Rendering English Structural Ambiguity into Arabic and the Role of Transformational Syntax along with Arabic Morphology

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Abstract:

The main objective of this paper is to show how the theory of transformational syntax along with Arabic morphological markers can contribute to the translation of English structural ambiguity into Arabic. The analysis of a sample of English structurally ambiguous constructions adopted in this study highlights the significant role of transformational syntax in rendering English structural ambiguity into Arabic. The findings have shown that by applying the surface and deep structure notions, it is evident that each ambiguous construction allows for two different structural representations; and each representation is associated with a different meaning. Thus, the two meanings of these ambiguous constructions are visualized easily by employing tree diagrams. The findings have also shown that only few English ambiguous constructions can be rendered into Arabic ambiguous counterparts, while the majority of these constructions cannot be rendered into Arabic ambiguous counterparts. Specifically, only 27% of the English ambiguous constructions included in this study can be rendered into Arabic ambiguous counterparts, whereas 73% of these constructions cannot be rendered into Arabic ambiguous counterparts. In other words, most of the English structural ambiguity cases are untranslatable into Arabic ambiguous counterparts. This highlights the remarkable role of the productive Arabic morphology. Hopefully, these findings can lead to guidelines which can help in both manual and machine translation.

Keywords: Arabic / English translation, structural / semantic ambiguity, transformational syntax, morphological productivity.

ملخص:

الهدف الرئيسي من هذا البحث هو دراسة ترجمة التراكيب الإنجليزية التي توحي بأكثر من معنى إلى العربية وتسليط الضوء على دور كل من السمات الصرفية التي تميز اللغة العربية، ونظرية النحو التحويلي وخصوصًا مفهومي البنية السطحية والبنية العميقة، وكذلك "الرسوم التوضيحية التي تجسد العلاقات التركيبية بين مكونات الجملة" (Tree diagram)، وقد كشفت نتائج الدراسة أن ترجمة هذه التراكيب الإنجليزية ذات الغموض الدلالي إلى ما يقابلها من تراكيب عربية تتسم بالغموض الدلالي لا تتجاوز نسبة ٢٧ % من إجمالي التراكيب المستخدمة في هذه الدراسة، بينما نجد أن هذا الغموض الدلالي قد تلاشى عند الترجمة إلى العربية بنسبة ٧٣% من إجمالي التراكيب المستخدمة في هذه الدراسة، وقد أوضحت الباحثة أن هذا التفاوت بين هاتين النسبتين يرجع إلى دور السمات الصرفية التي تميز اللغة العربية أي أن هذه السمات أدت إلى حتمية ترجمة معظم التراكيب الإنجليزية الغامضة إلى مرادفات عربية لا تتسم بهذا الغموض، وتأمل الباحثة أن تؤدي نتائج هذه الدراسة إلى بعض القواعد والإرشادات التي تُسهم في ترجمة الغموض التركيبي/الدلالي من الإنجليزية إلى العربية سواء في مجال الترجمة البشرية أو الآلية.

الكلمات المفتاحية: الترجمة الإنجليزية/ العربية، الغموض التركيبي/الدلالي، النحو التحويلي، الثراء الصرفي.

1. Introduction

Structural ambiguity is a syntactic phenomenon of natural languages, even though languages may vary regarding the rate of the occurrence of this phenomenon. As illustrated in the following section, structural ambiguity refers to cases where a given sentence allows for two syntactic interpretations each of which is associated with a different meaning.

In a translation setting, the multiple meanings of ambiguous constructions encountered during the translation process could cause translation problems. In other words, when the source text (ST) has more than one meaning, translators face the problem of which meaning to render into the target text (TT). Such problems can be resolved through the application of the theory of transformational syntax which can contribute to the process of translation. Specifically, the utilization of the notions of surface structure and deep structure can help to reveal the different meanings of ambiguous constructions with the ultimate goal of reaching a better manual and machine translation.

Compared to English, Arabic is known for its morphological productivity, particularly at the level of inflectional morphology. For instance, such morphological markers as case markers, feminine markers, subject-verb agreement markers and modification markers are much more elaborate in Arabic than in English. When these morphological markers are employed in Arabic as a target text, they can help to

disambiguate some cases of structural ambiguity. For instance, without the assignment of the case markers, this Arabic sentence "يحترم الأستاذ الطالب الجاد" is ambiguous, since it allows for two different meanings:

1. a. الأستاذ يحترم الطالب الجاد

   b. الطالب الجاد يحترم الأستاذ

In the first meaning, "الأستاذ" is the subject and "الطالب" is the object, whereas in the second meaning, "الأستاذ" is the object and "الطالب" is the subject. By contrast, as illustrated below, the assignment of the nominative and the accusative case markers alternatively resolves the ambiguity:

2. a. يحترم الأستاذُ الطالبَ الجادَ

   "The teacher respects the serious student".

   b. يحترم الأستاذَ الطالبُ الجادُ

   "The serious student respects the teacher".

