT), (OBJ: THEME), (OBJ2: PATIENT) >’

The swap between the objects in (18a) is possible because the meaning of the sentence is clear in the two structures, meaning that Salem in both examples had water. It may be difficult to find a causative verb that has two objects that cannot swap their positions.

Like intransitive verbs, some transitive verbs in MSA can produce more than one causative form. One example is the verb *Fahima* ‘understand’, where two causative forms can be derived

from this verb by duplicating the middle consonant *h* in *fahhama* or adding a new consonant at the beginning in *?afhama*. The following examples illustrate these three forms.

(19) a. fahimat sārat-u aldars-a.
understand.PFV.3SGF Sarah-NOM DEF-lesson-ACC
'Sarah understood the lesson'

b. fahhama zayd-un sārat-a
understand.CAUS.PFV.3SGM Zayd-NOM Sarah-ACC
aldars-a.
DEF-lesson-ACC
'Zayd made Sarah understand the lesson'

c. ?afhama zayd-un sārat-a
understand.CAUS.PFV.3SGM Zayd-NOM Sarah-ACC
aldars-a.
DEF-lesson-ACC
'Zayd made Sarah understand the lesson'

(20) a. 'UNDERSTAND < (SUBJ / AGENT), (OBJ / PATIENT) >'

b. 'CAUS < (SUBJ / AGENT), (OBJ / PATIENT), (OBJ2 / THEME) >'

4. The Syntactic Analysis

This section discusses the syntactic analysis of causative constructions in MSA. The three constructions of causation discussed above are analyzed in this section. We will use the Lexical Functional Grammar (LFG) framework for our analysis, focusing on one face of the two faces of LFG, namely, the *functional structure*.

4.1 LFG

LFG is a nontransformational syntactic theory, assuming that languages should be analyzed by parallel structures that represent different types of information that are related to each other by functional constraints. It is assumed that syntactic structure should be represented in two different ways: the *constituent structure* (c-structure) and the *functional structure* (f-structure). The c-structure represents the organization of words and phrases in the sentence, while the f-structure shows the functional information in the sentence, namely, the predicate and its requirements in the

sentence and functional relations, such as subject and object. This study focuses on the f-structure in representing the analysis of causative constructions in MSA.

As mentioned above, functional information is represented in LFG by the f-structure, which contains functions from attributes to values. We can show how the f-structure works by the following example in (21), which shows a simple f-structure in (21b):

(21) a. John met Sue.

b.
$$\begin{bmatrix} \text{PRED} & \text{`MEET}\langle \text{SUBJ, OBJ}\rangle\text{'} \\ \text{TENSE} & \text{PAST} \\ \text{SUBJ} & \begin{bmatrix}\text{PRED} & \text{`JOHN'}\end{bmatrix} \\ \text{OBJ} & \begin{bmatrix}\text{PRED} & \text{`SUE'}\end{bmatrix} \end{bmatrix}$$

The f-structure in (21b) shows a simple analysis of the example in (21a), which contains four features, where each feature contains a pair of attributes and values. The value of the first attribute in this f-structure shows the syntactic requirements of the predicate, which is the verb *meet*. This verb requires a subject and an object, and both have thematic roles. Thematic arguments are represented in the f-structure inside the angled brackets. The second feature contains the attribute TENSE and its value PAST, which shows that the tense of the sentence is past tense. The third attribute is SUBJ, and its value is an embedded f-structure that shows the information of the subject. The last attribute is OBJ, and its value is an f-structure that shows the information of the object.

4.2 The Analysis of Causation in MSA

There is no problem in analyzing the first structure of the causative, which is the lexical causative. It should be analyzed as a simple sentence containing a verb with its arguments. For example, the analysis of the example repeated as (22a) is represented in the f-structure in (22b). The predicate of this sentence requires two arguments: a subject and an object, and both are thematic arguments. The subject is the noun phrase *the wolf*, and the object is the noun phrase *the goat*.