It should be pointed out here that with certain ambiguous constructions, context can have a disambiguating role. However, the techniques adopted in transformational syntax depict both meanings of an ambiguous sentence in terms of structural constituents which can be visually realized. In addition, such techniques are more convenient in the case of developing linguistic databases for machine translation purposes. More importantly, the unit of analysis in this study is a neutral

sentence, i.e. a sentence out of context. In other words, this study is a sentence-based study, rather than a discourse-based study.

2. Types of English Structural Ambiguity

Cases of structural ambiguity are classified differently by different linguists (e.g. Fromkin & Rodman, 2018; Oaks, 1990; Hirst, 1987; Prideaux & Baker, 1980). However, the most common types relevant to this study are deep structure ambiguity and surface structure ambiguity. Deep structure ambiguity refers to cases where each meaning of ambiguous constructions is associated with a deep structure representation. On the other hand, surface structure ambiguity refers to cases where different meanings of ambiguous constructions can be disambiguated by positing different surface structures. The notions of deep structure and surface structure are discussed in detail in the section dealing with the theoretical framework.

2.1. Deep Structure Ambiguity

The following is an illustration of deep structure ambiguity:

3. The horse is ready to ride.

(Adapted from Fromkin, Rodman & Hayams, 2018).

This sentence exhibits structural ambiguity. It is not clear whether "the horse" functions as a subject or as an object. Thus, this sentence allows for two different meanings as follows:

a. The horse is ready to ride, for example, in its trailer to the track (i.e. the horse rides).

b. The horse is ready for someone to ride (i.e. someone rides the horse).

Consider the following tree diagram:
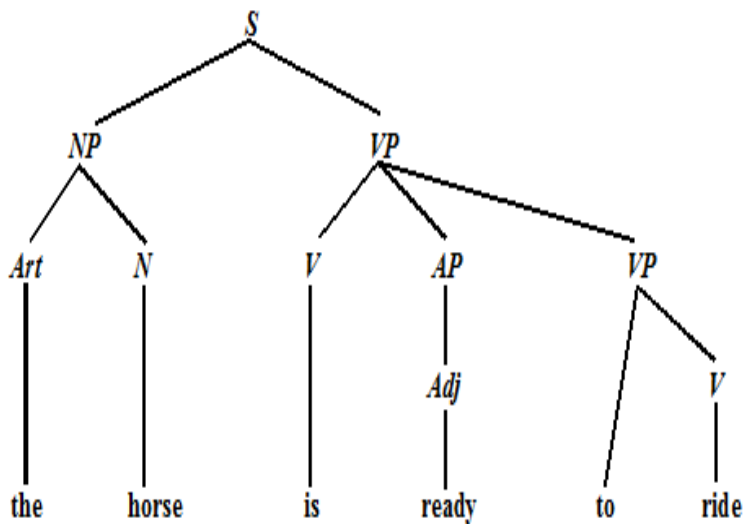
Furthermore, this surface structure tree diagram is also ambiguous since it does not depict the two different meanings implied in this ambiguous sentence. However, the deep structure tree diagrams below adequately account for the structural ambiguity of (3). Specifically, the first deep structure tree depicts the meaning of (3.a.), while the second depicts the meaning of (3.b.):

(3.a.)
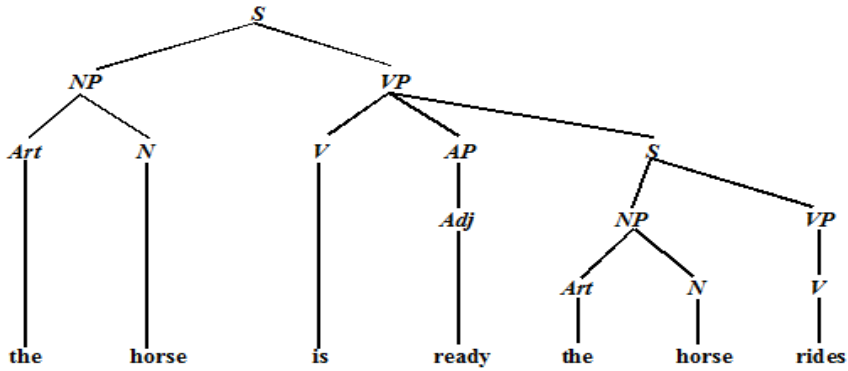
As illustrated in the above diagram, the embedded sentence clearly depicts the first implied meaning in which "the horse" functions as a subject.

(3.b.)
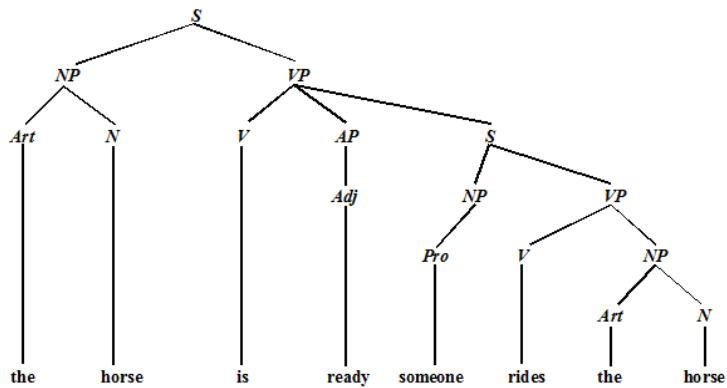
On the other hand, the embedded sentence in this diagram shows that "the horse" functions as an object. Thus, the hidden meanings of the structural ambiguity in the source text can be revealed through the application of the notion of deep structure which can facilitate the process of translation.

2.2 Surface Structure Ambiguity

As mentioned above, surface structure ambiguity refers to cases where different meanings of ambiguous constructions can be disambiguated by positing different surface structures. Consider the following example:

4. Mary and Joe or Bill frightened the sheepdog.

(Adapted from Fromkin, Rodman & Hayams, 2018).

This sentence is ambiguous since it allows for two different meanings. It can mean either of the following:

a. Mary and Joe frightened the sheepdog or Bill frightened the sheepdog (i.e. Mary and Joe together or Bill by himself).

b. Mary and Joe frightened the sheepdog or Mary and Bill frightened it (i.e. Mary and either of Joe or Bill).

However, the two implied meanings of this ambiguous construction can be disambiguated by positing two different surface structures. As illustrated below, the first tree diagram is associated with (4.a.), while the second is associated with (4.b.):

(4.a)
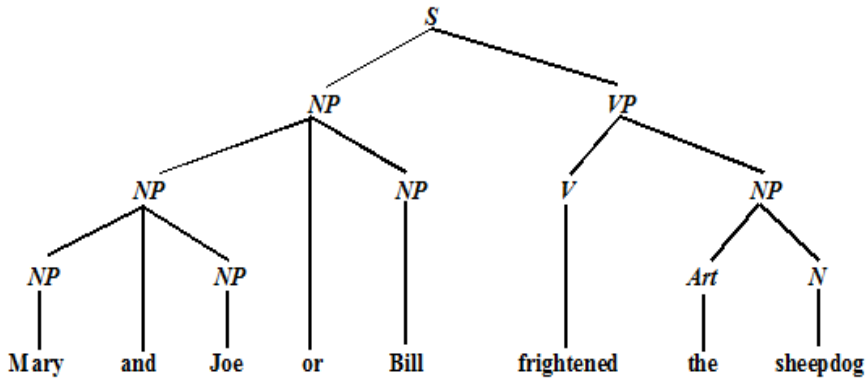
In the above diagram, it is obvious that both of "Mary" and "Joe" are connected together by the coordinator "and", revealing the first implied meaning.

(4.b.)
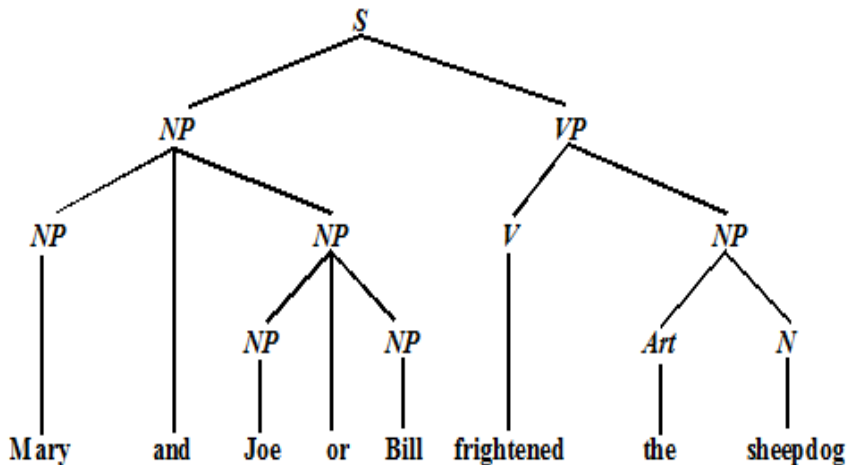
On the other hand, this diagram shows that both of "Joe" and "Bill" are dominated together by the coordinator "or", depicting the second meaning.

Based on the tree diagrams and the discussion above, it is obvious that a structurally ambiguous sentence can be analyzed into two different constructions. Each of these constructions is associated with one meaning. At the same time, each construction is associated with a tree diagram representation. The tree diagram depicts the constituent differences between the two constructions, so that these differences can be   visually realized.