(22) a. al-ḏiʔb-u qatala al-māᶜiz-a.
DEF-wolf-NOM kill.PFV.3SGM DEF-goat-ACC
'The wolf killed the goat'

b. $\begin{bmatrix} \text{PRED} & \text{'KILL}\langle \text{SUBJ, OBJ}\rangle\text{'} \\ \text{TENSE} & \text{PAST} \\ \text{SUBJ} & [\text{PRED 'THE WOLF'}] \\ \text{OBJ} & [\text{PRED 'THE GOAT'}] \end{bmatrix}$

The second causative construction is the periphrastic causative construction, which is biclausal. The repeated example in (23) illustrates this structure and contains two verbs occurring in two separate clauses.

(23) ğaᶜala zayd-un salim-an yaʔkulu
make.PFV.3SGM zayd-NOM salem-ACC eat.IPFV.3SGM
al-tamr-a.
DEF-dates-ACC
'Zayd made Salem eat the dates'

There are two possible analyses of structures that contain two clauses, namely, the *raising* and *control* structures, and which analysis is accepted depends on the relation between the two verbs in this structure. Both verbs in this structure share one argument, which is the proper noun *Salem*. In the raising construction, it is assumed that an argument is raised from the subordinate clause to the matrix clause. Additionally, the verb in the matrix clause has no semantic content, and this entails that it does not assign any semantic role to the raised argument. In contrast, the verb in the main clause in the control structure assigns a semantic role to its arguments, which means that if the two verbs in the main clause and the subordinate clause share the same argument, each verb should assign its own semantic role to this argument (see Kiparsky and Kiparsky (1970), Postal (1974), Falk (2001), and Kroeger (2004)). The following examples illustrate raising and control verbs in English:

(24) a. John seems to each fish.

b. Mary tried to eat fish.

We can conclude from our discussion in Section 3 that the relationship between the two clauses in periphrastic causativity is a control relationship because the verb in the main clause has semantic content, and therefore it assigns a semantic role to its arguments. In this view, we will assume that the object of the main clause anaphorically controls the subject of the subordinate clause, which means that the subordinate clause is a closed function that contains an internal subject phrase. We can show the analysis of this structure in the following f-structure in (25b):

(25) a. ğaᶜala zayd-un salim-an yaʔkulu
make.PFV.3SGM zayd-NOM salem-ACC eat.IPFV.3SGM
al-tamr-a.
DEF-dates-ACC
'Zayd made Salem eat the dates'

b.
$$\begin{bmatrix} \text{PRED} & \text{'MAKE}\langle \text{SUBJ, OBJ, COMP}\rangle\text{'} \\ \text{SUBJ} & [\text{PRED} \quad \text{'Zayd'}] \\ \text{OBJ} & [\text{PRED} \quad \text{'Salem'}] \\ \text{COMP} & \begin{bmatrix} \text{PRED} & \text{'EAT}\langle \text{SUBJ, OBJ}\rangle\text{'} \\ \text{SUBJ} & [\text{PRED} \quad \text{'PRO'}] \\ \text{OBJ} & [\text{PRED} \quad \text{'THE DATES'}] \end{bmatrix} \end{bmatrix}$$

The f-structure in (25b) shows that the main predicate is the verb *make* that occurs in the matrix clause. This predicate requires three functions: a subject, an object, and a complement. The subject is the proper noun *Zayd* and the object is the proper noun *Salem,* and both are represented in embedded f-structures. The complement is also represented in an embedded f-structure that is headed by the predicate *eat*, which requires two functions: a subject and an object. The object is the noun phrase *the dates*, while the subject is an omitted pronoun that is controlled by the object of the matrix clause *Salem*. This complement is closed because we assume that there is an omitted pronoun that is controlled by the object of the main clause. If this structure is analyzed as a raising structure, the two clauses should share the same argument, meaning that the object of the matrix clause and the subject of the complement should be the same word.