Thus, as illustrated in Section 2.1, in a translation setting, the hidden meanings in the case of deep structure ambiguity in the source text can be revealed through the application of the notion of deep structure where each meaning is associated with a deep structure representation. Similarly, as illustrated in Section 2.2, the hidden meanings in the case of surface structure ambiguity in the source text can be revealed by positing a different surface structure representation for each meaning. Given that meaning realization is an essential factor in the process of translation, the utilization of the deep structure and surface structure notions can help in the characterization of the exact meaning or meanings of the source sentence before translating it. This can contribute to the ease and accuracy of the process of translation.

3. Theoretical Framework

The theoretical framework is based on two issues. The first has to do with the notions of deep structure and surface structure within transformational syntax, while the second is concerned

with the disambiguation role of Arabic morphological devices when translating English ambiguity into Arabic.

3.1. The Notions of Deep Structure and Surface Structure

According to the theory of transformational syntax developed by Chomsky (1965), a grammar of a language in the broad sense contains a finite system of rules that can generate an indefinitely number of sentences. This system of rules can be analyzed into three major components of a generative grammar: the syntactic, phonological and semantic components. The syntactic component specifies, for each sentence, a deep structure that determines its semantic interpretation and a surface structure that determines its phonetic interpretation. In addition, Chomsky explains that the syntactic component of a sentence consists of a base, which consists of the phrase structure rules and the lexicon. This base generates the deep structure of a sentence, which is transformed into surface structure by applying appropriate transformational rules.

Thus, based on Chomsky's theory of transformational syntax, the ambiguous construction given in (3) and repeated below allows for two different meanings, each of which is associated with a deep structure representation as illustrated by the tree diagrams: "The horse is ready to ride".

Meaning 1: The horse is ready to ride something (i.e. the horse rides).
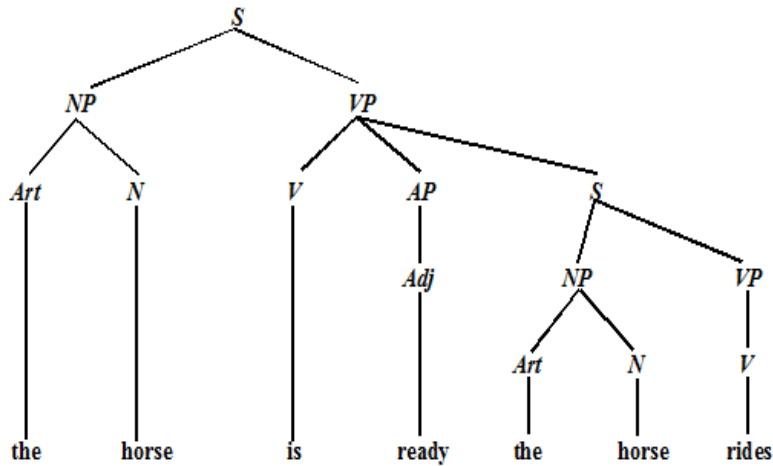
Meaning 2:   The horse is ready for someone to ride (i.e. someone rides the horse).
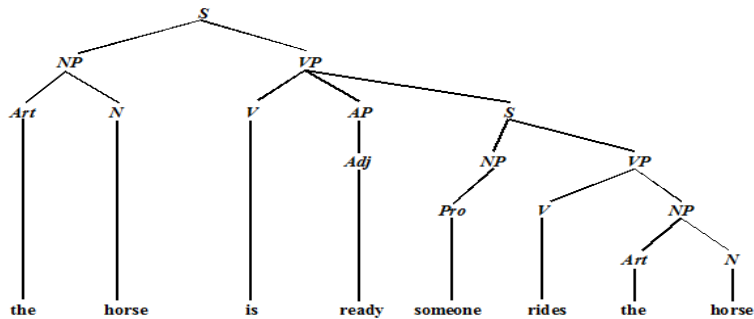
A transformational rule applies to the deep structure to generate the surface structure. Thus, as pointed out by Malmkjaer (2004), transformational rules are responsible for changing any type of construction to another type. In other words, all syntactic processes such as passivization, relativization and nominalization are accounted for by transformational rules.

3.2 The Disambiguation Role of Arabic Morphology

Compared to English, Arabic is known for its morphological productivity, particularly at the level of inflectional morphology. For instance, such morphological markers as case markers, feminine markers, subject/verb agreement markers and modification markers are much more elaborate in Arabic than in English. When these morphological markers are employed in Arabic as a target text, they disambiguate some cases of structural ambiguity. For instance, the translation of the following examples illustrates the disambiguating effect of these morphological markers:

5. We asked the man in charge to stop all that noise.

 (Adapted from Prideaux & Baker, 1980)

The ambiguity of (5) has to do with the transitivity of the infinitive "to stop". More precisely, the two different meanings of this sentence depend on whether the infinitive is interpreted transitively or intransitively. According to the transitive interpretation, the sentence means: "We asked the man in charge to stop others from making noise". According to the intransitive interpretation, the sentence means: "We asked the man in charge to stop making noise."

It should be pointed out here that Arabic does not allow for an ambiguous counterpart of the ambiguous English sentence given in (5). This means that the English sentence given in (5)

cannot be translated into an ambiguous Arabic counterpart. Consequently, before rendering this sentence into Arabic, a translator has to identify both meanings, and then decide upon which meaning to render into Arabic. Specifically, the transitive interpretation of this sentence is rendered into Arabic by using the Arabic transitive form "أن يوقف الأخرين" "to stop others", while the intransitive interpretation is rendered into Arabic by using the intransitive form "أن يتوقف" "to stop himself". Thus, for the translation of (5) and other similar constructions into Arabic, disambiguation is inevitable due to the role of Arabic morphology.

6. This is the new university entrance.

Similarly, the ambiguity of (6) can be resolved in the Arabic translation by resorting to the feminine morphological marker. The source of the ambiguity of (6) has to do with modification since the modifier "new" can modify either "the university" or "the entrance". Thus, (6) allows for the following two meanings:

a. This is the entrance of the new university.

b. This is the new entrance of the university.

When rendering the construction in (6.b.) into Arabic, the Arabic feminine marker can automatically resolve the ambiguity problem. Thus, the meanings given in (6.a.) and (6.b.) can be translated into Arabic, respectively, as follows:

a. ."هذا هو مدخل الجامعة الجديدة"

"This is the entrance of the new university".

b. ."هذا هو مدخل الجامعة الجديد"

"This is the new entrance of the university".

Similarly, the English ambiguous construction "It's a miracle that the old magician was able to work" allows for two different meanings. First, it can mean: "It is unbelievable that the old magician was able to work". Second, it can also mean: "This is a miracle which the old magician was able to perform". Specifically, "that" can be interpreted either as a complementizer which corresponds to the Arabic particle "أن", or as a relative pronoun which corresponds to "التي" since the Arabic counterpart of "miracle" is feminine. Due to the nature of Arabic morphology, this construction cannot be translated into an Arabic ambiguous counterpart. In other words, Arabic morphology inevitably resolves the ambiguity of this construction, leading to these two translations:

7. a. ."إنها لمعجزة أن يستطيع هذا الساحر المسن أن يعمل"

"It is unbelievable that the old magician was able to work".

b. ."إنها معجزة استطاع هذا الساحر المسن أن يقوم بها"

"This is a miracle which the old magician was able to perform".

Thus, the Arabic morphological markers triggered by the productive inflectional and derivational morphology can help translators to resolve problems involved in the translation of English structural ambiguity into Arabic.

4. Objectives of the Study and Research Questions

The main objective of this paper is to explore the role of the surface and deep structure notions along with Arabic morphological markers in the translation of the English structural ambiguity into Arabic. In addition, the study seeks to find out the appropriate translation techniques which can help in rendering English structural ambiguity into Arabic. Below are the main research questions to be addressed throughout this study:

How can transformational syntax help in rendering English structural ambiguity into Arabic?

To what extent can Arabic morphological markers help in the translation of the English structural ambiguity into Arabic?

How can the findings of this study provide appropriate techniques and guidelines which can help in translating English structural ambiguity into Arabic?

5. Data Collection

The following are the main sources of data employed in this study:

M.A. and Ph. D dissertations which deal with English structural ambiguity.

Academic papers which deal with English structural ambiguity.

Academic papers which deal with the translation of English structural ambiguity.

English material and books containing structural ambiguity and its Arabic translation.

In addition, specialists in Linguistics and Arabic/English translation are consulted for more feedback.

More specifically, in collecting these data, I rely on the following sources:

Awwad (2017). Perception of Linguistic Ambiguity.

Aldaw (2018). The Nature of Ambiguity across Languages.

Abou Buker (2020). Structural Ambiguity in English and Arabic: A Contrastive Study.

Burton-Roberts (2016). Analysing Sentences: An Introduction to English Syntax.

Chomsky (1957). Syntactic Structures.

Chomsky (1965). Aspects of the Theory of Syntax.

Cann (1993). Formal Semantics: An Introduction.

Grenat & Taher (N.D.). On the Translation of Structural Ambiguity.

Khawalda & Al-Saidat (2012). Structural Ambiguity Interpretation: A Case Study of Arab Learners of English.

Oaks (1990). Enablers of Grammatical Ambiguity.

Oaks (1994). Creating Structural Ambiguities in Humor: Getting English Grammar to Cooperate.

Oaks (1995). Structural Ambiguities and Written Advertisements: An Inventory of Tools for More Resourceful Advertisements in English.

Oaks (2010). Structural Ambiguity in English: An Applied Grammatical Inventory.

Prideaux & Baker (1980). The Recognition of Ambiguity.

Stageberg (1958). Some Structural Ambiguities.

Stageberg (1966). Structural Ambiguity: Some Sources.

Stageberg (1970). Ambiguity in College Writing: To a College Freshman.

Stageberg (1971). Structural ambiguities in English.