The last structure analyzed in this section is the morphological causative structure, which contains a causative verb that is derived from a basic form. We mentioned above that morphological causative verbs may be derived from intransitive or transitive verbs, and the causative form should require an extra argument. The analysis of the examples repeated below as (26), which illustrates the basic and derived forms, is simple, as shown in the f-structures in (27). The basic form of the verb, which is *drink*, is transitive and requires two functions: a subject and an object, and both are shown in the f-structure in (27a). The derived form, which is illustrated in (26b), adds a new argument that entails that the derived predicate requires three functions: a subject, a primary object, and a secondary object. The subject is the causer and the primary object is the causee. The typical secondary object is thematically restricted. The thematic role of the secondary object here is the *theme*, as shown in the f-structure.

(26) a. šariba zayd-un al-mā?-a.
drink.PFV.3SGM Zayd-NOM DEF-water-ACC
'Zayd drank the water'

b. šarraba salem-un zayd-an al-mā?-a.
drink.CAUS.PFV.3SGM Salem-NOM Zayd-ACC DEF-water-ACC
'Salem caused Zayd to drink the water'

(27) a. $\begin{bmatrix} \text{PRED} & \text{'DRINK}\langle \text{SUBJ, OBJ}\rangle\text{'} \\ \text{SUBJ} & [\text{PRED} \quad \text{'Zayd'}] \\ \text{OBJ} & [\text{PRED} \quad \text{'the water'}] \end{bmatrix}$

b. $\begin{bmatrix} \text{PRED} & \text{'CAUSED.DRINK}\langle \text{SUBJ, OBJ, OBJ}_{theme}\rangle\text{'} \\ \text{SUBJ} & [\text{PRED} \quad \text{'Salem'}] \\ \text{OBJ} & [\text{PRED} \quad \text{'Zayd'}] \\ \text{OBJ}_{theme} & [\text{PRED} \quad \text{'the water'}] \end{bmatrix}$

The primary object in the example of morphological causation in (26b) can be an adjective form, but this does not mean that the adjective in this case should be analyzed as an open function (i.e., X-ADJ) that shares the subject with the main clause. If we replace the primary object in this example with an adjective, as shown below, the same f-structure is the correct analysis for this structure, which involves replacing the noun phrase with the adjectival phrase, as shown in (28b). This is because the adjective here does not modify the subject of the main clause; rather, it modifies an omitted noun that is *man* or *person*.

(28) a. šarraba salem-un qā?im-an al-mā?-a.
drink.CAUS.PFV.3SGM Salem-NOM standing-ACC DEF-water-ACC
'Salem caused a standing man to drink the water'

b. $\begin{bmatrix} \text{PRED} & \text{'CAUSED.DRINK} \langle \text{SUBJ, OBJ, OBJ}_{theme} \rangle \text{'} \\ \text{SUBJ} & [\text{PRED 'Salem'}] \\ \text{OBJ} & [\text{PRED 'standing man'}] \\ \text{OBJ}_{theme} & [\text{PRED 'the water'}] \end{bmatrix}$

5. Conclusion

This study discusses the causative constructions in MSA. It has been argued that all three types of causative constructions, which are lexical causatives, periphrastic causatives, and morphological causatives, are found in MSA. We discussed the arguments of causative verbs and their thematic roles. Furthermore, it has been shown that the causee is always patient and the causer is always an agent in the causative construction, despite the fact that basic forms may require different thematic roles. In the last section of this study, we have discussed the syntactic analysis of causative constructions in MSA, showing that the relationship between the two clauses in the periphrastic causative structure is a control relationship, where the complement is a closed function that contains a subject that is controlled by the object of the verb in the main clause. In addition, this study has shown the analysis of the lexical causative, which is a simple structure, and the basic and derived structure of the morphological causative, focusing on the difference in the number of arguments within the derived form.

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