6. Rendering English Ambiguity into Arabic

Based on the amount of data used in this study, the application of the surface and deep structure notions and the incorporation of Arabic morphology, it is found that the translation of English structural ambiguity into Arabic can be categorized into two classes. The first class includes cases where the English ambiguous constructions are disambiguated when rendered into Arabic. In other words, Arabic does not allow for ambiguous translations of such constructions. The second class, on the other hand, includes cases where the English ambiguous constructions can be rendered into Arabic ambiguous counterparts.

6.1. Unambiguous Arabic Translations

As pointed out above, this section presents the English ambiguous constructions which cannot be rendered into Arabic ambiguous counterparts, since Arabic does not allow for ambiguous translations of such constructions. The data given below includes a sample of the English ambiguous constructions, the two possible meanings of these constructions and their Arabic translations:

8. He looked up the street.

Meaning 1: He looked along the street.

Arabic Translation: "نظر علي امتداد الطريق".

Meaning 2: He searched for the street.

Arabic Translation: "بحث عن الطريق".

9. Hazeltine asked how old Sam was.

Meaning 1: Hazeltine asked 'how was old Sam?'.

Arabic Translation: "سأل هِزلتين: كيف حال سام؟".

Meaning 2: Hazeltine asked 'how old was Sam?'.

Arabic Translation: "سأل هِزلتين: كم عمر سام؟".

10. Did you call her home?

Meaning 1: Did you telephone her home?

Arabic Translation: "هل اتصلت بمنزلها؟".

Meaning 2: Did you ask her to come home?

Arabic Translation: "هل دعوتها للمجيئ إلي المنزل؟".

11. I wish you would wear your skirts longer.

Meaning 1: I wish you would wear longer skirts.

Arabic Translation: "كم أتمني أن ترتدي تنانير أكثر طولاً".

Meaning 2: I wish you would wear your skirts for a longer time.

Arabic Translation: "كم أتمني أن ترتدي التنانير لمدة أطول".

12. Few schools have developed programs.

   Meaning 1: Few schools have (i.e. own) advanced programs.

   Arabic Translation: ."القليل من المدارس لديها برامج متطورة"

   Meaning 2: Few schools managed to develop programs.

   Arabic Translation: ."قامت القليلُ من المدارس بتطوير برامجها"

13. You get more modern services.

   Meaning 1: You get more services which are modern.

   Arabic Translation: ."تحصل علي المزيد من الخدمات المتطورة"

   Meaning 2: You get services which are more modern.

   Arabic Translation: ."تحصل علي خدمات أكثر تطوراً"

14. The running child's nose was red.

   Meaning 1: The running nose of the child was red.

   Arabic Translation: ."كانت أنف الطفل السائلة حمراء"

   Meaning 2: The nose of the running child was red.

   Arabic Translation: ."كانت أنف الطفل الذي يجري حمراء"

15. He cooked her goose.

   Meaning 1: He cooked goose for her.

Arabic Translation: "لقد طبخ إوزةً لها".

Meaning 2: He cooked the goose of hers.

Arabic Translation: "لقد طبخ الإوزة خاصتها".

16. I consider these errors.

Meaning 1: I consider that these are errors.

Arabic Translation: "اعتَبِرُ أن هذه أخطاءً".

Meaning 2: I take these errors into consideration.

Arabic Translation: "آخذ هذه الأخطاء في الاعتبار".

17. John found Bill an amusing companion.

Meaning 1: John found an amusing companion for Bill.

Arabic Translation: "اكتشف جون رفيقاً مسلياً لبيل".

Meaning 2: John found that Bill is an amusing companion.

Arabic Translation: "اكتشف جون أن بيل رفيقٌ مسليٌّ".

18. He appeared in a dangerous mood.

Meaning 1: He appeared to be in a dangerous mood (he seemed in a dangerous mood).

Arabic Translation: "كان يبدو أنه في حالة خطرة".

Meaning 2: He appeared and did so in a dangerous mood (he showed up in a dangerous mood).

Arabic Translation: "ظهر وهو في حالة خطرة".

19. When did you say he should go?

Meaning 1: When did you say that he should go? (i.e. when the saying took place).

Arabic Translation: "متى قلت إنه يجب عليه الذهاب؟"

Meaning 2: You said he should go when? (i.e. when the going should take place).

Arabic Translation: "متى يجب عليه الذهب وفقاً لما قلت؟"

20. It is impossible to move.

Meaning 1: The table, for example, is impossible to move (i.e. you move it).

Arabic Translation: "مِن الصعبِ تحريكها".

Meaning 2: It is impossible for you to move (i.e. you move).

Arabic Translation: "مِن الصعبِ أنْ تتحرك (أنت)".

21. You will forget tomorrow.

    Meaning 1: You will forget tomorrow itself.

    Arabic Translation: "سوف تنسي الغدَ".

    Meaning 2: You will forget something tomorrow.

    Arabic Translation: "سوف تنسي غداً".

22. She washed the chair on the porch.

    Meaning 1: She washed the chair which was on the porch.

    Arabic Translation: "لقد غسَلَت الكرسي الذي كان في التراس".

    Meaning 2: She washed the chair and did so on the porch.

    Arabic Translation: "لقد غسَلَت الكرسي في التراس".

23. The children ran outside.

    Meaning 1: The children ran and went outside.

    Arabic Translation: "ركض الأطفال إلي الخارج".

    Meaning 2: The children ran while they were already outside.

    Arabic Translation: "ركض الأطفال بينما هم في الخارج".

24. That enormous eater.

    Meaning 1: That eater is enormous.

Arabic Translation: "ذلك الآكِل الضخم".

Meaning 2: That eater eats enormously.

Arabic Translation: "ذلك الآكِل النَهِم".

25. Visiting professors can be entertaining.

Meaning 1: It is entertaining to visit professors.

Arabic Translation: "زيارتنا للأساتذة يمكن أن تكون ممتعة".

Meaning 2: Professors who visit us are entertaining.

Arabic Translation: "زيارة الأساتذة لنا يمكن أن تكون ممتعة".

26. The tourists objected to the guide that they couldn't hear.

Meaning 1: The tourists objected to the guide whom they couldn't hear

(i.e. the tourists couldn't hear the guide).

Arabic Translation: "اعترض السياح علي المرشد الذي لم سماعَه يستطيعوا".

Meaning 2: The tourists objected to the guide as they couldn't hear (i.e. the

tourists couldn't hear something).

Arabic Translation: "اعترض السياح علي المرشد بأنهم لم يستطيعوا سماعَ شيء ما".

6.2. Ambiguous Arabic Translations

This section presents the English ambiguous constructions which can be rendered into Arabic ambiguous counterparts. The data given below includes these English ambiguous constructions and their Arabic ambiguous translations:

27. The postman left a letter and a package for Ellen.

Arabic translation: "ترك ساعي البريد رسالةً وطرداً لإلين".

Obviously, this English ambiguous sentence can be translated into an Arabic ambiguous counterpart. As illustrated in the Arabic translation, it is still unclear whether both of 'the letter' and 'the package' are 'for Ellen' or only 'the package' is 'for Ellen'.

28. Tennis courts are open to members only on Thursdays.

Arabic translation: "ملاعب التنس مفتوحة للأعضاء فقط أيام الخميس".

Based on the above Arabic translation, it is not clear whether the modifier "فقط" modifies "الأعضـاء" or "أيـام الخميس". Thus, when rendering this English ambiguous sentence into Arabic, we find that Arabic allows for such ambiguity.

29. I asked him to leave yesterday.

Arabic Translation: "طلبتُ منه أن يغادر أمسٍ".

The Arabic translation of this English ambiguous sentence shows that it is still unclear whether the adverb "أمس" refers to "طلبت" or to "يغادر". This indicates that, in this case, English structural ambiguity is translatable into Arabic.

30. His punishment was severe.

Arabic translation: "كان عقابُه شديداً".

In this example, the Arabic translation "عقابـه" allows for such ambiguity to occur. It is still unclear whether 'he punished someone' or 'someone punished him'. Hence, English structural ambiguity is translatable into Arabic in such case.

31. Fighting of the enemy was severe.

Arabic translation: "كانت مقاومة العدو شرسة".

Similarly to (30), the Arabic word "مقاومة" does not resolve the ambiguity exhibited in this English sentence. It cannot explain whether 'others fought the enemy' or 'the enemy fought others'. Thus, in this example, Arabic allows for an ambiguous counterpart.

32. Students' questions were unclear.

Arabic translation: "كانت أسئلة الطلاب مبهمة".

By the same token, the Arabic translation of this ambiguous sentence does not resolve ambiguity. It cannot clarify whether 'someone asked the students unclear questions' or 'the students asked someone unclear questions'. Hence, this example shows that English structural ambiguity is translatable into Arabic.

33. Mary likes Tom more than Susan.

Arabic translation: "تحب ماري توم أكثر من سوزان".

The Arabic translation of this ambiguous sentence shows that English structural ambiguity is translatable into Arabic. As shown in the above Arabic translation, it is still unclear whether 'Susan' is a subject or an object. In other words, the Arabic translation cannot explain whether 'Mary likes Tom more than Susan likes Tom' or 'Mary likes Tom more than she likes Susan'.

6.3. Conclusion

The diagram given below illustrates the role of Arabic morphology as exhibited in the translation of the English ambiguous constructions into Arabic. Specifically, it shows the translatability rates of the English ambiguous constructions when rendered into Arabic:

TRANSLATABILITY OF THE ENGLISH STRUCTURAL AMBIGUITY INTO ARABIC

27%

73%

■ Untranslatable
■ Translatable
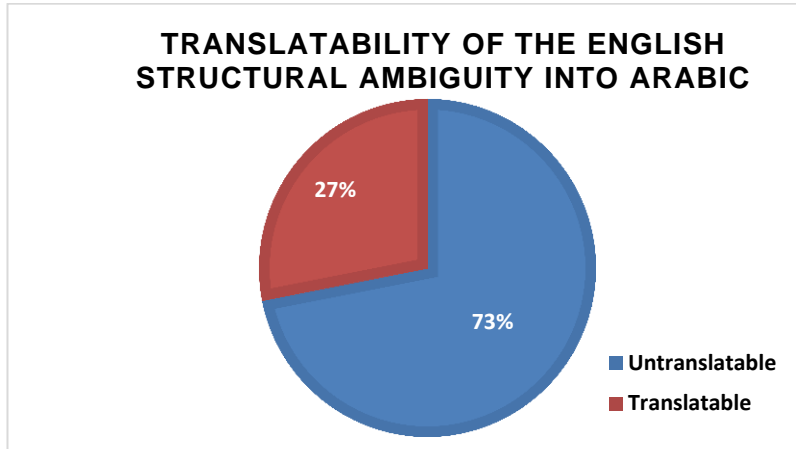
It is obvious from the above diagram that 73% of the English ambiguous constructions included in this study cannot be rendered into Arabic ambiguous counterparts. The reason for this has to do with the productivity of Arabic morphology, particularly at the level of inflectional morphology. In other words, English ambiguous constructions given in (٦.1) have to be disambiguated when rendered into Arabic because Arabic morphology does not allow for such ambiguous counterparts.

By contrast, the diagram also illustrates that only 27% of the English ambiguous constructions included in this study can be rendered into Arabic ambiguous counterparts. In other words, English ambiguous constructions given in (6.2) can be rendered into Arabic ambiguous counterparts as Arabic morphology allows for this. The difference between the two rates is attributed to the role of Arabic morphology in disambiguating the English ambiguous constructions when rendered into Arabic.

7. Summary and Conclusions

The main objective of this paper is to show how the theory of transformational syntax along with Arabic morphological markers can contribute to the translation of English structural ambiguity into Arabic. In particular, the study focuses on how the findings can be invested to find out the appropriate techniques and guidelines which can help in the translation of English structural ambiguity into Arabic. This study employs mainly two tools: a syntactic tool and a morphological tool. The syntactic tool is the theory of transformational syntax, and the morphological tool is Arabic morphological markers. It should also be pointed out that this study is a sentence-based study, rather than a discourse-based study. The findings and conclusions constitute the answers to the three research questions addressed in this study. These findings and conclusions are outlined below:

First, the analysis of a sample of English structurally ambiguous constructions adopted in this study highlights the significant role of transformational syntax in rendering English structural ambiguity into Arabic. By applying the surface and deep structure notions, it is evident that each ambiguous construction allows for two different structural representations; and each representation is associated with a different meaning. More importantly, based on these notions, the two meanings of these ambiguous constructions are visualized easily by employing tree diagrams.

Second, as a result of rendering this sample of English structurally ambiguous constructions into Arabic, it is found that there are only very few cases in which the English ambiguous constructions can be rendered into Arabic ambiguous counterparts, while the majority cannot be rendered into Arabic ambiguous counterparts. Specifically, the findings have shown that only 27% of the English ambiguous constructions included in this study can be rendered into Arabic ambiguous counterparts, whereas 73% of these constructions cannot be rendered into Arabic ambiguous counterparts. In other words, most of the English structural ambiguity cases are untranslatable into Arabic ambiguous counterparts. This highlights the remarkable role of the productive Arabic morphology.

Third, in a translation setting, a translator practically identifies one meaning only of the ambiguous sentence. In other words, one of the two meanings is more likely to be perceived by a translator faster and more directly than the other. This meaning can be referred to as 'direct meaning', while the other meaning can be referred to as 'distant meaning'. Here comes the significant contribution of transformational syntax, since both of the direct meaning and the distant meaning of an ambiguous sentence are equally illustrated by their respective tree diagrams. In this case, a translator has the option to decide upon the meaning to be conveyed into the target language.

In addition, the contribution of the application of transformational syntax theory to the translation of the English

ambiguity into Arabic is also important for machine translation. The reason for this is that the formal characterization of English ambiguity within the framework of transformational syntax allows for data which can be conveniently handled by computer programmers to develop the database needed for machine translation. This data can also help in machine translation through the characterization of the proper context associated with the multiple meanings of ambiguous constructions.

8. List of Abbreviations

Abbreviation	Full Form
Adj	Adjective
AP	Adjective phrase
N	Noun
NP	Noun phrase
Pro	Pronoun
Prt	Particle
S	Sentence
S`	Embedded sentence
ST	Source text
TT	Target text
V	Verb
VP	Verb phrase

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